

Why and How Investors Use ESG Information: Evidence from a Global Survey

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Using survey data from mainstream investment organizations, we provide insights into why and how investors use reported environmental, social, and governance (ESG) information. Relevance to investment performance is the most frequent motivation, followed by client demand, product strategy, and then, ethical considerations. An important impediment to the use of ESG information is the lack of reporting standards. Among the various ESG investment styles, negative screening is perceived to be the least beneficial to investments and is driven by product and ethical considerations. Full integration and engagement are considered more beneficial and are driven by relevance to investment performance.

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In the past 25 years, the world has seen exponential growth in the number of companies that measure and report environmental data (e.g., carbon emissions, water consumption, waste generation), social data (e.g., employee makeup, product information, customer-related information), and governance data (e.g., political lobbying, anticorruption programs, board diversity)—that is, ESG data. Whereas fewer than 20 companies disclosed ESG data in the early 1990s, the number of companies issuing sustainability or integrated reports had increased to nearly 9,000 by 2016. Investor interest in ESG data also grew rapidly. Signatories to the UN Principles for Responsible Investment, launched in 2006, committed to incorporating ESG issues into their investment analysis and ownership policies and practices. As of 2016, the principles had about 1,400 signatories, with total assets under management of about \$60 trillion.¹

Recent studies have documented that ESG information is associated with numerous economically meaningful effects. Specifically, ESG disclosures are associated with lower capital constraints (Cheng, Ioannou, and Serafeim 2014), lower costs of capital (Dhaliwal, Li, Tsang, and Yang 2011), and stock price movements around mandatory ESG disclosure regulations (Grewal, Riedl, and Serafeim 2017). Moreover, industry-specific classifications of materiality identify ESG information that is value relevant and predictive of companies' future financial performance (Khan, Serafeim, and Yoon 2016), and the disclosure of

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such information is associated with less stock price synchronicity, whereby prices move more because of company-specific information (Grewal, Hauptmann, and Serafeim 2017).²

Even though these studies document significant economic effects, we still lack a deep understanding of why and how investors use ESG information and of the challenges in using this information. To enhance our understanding and complement archival research, we surveyed investment firms with the collaboration of Bank of New York Mellon, a global financial institution. On a value-weighted basis, our respondents, with US\$31 trillion in assets under management (AUM), comprise 43% percent of global institutional AUM. Only 8% of the individuals responding to the survey on behalf of their institutions have the title of ESG investment professional; the vast majority have the title of portfolio manager. Moreover, the vast majority of the responding institutions have no or only a small allocation to ESG-specific funds. Therefore, in contrast to many surveys in the ESG space, our sample reflects the views of largely mainstream investment professionals.

First in this article, we address the question of *what motivates investors to use ESG data*. The clear majority of respondents (82%) suggest that they use ESG information because it is financially material to investment performance. A significant percentage of the sample also consider the information from an active ownership viewpoint (Dimson, Karakas, and Li 2015). That is, they believe that engagement with companies can bring change in the corporate sector to address ESG issues.

In a related discussion, we assess the *barriers to ESG data use in the investment decision process*. The biggest challenge to using ESG information for investment decision making relates to the lack of comparability of reported information across firms.

We then apply our understanding of the motivations and barriers to examine *how the information is used by investors* in our sample and the perceived impact on returns. ESG integration and engagement rank highly, followed by negative screening, the latter being considered the least beneficial for returns.

We use our findings about motivations, barriers, and perceived impact on returns as independent variables and relate them to various ESG investment styles as the dependent variables in regressions. Investors apply screening strategies for product

strategy and ethical considerations, while they are more likely to practice ESG integration because of economic considerations.

The final set of results relates to *how investors will use ESG data in the future*. Among different ESG investment styles, positive screening and active ownership are expected to become more important.

Survey Design

We based a first draft of the survey questions on a review of the literature on corporate social responsibility and responsible investing (Amel-Zadeh 2018). An internet-based survey instrument was then developed with the help of Institutional Investor Custom Research Group, a specialist firm in financial market survey design and execution. The aim was to reduce biases induced by the questionnaire and to optimize the wording and tone of the questions. We also solicited feedback on the first draft of the survey from a group of six academic researchers in finance and accounting and from a group of institutional investors and financial market organizations.³ We dropped, shortened, and redrafted survey questions on the basis of feedback received, and we beta-tested the penultimate version with a small number of investors and financial market experts. The final version of the survey consisted of 30 questions spread over five webpages.

The survey did not require subjects to disclose their names or affiliations but did allow space if they chose to do so (about 40% of respondents did). Respondents could skip questions, other than the basic demographic questions, if they chose not to answer them. The order of choices within questions was randomized. The multiple-choice questions allowed free-text responses or an exclusive negation of all response choices. Where appropriate to expand information, we refer in this article to some of the qualitative responses.

We distributed the survey via email to senior investment professionals at 4,523 asset-managing and asset-owning institutions compiled by Bank of New York Mellon and Ipreo. The majority of these investment professionals had the title of CEO, chief investment officer (CIO), fund manager, portfolio manager, or investment analyst. We emailed an invitation to take the survey on 18 January 2016 and closed the survey on 8 April 2016. We received 652 responses, for a response rate of 14.4%. Across the survey questions

included in the analysis for this study, however, the average response rate is approximately 9% because some respondents skipped questions or did not fully complete the survey. This response rate is comparable to and somewhat higher than other email-distributed academic surveys in finance and accounting (Graham and Harvey 2001; Graham, Harvey, and Rajgopal 2005; Dichev, Graham, Harvey, and Rajgopal 2013).

Although data collected through survey instruments may suffer from several problems (response bias, selection bias, attribution bias),⁴ surveys offer a way to collect data and provide insights into questions that cannot be addressed at a particular time by archival data. As Dichev et al. (2013) suggested, “Surveys . . . allow researchers to (i) discover institutional factors that impact practitioners’ decisions in unexpected ways and (ii) ask key decision makers directed questions about their behavior as opposed to inferring intent from statistical associations between proxy variables surrogating for such intent” (2).

Demographic Data

The first questions in the survey ask for demographic information about the responding person and institution. We asked for the title/position of the responding person, the type of organization (asset manager, pension fund, insurance firm, endowment, and so forth), the location of the firm’s headquarters, AUM, percentage of AUM allocated to ESG investments, investment focus (diversified, geographical focus, or sector focus), strategy (active versus passive), and asset classes covered.

Table 1 reports the demographic profiles of the respondents and their institutions. The survey captured a large distribution of investors in terms of AUM; a little over a third of respondents reported AUM below US\$1 billion; 15% reported AUM of more than US\$100 billion.⁵ The respondents’ total AUM of approximately US\$31 trillion indicates that the survey captured the opinions of institutional investors with about 43% of total global AUM as of year-end 2015. The responding organizations can generally be considered mainstream investors because almost 70% reported less than 10% of their AUM allocated to ESG investments and half of those reported no ESG allocation at all. None of the respondents reported 100% in ESG allocation.

Of the individuals responding to the survey, only 8% are specialists on ESG investing—having the title

of ESG investment professional. About a quarter of the respondents are senior executives (CEO, CIO, chief financial officer [CFO], or similar role), and about another quarter are senior fund or portfolio managers. More investors come from Europe than from any other one region. Almost two-thirds of the respondents work for professional asset managers, and the other third work for asset owners, such as public and private pension funds, financial institutions, charities and endowments, sovereign wealth funds, and family offices.⁶ Overall, therefore, our sample is likely to reflect the views of a diverse group of largely mainstream investors.

In the subsequent analyses, we conditioned the results on whether investor firms were above the median of US\$5 billion in AUM (large versus small) and on geography (United States versus Europe). The size cutoff gave us a value-weighted, rather than equal-weighted, view of investor beliefs. Dividing the sample by geography gave us a view on the geographical distribution of ESG awareness. We expected that investors in Europe would be the most ESG aware.

What Motivates Investors to Use ESG Data

Social norms shape economic behavior and may influence market outcomes (Becker 1971; Merton 1987). Social and environmental responsibility has become a societal focal point in recent years, and this trend has spilled over into financial markets. Bénabou and Tirole (2010) provide a framework to understand the motivations for corporate social responsibility, but little is known about investors’ motivations for considering corporate prosocial behavior in investment decisions. Yet, a growing number of socially responsible investors consider ESG information in their investment allocations, suggesting that such information has become more important in the investment process than in the past.⁷ Whether mainstream investors also use ESG information, however, is still unclear. If they do, whether they have performance motives (i.e., investment performance), financial motives (i.e., product strategy and client demand), or norms-based (i.e., ethical) motives is also unclear. Consequently, in the first part of our survey, we asked whether investors consider ESG information when making investment decisions and why.

Table 2 contains the results. They are separated into those who answered “yes” and those who answered “no” to the question of whether they consider ESG

Table 1. Demographic Information of Investor Sample

AUM (US\$ billion)		Geographical Location	
< 1	35%	Europe	40%
1-5	20	North America	34
5-10	11	Asia	15
10-50	12	South America	3
50-100	6	Middle East	3
> 100	<u>15</u>	Africa	2
Total	100%	Central America	<u>1</u>
		Total	100%
<i>Percentage of AUM Allocated to ESG</i>			
0%	35%	<i>Type of Organization</i>	
1%-5%	27	Asset management company	65%
5%-10%	7	Corporate pension fund	13
10%-25%	16	Public/local authority pension fund	6
25%-50%	5	Charity/endowment/religious organization	4
50%-99%	10	Insurance/financial institution	4
100%	<u>0</u>	Sovereign wealth fund/government agency	3
Total	100%	Family office	2
		Other	<u>2</u>
		Total	100%
<i>Respondent Title/Position</i>			
Fund/portfolio manager	28%		
CEO	13		
Investment analyst/strategist	13		
Executive/managing director	11		
CIO	8		
ESG/responsible investment specialist	8		
CFO/chief operating officer/chair/other executive	5		
Other	<u>13</u>		
Total	100%		

information in their investment decisions. Then, they are separated by corresponding reasons. Respondents could choose one or more alternatives among the reasons. In Table 2, the responses are rank-ordered by the percentage of respondents who chose each reason.⁸ Respondents also had the option to provide free-text answers giving other reasons not provided in the answer list.

The results in Table 2 reveal that a large majority (82%) of responding investors consider ESG information

when making investment decisions. The percentage is not statistically different between large-firm (above the median AUM of US\$5 billion) and small-firm investors. A significantly smaller percentage of US investors than European investors responded that they consider ESG information in investment decisions, although this difference is not statistically significant at the 5% level.⁹

A key finding in Table 2 is that among investors who do consider ESG information in their investment decisions, the majority (63%) do so because ESG

Table 2. ESG Information in Investment Decisions

Response	All (N = 419)	AUM Size			Region		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		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	
<i>p</i> -Value of difference (yes vs. no)	<0.001	<0.001	<0.001		<0.001	<0.001	

Notes: This table reports survey responses to the question, Do you consider ESG information when making investment decisions? Columns 2 and 3 report the percentages for, respectively, investors with AUM > US\$5 billion and AUM < US\$5 billion. Column 4 reports the results of a test of the null hypothesis that the percentages in Columns 2 and 3 are equal to each other. Columns 5 and 6 report the percentages by geographical region, and Column 7 reports the results of a test of the null hypothesis that the percentages in Columns 5 and 6 are equal to each other.

*Significant at the 5% level.

**Significant at the 1% level.

information is financially material to investment performance. The percentage is somewhat lower for US than European investors, but the difference is not statistically significant. Interestingly, untabulated results further reveal that a significantly higher proportion of non-ESG-specialist individuals (i.e., senior executives and fund managers) than ESG specialists responded that they consider ESG information for materiality reasons. This result suggests that the results in our survey are not driven by a respondent's role within the organization that renders the person particularly familiar with ESG information or gives the person a vested interest in ESG investing.

A distinct cluster is apparent for other response choices; all received about a third of responses. A significantly higher percentage of large-firm respondents than small-firm respondents gave strategic financial reasons, such as growing client demand (54% versus 22%, p -value < 0.01) and the development of investment products (43% versus 27%, p -value < 0.01) among the motivations. The product development motive is also significantly more important for US investors than for Europeans (47% versus 30%, p -value < 0.01). In contrast, small investors are more likely to see the consideration of ESG information in investment decisions as an ethical responsibility (36% versus 25%, p -value < 0.05), as are more European investors than US investors (41% versus 19%, p -value < 0.01). A significantly higher percentage of European investors than US investors also believe ESG considerations to be effective in changing companies' behavior (41% versus 26%, p -value < 0.05).¹⁰

Among the minority that responded that they did *not* consider ESG information in investment decisions, a significantly larger percentage of US investors than Europeans think that the information is not material for investment purposes (22% versus 4%, p -value < 0.05) and that using the information would violate their fiduciary duty (22% versus 8%). The fiduciary duty finding is interesting in the context of guidance by the US Department of Labor (DOL) issued in December 2015 that clarifies that using ESG information in investment decisions is consistent with fiduciary duties. Specifically, the DOL guidance states that "environmental, social and governance factors may have a direct relationship to the economic and financial value of an investment."¹¹

Overall, the evidence in our sample suggests that the use of ESG information is driven primarily by financial rather than ethical motives but that motives vary considerably by geographical area. Ethical motives

seem to play a larger role in Europe than in the United States, and consistent with this finding, the European respondents believe more strongly that engagement with companies can bring changes in the corporate sector that address ESG issues.

The textual responses to the question in Table 2 provide some qualitative statements supporting the quantitative evidence. For example, respondents stated that "ESG information is important to assessing investment risk," "it helps us identify the risks and opportunities of the investments we make for our clients," and "[ESG information] often can give insight into the 'Why' for some of the financial information"—all statements that support the financial motive. Among those who do not consider ESG information, the majority of "other reasons" relate to the fact that the respondents follow a passive investment strategy. Another explanation is that they "need to be able to quantify nonfinancial information for a large cross section of stocks" and that using ESG data requires "researching which ESG factors are relevant by asset class and industry." We consider the barriers to the use of ESG data in more detail in the next section.

Barriers to ESG Data Use in the Investment Decision Process

Table 3 presents results on the relative importance of factors that limit investors' use of ESG information. The table is rank-ordered by the percentage of responses for each choice. Respondents could select more than one alternative. Table 3 reveals that the greatest challenges investors face in integrating ESG information into their investment processes are the lack of cross-company comparability and the lack of standards governing the reporting of ESG information. The respondents gave slightly less weight to the factors that ESG information is costly to gather and analyze, lacks detail, and is difficult to quantify. The percentage differences between all of these choices are not statistically significant.

The respondents assigned statistically lower importance to the factor that ESG disclosures are too infrequent, potentially lack reliability, or require external assurance. Moreover, a small minority suggested that the reporting of ESG data is too cluttered to be useful or that their client mandates legally prevent them from incorporating ESG information.

Overall, investors globally seem to agree on the main factors that impede an integration of ESG data into

Table 3. Impediments to ESG Integration

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	

Notes: This table reports survey responses to the question, Which of the following factors limit your firm's ability to use ESG information in your investment decisions? Columns 2 and 3 report the percentages for investors with, respectively, AUM > US\$5 billion and AUM < US\$5 billion. Column 4 reports the results of a test of the null hypothesis that the percentages in Columns 2 and 3 are equal to each other. Columns 5 and 6 report the percentages by geographical region, and Column 7 reports the results of a test of the null hypothesis that the percentages in Columns 5 and 6 are equal to each other.

*Significant at the 5% level.

**Significant at the 1% level.

the investment process, although a somewhat higher percentage of US investors seem to be concerned about the reliability of the data (#8) than do investors in Europe. The reliability and lack of audit of ESG data also concern large investors significantly more than small investors (47% versus 16%, p -value < 0.01), and consistent with this finding, so does the lack of reporting standards (52% versus 39%, p -value < 0.05).

The qualitative comments confirm that a lack of standardization and quantification are the main obstacles to ESG data integration. For example, some investors stated that "reliability and standards are the biggest headwinds" or that ESG disclosures are "still a very qualitative approach"; other respondents noted

the lack of "sector-specific ESG data and industry-adjusted scoring."

To determine investors' data needs further, we next examine how investors incorporate ESG information into their investment process.

How Investors Use ESG Data in Their Investment Process

Little is known about how investors use ESG information. Traditionally, the literature has concentrated on comparing the performance of self-labeled socially responsible investing (SRI) funds

with that of conventional mutual funds. In general, these studies have found that performance does not differ between SRI and conventional funds (see, for example, Bauer, Derwall, and Otten 2007). The literature has concentrated on SRI funds that have traditionally used negative screens in their investment process, so we know little about how mainstream investment organizations use reported ESG information, the granularity of which allows them to move beyond negative screening on the basis of industry membership or involvement in “sin” businesses. For the survey, we distinguished between the following investment styles commonly used in practice:¹²

- *Engagement/active ownership* is the use of shareholder power to influence corporate behavior through direct corporate engagement (i.e., communicating with senior management and/or boards of companies), filing or co-filing shareholder proposals, and proxy voting that is directed by ESG guidelines.
- *Full integration* into individual stock valuation is the explicit inclusion of ESG factors into traditional financial analysis of individual stocks (e.g., as inputs into cash flow forecasts and/or cost-of-capital estimates).
- *Negative screening* is the exclusion of certain sectors, companies, or practices from a fund or portfolio on the basis of specific ESG criteria.
- *Positive screening* is the inclusion of certain sectors, companies, or practices in a fund or portfolio on the basis of specific minimum ESG criteria.
- *Relative/best-in-class screening* is the investment in sectors, companies, or projects selected for ESG performance relative to industry peers.
- *Overlay/portfolio tilt* is the use of certain investment strategies or products to change specific aggregate ESG characteristics of a fund or investment portfolio to a desired level (e.g., tilting an investment portfolio toward a desired carbon footprint).
- *Thematic investment* is investment in themes or assets specifically related to ESG factors, such as clean energy, green technology, or sustainable agriculture.
- *Risk factor/risk premium investing* is the inclusion of ESG information in the analysis of systematic risks as, for example, in smart beta and factor investment strategies (similar to size, value, momentum, and growth strategies).

Table 4 reports results on how respondents integrate ESG information into their investment processes. Respondents were able to select more than one alternative. The table reveals that ESG information is predominantly (but not overwhelmingly) used to engage with companies, integrated into valuation models, and used for portfolio screening, particularly negative (30%) as opposed to positive or relative screening. Small percentages chose thematic investments, portfolio overlays, and risk factor investing.

The use of ESG information as a screening tool is more prominent with large investors, both for negative screening (50% versus 20%, p -value < 0.01) and for positive screening (23% versus 9%, p -value < 0.01). So are thematic investment styles (29% versus 17%, p -value < 0.05) and portfolio overlays (20% versus 12%, p -value < 0.05).

European investors are more likely to use ESG information to engage with companies than are US investors (48% versus 27%, p -value < 0.01). Thematic investments are also more prominent in Europe than in the United States (27% versus 16%, p -value < 0.05).

ESG information plays only a small role in creating portfolio tilts and smart beta strategies. And overall, almost 17% of our sample stated that they do not use ESG information in their investment processes, with the percentage being higher for small firms than large firms (19% versus 11%, p -value < 0.05) and for US-based investors than for those in Europe (22% versus 12%, p -value < 0.05). The finding that US investors are less likely to use ESG data in their investment processes, particularly in any way other than as a screening tool, is consistent with these investors having stronger concerns about data reliability (as shown in Table 3) because screening methods have the least extensive data needs.

Perceived Impact of Various ESG Investment Styles on Performance. The literature provides mixed evidence on the financial effects of integrating ESG information into the investment process. The inconclusive evidence about how investors use and incorporate ESG data in investment selection and portfolio allocation is likely a result of the variety of investment styles that have emerged over the years. For example, some studies have found that portfolios that exclude certain companies on the basis of ethical norms (Hong and Kacperczyk 2009) or are formed on the basis of aggregate ESG measures (Brammer, Brooks, and Pavelin 2006) underperform their peers; others

Table 4. ESG Investment Styles

Response	All (N = 337)	AUM Size			Region		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Large	Small	Diff.	US	Europe	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? Columns 2 and 3 report the percentages for investors with, respectively, AUM > US\$5 billion and AUM < US\$5 billion. Column 4 reports the results of a test of the null hypothesis that the percentages in Columns 2 and 3 are equal to each other. Columns 5 and 6 report the percentages by geographical region, and Column 7 reports the results of a test of the null hypothesis that the percentages in Columns 5 and 6 are equal to each other.

*Significant at the 5% level.

**Significant at the 1% level.

have found that portfolios formed after positively screening on material ESG issues (Khan et al. 2016) or formed on the basis of individual ESG data points, such as employee satisfaction (Edmans 2011), outperform their peers. To shed further light on the investment performance of the different ESG investment styles, we investigated investors' expectations about the financial performance and future importance of these strategies.¹³

Table 5 presents results of questions about investors' expectations for the effects of the investment styles of Table 4 on returns. Respondents were asked to rate the investment impact of the various ESG investment strategies compared with a market benchmark on a scale from 1 to 5, where 1 equals significantly negative, 3 is neutral, and 5 is significantly positive. The table is rank-ordered by the average rating for the respective style (not reported in the table). The table reveals that full ESG integration is considered the most beneficial

investment strategy by investors in terms of its impact on investment performance. The rating for this strategy (3.71) is statistically higher than for any other strategy except active ownership, which is the second-highest-ranked ESG strategy. Approximately 61% of investors believe that full ESG integration has a moderately or significantly positive impact on financial returns (and 53% believe direct engagement with companies on ESG issues has such a beneficial impact). In contrast, only 6% and 7%, respectively, believe these strategies have a moderately or significantly negative impact on returns. The results are consistent with the results in Table 4 that investors are most likely to use the strategies believed to be beneficial. The third most beneficial investment strategy is positive screening, for which 60% of investors believe the financial impact to be moderately or significantly positive and 11% think the opposite. This strategy is much less frequently used, however, than the other two.

Table 5. ESG Investment Styles and Investment Returns

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? Columns 3 and 4 report the average ratings on a scale of 1 to 5 for investors with, respectively, AUM > US\$5 billion and AUM < US\$5 billion. Column 5 reports the results of a test of the null hypothesis that the ratings in Columns 3 and 4 are equal to each other. Columns 6 and 7 report the ratings by geographical region, and Column 8 reports the results of a test of the null hypothesis that the ratings in Columns 6 and 7 are equal to each other.

*Significant at the 5% level.

**Significant at the 1% level.

Overall, investors consider all strategies, except negative screening methods, to have a positive impact on returns; we found all of them to have a statistically significantly higher rating than 3. Negative screening is considered to be the least financially beneficial ESG investment method, albeit with a neutral impact on returns, according to our sampled investors. The results for this strategy contrast with results in Table 4, which found negative screening to rank as the third most used investment style. Thus, investors may be using negative screening for reasons other than financial materiality—something we investigate further in the next section.

Investors in Europe are generally more optimistic about the financial impact of the various ESG strategies than are US investors. European investors are

significantly more optimistic about the impact of full integration and active ownership than are US investors (average rating of 3.8 versus 3.5, p -value < 0.05), while US investors think positive screening has a more positive effect, albeit the differences are not statistically significant. Somewhat surprisingly, we found large investors to be more skeptical about the financial effects of active ownership than small investors, although they tend to have larger stakes in companies and thus potentially more influence. Risk factor investing and portfolio tilts are also considered positive for investment returns more by European investors than US investors.

Determinants of Current ESG Investment Practices. We examined the association between three types of variables in a seemingly unrelated

regression (SUR) framework. First, we examined whether the perceived impact on returns from a given ESG style is associated with the investor's current use of the ESG style. In each model, we included as an independent variable the perceived impact on returns of the style that we used as a dependent variable (i.e., when the investor uses engagement, we used the perceived impact on returns of engagement as the independent variable of interest). Second, we included in our models variables from Table 3 that measure various impediments to the use of ESG information in investment decisions. We did not use lack of standards as a determinant because we consider this a primitive variable that is included in lack of reliability, comparability, and timeliness.¹⁴ Third, to understand how different motivations are associated with the use of various ESG styles, we included variables for the motivations in Table 2 that might be guiding an investor to use ESG data.¹⁵ In untabulated analysis, the correlations between the perceived returns of the various styles were found to be generally significantly positive. Correlations between the motivations for ESG investing—such as effectiveness for change, growing client demand, product strategy, and ethical responsibility—are generally positive. In all our models, we controlled for geography, fund size, respondent role, respondent type, and percentage of assets in ESG products. We used seemingly unrelated (SU) multivariate probit regressions with heteroscedasticity-robust standard errors to estimate the models.¹⁶ In unreported univariate correlations, we found that investor styles cluster in groups. For example, investors who use portfolio overlays are more likely to use a risk factor style. Investors who use thematic or engagement are not any more likely to use other strategies. Finally, engagement is also more likely to be used with negative or positive screening.

Table 6 summarizes the regression results. We found evidence of a positive association between the perceived impact on returns and the use of the particular style. The estimated coefficients are surprisingly weak, however, suggesting that economic considerations might not be as strong a predictor of the use of a given style as one would expect. For example, the marginal effects for negative and positive screening are only 9.7% and 8.2%, respectively. Integration is the style where impact on returns is expected to be the highest, with a marginal effect of 20%. In terms of barriers, we found only weak evidence that impediments are associated negatively with the use of various styles. Investors who perceive a lack

of comparability in the data are more likely to use thematic or engagement styles. This result makes sense because, as compared with portfolio strategies that require comparing a number of securities, these two strategies tend to be concentrated on specific industries in which companies provide solutions to specific problems (e.g., water or energy) or on specific companies with which the investor is trying to engage about a specific problem.

In terms of motivation, we found strong evidence that an investor's product strategy drives style choices. This finding is true across the styles of screening, thematic, risk factor, and engagement. Moreover, the marginal effects are economically meaningful—at 17% for negative screening, risk factor, and engagement and at 27% for thematic. In contrast, an integration style is more likely when the motivation for ESG investing is financial materiality, with the marginal effect being 21%. Finally, 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 marginal effects for negative and positive screening are 14%, whereas for thematic and integration strategies, they are -14% and -19%, respectively.

Our control variables suggest that large funds are more likely to use screening and asset owners are more likely to use engagement. Also, US investors are more likely to use screening and less likely to use risk factor and thematic investment. Overall, these results suggest that the current use of ESG styles, especially screening strategies, is driven more by product strategy and ethical considerations and less by financial performance considerations. In contrast, we found that investors are more likely to practice integration because of their beliefs in its financial impact.

Future ESG Investment Practices

Because the use of ESG investment styles has grown recently, we were interested in understanding practitioners' perceptions about the future evolution of the field. **Table 7** presents results for a question about how important the ESG investment strategies will be for investors in their investment processes in the next five years. Respondents were asked to rank the importance of the ESG investment strategies on a scale from 1 (not important) to 2 (somewhat important) to 3 (very important). Table 7 is rank-ordered by the average rating for the respective strategy.

Table 6. Determinants of Currently Practiced ESG Investment Styles
(N = 236; z-statistics using heteroscedasticity-robust standard errors in parentheses)

Independent Variable	(1) Negative Screening	(2) Positive Screening	(3) Relative Screening	(4) Overlay	(5) Risk Factor	(6) Thematic	(7) Integration	(8) Engagement
<i>Impact on returns</i>	0.270 (2.86)**	0.458 (2.98)**	0.355 (1.94)	0.352 (1.95)	0.367 (2.27)*	0.579 (4.06)**	0.499 (3.97)**	0.265 (2.12)*
<i>Impediments</i>								
Cost of information gathering	-0.229 (-1.11)	-0.062 (-0.24)	-0.119 (-0.43)	0.457 (1.74)	-0.023 (-0.08)	0.136 (0.57)	0.176 (0.86)	0.269 (1.31)
Infrequent disclosure	0.334 (1.51)	-0.151 (-0.57)	0.007 (0.03)	0.255 (1.01)	0.447 (1.57)	0.029 (0.11)	0.119 (0.56)	0.207 (0.97)
Lack of quantifiability	-0.148 (-0.67)	-0.512 (-1.91)	-0.278 (-0.99)	0.093 (0.35)	0.780 (2.33)*	-0.286 (-1.10)	0.221 (1.01)	0.316 (1.44)
Lack of comparability	-0.174 (-0.79)	0.395 (1.39)	0.175 (0.58)	0.113 (0.42)	0.425 (1.39)	0.867 (3.15)**	0.330 (1.48)	0.393 (1.85)
Lack of reliability	0.143 (0.60)	0.269 (0.97)	0.147 (0.49)	-0.284 (-0.98)	-0.119 (-0.33)	0.584 (2.01)*	0.140 (0.58)	0.106 (0.42)
<i>Motivations</i>								
Financially material	0.095 (0.40)	-0.047 (-0.16)	0.243 (0.71)	0.369 (1.22)	-0.026 (-0.08)	-0.208 (-0.76)	0.593 (2.53)*	0.112 (0.51)
Effective for change	0.099 (0.43)	-0.052 (-0.19)	0.050 (0.17)	0.148 (0.53)	-0.145 (-0.48)	0.283 (1.10)	0.289 (1.30)	0.296 (1.33)
Growing client demand	0.320 (1.43)	0.427 (1.51)	0.244 (0.79)	0.337 (1.26)	-0.117 (-0.39)	0.282 (1.08)	-0.191 (-0.88)	-0.065 (-0.29)
Product strategy	0.447 (1.99)*	0.191 (0.72)	0.263 (0.90)	0.158 (0.58)	0.789 (2.37)*	0.968 (3.45)**	-0.028 (-0.12)	0.402 (1.71)
Ethical responsibility	0.404 (1.75)	0.696 (2.48)*	0.303 (1.02)	-0.220 (-0.75)	-0.194 (-0.62)	-0.593 (-2.10)*	-0.489 (-2.15)*	0.067 (0.30)
<i>Firm controls</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Respondent role fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table presents results of SU probit regressions on the use of the particular ESG investment styles indicated in the column headings (1–8). The independent variables include the perceived impact on returns of the particular investment style (Table 5) and variables from Table 2 and Table 3. “Firm controls” include an indicator variable equal to 1 if AUM is greater than US\$5 billion and zero otherwise, an indicator variable equal to 1 if the institution’s ESG allocation is greater than 5% of AUM and zero otherwise, an indicator variable for asset owners, and one for investors located in the United States. All regressions include respondent role fixed effects.

*Significant at the 5% level.

**Significant at the 1% level.

Table 7. Future Importance of ESG Investment Styles

Strategy	All (N = 309)		AUM Size			Region		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	% Very Important (Rank 3)	% Not Important (Rank 1)	Large	Small	Diff.	US	Europe	Diff.
1 Positive screening	32.5%	28.5%	2.17	1.98	*	2.05	2.11	
2 Engagement/active ownership	33.7	31.2	2.09	1.99		1.81	2.23	**
3 Negative screening	29.7	29.8	2.06	1.94		1.91	2.13	*
4 Full integration into individual stock valuation	29.0	31.7	2.09	1.92		1.82	2.10	*
5 Thematic investment	24.8	31.4	2.05	1.85	*	1.83	2.03	
6 Relative screening/best-in-class screening	24.1	32.5	1.93	1.91		1.76	2.01	*
7 Risk factor/risk premium investing	22.7	32.5	1.92	1.89		1.69	1.95	*
8 Overlay/portfolio tilt	12.1	46.0	1.67	1.60		1.48	1.70	*

Notes: This table reports survey responses to the question, How important will the following methods of using ESG information become in your investment process in the next five years? Columns 3 and 4 report the average ratings on a scale of 1 to 5 for investors with, respectively, AUM > US\$5 billion and AUM < US\$5 billion. Column 5 reports the results of a test of the null hypothesis that the average ratings in Columns 3 and 4 are equal to each other. Columns 6 and 7 report the average ratings by geographical region, and Column 8 reports the results of a test of the null hypothesis that the average ratings in Columns 6 and 7 are equal to each other.

*Significant at the 5% level.

**Significant at the 1% level.

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). All four strategies were considered to be somewhat important in the next five years. In contrast, thematic investment, relative screening, risk factor, and portfolio tilt are all considered by our sample of investors to be less important in the next five years.

Large investors consider positive screening, full integration, and thematic investments to be more important than do small investors. Investors in Europe consider all strategies, except positive screening, to be relatively more important than do US investors, with the difference in opinions being the widest for active ownership (p -value < 0.01). Perhaps most surprising in Table 7 is the decline in the importance of

full integration in stock valuation because this style is identified as the most financially beneficial in Table 5. We discuss this finding in the next section.

In Table 8, we provide findings about the association between the importance of ESG investment styles in the future and the same set of variables that we examined in Table 6. The only difference is that the dependent variable is a discrete variable taking the value 1, 2, or 3. We used SU multivariate ordered probit regressions with heteroscedasticity-robust standard errors to estimate the regression models.

We found strong and significant associations between the impact on returns expected from the use of a strategy and the importance of that strategy in the future. This finding occurred across the board. The relationship seems to be much stronger than the one we documented in Table 6, which suggests that a style's

Table 8. Determinants of Future Importance of ESG Investment Styles
(N = 236; z-statistics using heteroscedasticity-robust standard errors in parentheses)

Independent Variable	(1) Negative Screening	(2) Positive Screening	(3) Relative Screening	(4) Overlay	(5) Risk Factor	(6) Thematic	(7) Integration	(8) Engagement
<i>Impact on returns</i>	0.525 (6.99)**	0.762 (8.11)**	0.654 (6.87)**	0.787 (7.08)**	0.693 (6.86)**	0.750 (7.56)**	0.733 (6.61)**	0.737 (6.97)**
<i>Impediments</i>								
Cost of information gathering	0.231 (1.39)	-0.091 (-0.53)	-0.179 (-1.01)	0.143 (0.78)	-0.215 (-1.21)	0.070 (0.40)	0.125 (0.68)	-0.288 (-1.57)
Infrequent disclosure	-0.148 (-0.84)	-0.099 (-0.54)	0.072 (0.39)	0.354 (1.93)	0.518 (2.80)**	-0.061 (-0.34)	0.123 (0.66)	0.428 (2.28)*
Lack of quantifiability	-0.081 (-0.46)	-0.279 (-1.50)	0.064 (0.35)	-0.128 (-0.68)	-0.151 (-0.80)	-0.331 (-1.80)	-0.202 (-1.06)	-0.457 (-2.38)*
Lack of comparability	-0.371 (-2.11)*	-0.247 (-1.36)	-0.018 (-0.10)	0.118 (0.61)	0.188 (1.01)	0.169 (0.93)	0.613 (3.21)**	0.124 (0.67)
Lack of reliability	0.142 (0.72)	-0.005 (-0.03)	-0.700 (-3.41)**	-0.367 (-1.75)	-0.562 (-2.62)**	-0.102 (-0.50)	-0.477 (-2.18)*	0.056 (0.26)
<i>Motivations</i>								
Financially material	0.062 (0.34)	0.180 (0.93)	-0.125 (-0.63)	0.311 (1.52)	0.186 (0.94)	0.173 (0.88)	0.330 (1.64)	0.348 (1.75)
Effective for change	0.269 (1.49)	0.424 (2.22)*	0.322 (1.68)	0.287 (1.49)	0.129 (0.66)	0.497 (2.59)**	0.395 (2.03)*	0.684 (3.39)**
Growing client demand	-0.143 (-0.79)	0.240 (1.27)	0.392 (2.07)*	0.040 (0.21)	-0.244 (-1.25)	-0.068 (-0.36)	-0.076 (-0.39)	0.009 (0.05)
Product strategy	0.256 (1.33)	0.284 (1.44)	-0.266 (-1.33)	-0.045 (-0.23)	0.141 (0.67)	0.165 (0.82)	0.082 (0.39)	-0.414 (-1.95)
Ethical responsibility	0.331 (1.80)	0.324 (1.65)	0.383 (1.95)	-0.115 (-0.59)	0.062 (0.31)	-0.235 (-1.18)	0.005 (0.02)	0.028 (0.14)
<i>Firm controls</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Respondent role fixed effects</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table presents results of SU ordered probit regressions on the importance over the next five years of the particular ESG investment styles indicated in the column headings (1–8). The dependent variable had the value 1 (not important), 2 (some-what important), or 3 (very important). The independent variables include the perceived impact on returns of the particular investment style (Table 5) and variables from Table 2 and Table 3. “Firm controls” include an indicator variable equal to 1 if AUM is greater than US\$5 billion and zero otherwise, an indicator variable equal to 1 if the institution’s ESG allocation is greater than 5% of AUM and zero otherwise, an indicator variable for asset owners, and one for investors located in the United States. All regressions further include respondent role fixed effects.

*Significant at the 5% level.

**Significant at the 1% level.

impact on returns will be a more significant predictor of practices in the future. Apart from the higher statistical significance of the estimated coefficients, we found that the marginal effect on the predicted outcome of “very important” is close to 20% across styles.

In contrast to current practices, impediments also seem to matter more for future practices. The one variable that stands out is lack of reliability. Lack of reliability is associated with lower likelihood of use in the future of relative screening, overlay, risk factor, and integration. The marginal effect for all of them is close to -15%.

In terms of motivation, two key results emerge. First, when the motivation for the use of ESG information is to bring change in companies, the future prominence of thematic, integration, and engagement styles is higher. As expected, engagement, which has the most direct effect on changing a company’s practices, has the highest marginal effect, at 25%. Second, ethical motivations are associated with a higher likelihood of all three screening strategies. The marginal effect is close to 12% for the three screening styles.

Overall, we observe that investors believe that compared with current practices, future practices are more likely to be driven by the materiality of the actions undertaken in terms of impact on returns and their effectiveness for bringing about change. Moreover, reliability of the data is likely to be an important impediment for the use of some of the styles we examined.

Conclusions and Future Research

We documented that the vast majority of surveyed investors are motivated by financial reasons rather than ethical reasons in using ESG data, which is not surprising given that our respondents consist of mainly mainstream institutional investors. We showed that these financially motivated investors prefer different ESG investment styles from the styles preferred by the ethically motivated investors in our sample. The majority of the respondents suggested that ESG information is material to investment performance, but which information is material probably varies systematically among countries (e.g., a country where water pollution is a serious issue versus a country where corruption is a more serious issue), industries (e.g., an industry affected dramatically by climate change versus an industry affected by violations of human rights in the supply chain), and even company strategies (e.g.,

companies that follow differentiation versus those that follow a low-price strategy). For example, Khan et al. (2016) showed that the vast majority of ESG data for any given industry is immaterial to investment performance and that the material information varies among industries within a sample of US stocks. Understanding how the materiality of ESG information varies across countries, industries, and firm strategies is, therefore, of primary importance.

A large number of investors use ESG information because of client demand or as part of their product development process. This phenomenon raises interesting questions about new products that use ESG information. A good example is green bonds, where the proceeds of the bonds are to be allocated for projects that improve environmental outcomes. Understanding the structure and pricing of those contracts could shed light on investor preferences and how such financial instruments improve societal outcomes.

Our results have implications for research on investment management and its use of ESG data. A strand of the literature that examines the financial performance of sustainable investment portfolios has generally failed to find any performance differences between SRI funds and conventional mutual funds (Statman 2000; Bauer, Koedijk, and Otten 2005; Renneboog, Ter Horst, and Zhang 2008). However, the failure to find any differences in fund performance might stem from, among other factors, differences in investment styles. Because we found that investors exhibit different ESG investment styles, developing *measures* of these different styles would be a first step toward understanding the consequences of such styles for investment performance. Which investors use positive screening, and which investors negative screening? How does the investment process differ, and what is the effect on management fees and other expenses? How do investors integrate ESG data into fundamental analysis and stock valuation?

Moreover, investors expect ESG styles related to positive screening and active ownership to become more important in the future. Thus, interesting opportunities for research lie in valuation and corporate governance. How does increasing positive screening affect the cost of capital and market valuation of companies that perform well on material ESG issues? Similarly, how does active ownership change companies’ governance, managerial practices, and performance on ESG issues as well as their financial performance? What does active ownership for ESG purposes mean in the face of increasing indexing?

Editor's Note

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Notes

1. See UN Principles for Responsible Investment at www.unpri.org/signatories/signatories/.
2. These studies used the definition of "materiality" adopted by the Sustainability Accounting Standards Board and defined by the US Supreme Court: Information is material if there is "a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of information made available."
3. We received feedback from BNY Mellon Investor Relations Advisory Group, CFA Institute, the International Accounting Standards Board, the Institute of Chartered Accountants in England and Wales, Principles for Responsible Investment, the US SEC Professionals Group, and several global asset-managing and asset-owning institutions, among others.
4. As an example of a bias, the initial group that received the survey or our sample of respondents may differ in some systematic way from the population of investors or those that chose not to respond; that is, we might have captured the more active investors or ESG-aware investors. Such a bias would weaken the generalizability of our study results. Furthermore, our survey might measure the beliefs of the responding individuals rather than the actual policies of their organizations.
5. For those who identified themselves in the survey, we were able to retrieve their actual AUM figures from secondary sources; otherwise, to estimate AUM, we took the midpoint of the AUM range a respondent selected in the survey. Total global AUM comes from a Boston Consulting Group report on the asset management industry available at www.bcgperspectives.com/content/articles/financial-institutions-global-asset-management-2016-doubling-down-on-data/?chapter=2 (accessed 17 February 2017).
6. We did not find significant size variations by region or type of investor, although we have a higher proportion of European investors with more than US\$50 billion in AUM and a larger-than-average proportion of asset managers than asset owners in that size partition. Our sample also comprises a larger proportion of CEOs and other executives at smaller institutions from outside the United States and Europe, but we have more managers and analysts from within the United States and Europe and larger organizations. *A priori*, how these differences might have affected our univariate results is not obvious. We controlled for geography, size, and respondent role in our multivariate regressions.
7. See the most recent (2016) US SIF reports for the growth and size of the responsible investment industry in the United States (www.ussif.org/store_product.asp?prodid=34) and in Europe (www.eurosif.org/sri-study-2016/). Both were accessed on 19 February 2017.
8. In the actual internet survey, the response choices were scrambled randomly; that is, different respondents saw different ordering of alternatives.
9. From untabulated results, we found that a larger proportion of asset managers (85%) than asset owners (76%) responded that they consider ESG information (p -value < 0.05) and that the proportions differed slightly, albeit not statistically significantly so, depending on whether the respondent was a senior executive, fund manager, or ESG specialist. We also found that respondents who elected to remain anonymous were more likely to respond that they do not consider ESG information.
10. We further found that a higher proportion of asset managers than asset owners are motivated by stakeholder demands for ESG information (41% versus 17%, p -value < 0.01) and by product strategy considerations (39% versus 20%, p -value < 0.01).
11. News Release No. 15-2045-NAT, available at www.dol.gov/opa/media/press/ebsa/ebsa20152045.htm (accessed 17 February 2017).
12. We provided definitions of these various investment styles in the survey.
13. We focused on investors' views of the *return potential* of the different ESG styles, but keep in mind that Brandon and Krueger (2018) showed that institutional investors might derive other benefits from ESG investing, such as having lower investment risk.
14. We further subsumed into lack of comparability Variables 1 and 6 from Table 3, into cost of information gathering Variables 3 and 9 from Table 3, and into lack of quantifiability Variables 4 and 5 from Table 3 and dropped Variable 10 (mandates) because of its low frequency.

15. Here, we subsumed Variables 1 and 6 from Table 2 into financial materiality and Variables 2 and 7 into client demand.
16. Our results are robust to using feasible generalized least squares to estimate the equations as linear probability

models. We found significantly positive and negative correlations between the error terms of the individual equations for the various investment styles, which suggests that estimating the equations as seemingly unrelated regressions is more appropriate than using separate probit regressions.

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