VOLUME 29 | NUMBER 4 | FALL 2017

Journal of APPLIED CORPORATE FINANCE

In This Issue: **Financial Regulation**

Has Financial Regulation Been a Flop? (or How to Reform Dodd-Frank) 8 *Charles W. Calomiris, Columbia University*

Statement of the Financial Economists Roundtable
Bank Capital as a Substitute for Prudential Regulation 25 *Charles W. Calomiris, Columbia University; Larry Harris, University of Southern California; Catherine Schrand, University of Pennsylvania; Roman L. Weil, University of Chicago*

High Frequency Trading and the New Stock Market: Sense and Nonsense 30 *Merritt B. Fox, Columbia Law School, Lawrence R. Glosten, Columbia Business School, and Gabriel V. Rauterberg, Michigan Law School*

Shadow Banking, Risk Transfer, and Financial Stability 45 *Christopher L. Culp, Johns Hopkins Institute for Applied Economics, and Andrea M. P. Neves, Seven Consulting*

Why European Banks Are Undercapitalized and What Should Be Done About It 65 *John D. Finnerty, Fordham University, and Laura Gonzalez, California State University, Long Beach*

Bloomberg Intelligence Roundtable on
The Theory and Practice of Capital Structure Management 72 *Participants: Clifford Smith, Gregory Milano, Joel Levington, Asthika Goonewardene, Gina Martin Adams, Michael Holland, and Jonathan Palmer. Moderated by Don Chew.*

Leverage and Taxes: Evidence from the Real Estate Industry 86 *Michael J. Barclay, University of Rochester, Shane M. Heitzman, University of Southern California, Clifford W. Smith, University of Rochester*

Formulaic Transparency: The Hidden Enabler of Exceptional U.S. Securitization 96 *Amar Bhidé, Tufts University*

How Investment Opportunities Affect Optimal Capital Structure 112 *Stanley Myint, BNP Paribas and University of Oxford, Antonio Lupi, BNP Paribas, and Dimitrios P. Tsomocos, University of Oxford*

How to Integrate ESG into Investment Decision-Making: Results of a Global Survey of Institutional Investors 125 *Robert G. Eccles, Arabesque Partners, and Mirtha D. Kastrapeli, and Stephanie J. Potter, State Street*

Maximum Withdrawal Rates: A Novel and Useful Tool 134 *Javier Estrada, IESE Business School*

Columbia Business School

How to Integrate ESG into Investment Decision-Making: Results of a Global Survey of Institutional Investors

by Robert G. Eccles, Saïd Business School Oxford University, Mirtha D. Kastrapeli, Global Head of the Center for Applied Research at State Street, and Stephanie J. Potter, Sustainability Research Consultant

The largest and most sophisticated investors in the world are turning their attention to environmental, social, and governance (ESG) investment practices in a significant way. Over 1,600 investors representing some $62 trillion in assets have signed the United Nations Principles for Responsible Investment (UNPRI).[1] Nevertheless, ESG practices have not been adopted and implemented as extensively as the movement's leaders have wished.

State Street aims to help close the remaining gap between ESG investing aspirations and practice through the use of strategies designed to integrate ESG in the decision-making process of large institutional investors. To this end, the Center for Applied Research (CAR) at State Street Corporation conducted a global survey in late 2016 of 582 institutional investors that are either implementing ESG strategies, or are planning to do so. The survey respondents were evenly split between asset managers and asset owners, and between fixed-income and equity investors; and were geographically dispersed across the Americas, Europe, the Middle East and Africa (EMEA), and Asia Pacific (APAC). All respondents were or were planning to adopt ESG investing of some type and degree. Thus it is not a random sample of the universe of investors so should not be taken as representative. The purpose of this survey was to learn from a group of investors who are on or plan to be on the leading edge of ESG investment practices.

Our survey provides clear indications that important advances in ESG investing hold out the promise of new thinking that addresses pressing social concerns while still providing attractive risk-adjusted returns. During the past few years, practitioners have developed new reasoning and tools that could enable investors to contribute to solutions to social problems ranging from climate change to economic inequality.[2]

In this paper we review why, at this particular time, ESG has become increasingly popular, as well as the current trends and strategies for investing. Next we provide evidence that traditional barriers to ESG integration, such as fear of underperformance, concerns about fiduciary duty, and misalignment with timeframes, are being gradually surmounted. But the most significant of the obstacles remains: the difficulty of obtaining quality data on material ESG exposures. Lastly, we review the most effective methods for ESG integration as defined by our surveyed investors as providing ESG training to sector portfolio managers and analysts, lengthening time frames for manager performance, gaining explicit support from senior leadership and continuing to support advancements in ESG standards and ESG reporting by companies.

Current ESG trends

American institutional investors are part of the worldwide movement in adopting ESG principles. ESG investing now accounts for about 20% of the total assets under professional management in the U.S.[3]

Three changes have driven this growth. First, on the policy side, changes in directives—such as the 2015 US Department of Labor ruling on ESG in Employee Retirement Income Security Act (ERISA) plans—have reduced the earlier constraints on pension funds looking to incorporate ESG issues in their process.[4] Additionally, the EU's Non-Financial Reporting Directive has just begun to require 6,000 companies to report ESG information on an annual basis.[5]

1. This was up from just 100 signatories representing $6.5 trillion in AUM in 2006, ten years before. See Will Martindale & Miguel Santisteve; "The Silent Revolution: The Power behind the Principles." (2014).

2. We discussed the overall global results in "The Investing Enlightenment: How Principle and Pragmatism Can Create Sustainable Value through ESG Investing" (2017), http://www.statestreet.com/content/dam/statestreet/documents/Articles/The_Investing_Enlightenment.pdf.

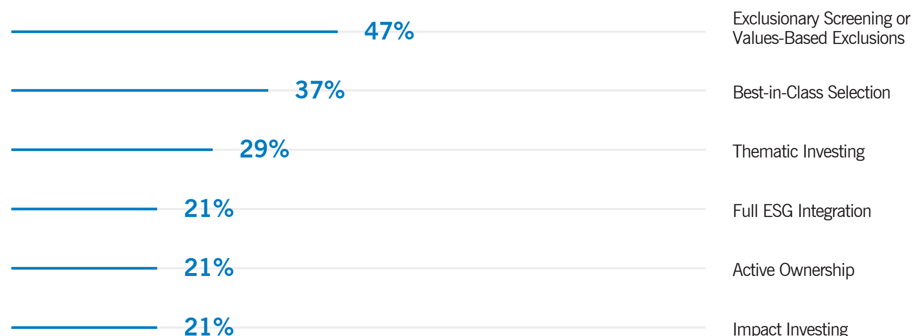
3. The U.S. Forum for Sustainable and Responsible Investment estimates ESG investments in the U.S. alone came in at $8.72 trillion, up 33% from 2014. The organization refers to ESG investing as "sustainable and impact investing." See "Report on US Sustainable, Responsible and Impact Investing Trends 2016." (2016) Link: http://www.ussif.org.

4. "Pension fund fiduciaries can now consider material environmental, social, and governance (ESG) issues facing the companies in their investment portfolios." Robert G. Eccles, "How to Show Corporate Leadership in Sustainability." Forbes (2015), accessed March 2017. Link: http://www.forbes. com/sites/bobeccles/2015/11/03/ how-to-show-corporate-leadership-in-sustainability/#61c182ca3003. "An important purpose of this Interpretive Bulletin is to clarify that plan fiduciaries should appropriately consider factors that potentially influence risk and return. Environmental, social, and governance issues may have a direct relationship to the economic value of the plan's investment. In these instances, such issues are not merely collateral considerations or tie-breakers, but rather are proper components of the fiduciary's primary analysis of the economic merits of competing investment choices." Department of Labor Employee Benefits Security Administration, 29 CFR Part 2509. October (2015). Link: https://www.gpo.gov/fdsys/pkg/R-2015-10-26/pdf/2015-27146.pdf.

5. The Climate Disclosure Standards Board, "EU Non-Financial Reporting directive —how companies make the most out of it," Climate Disclosure Standards Board News, CBDB.net (2016). Accessed March 2017. Link: https://www.cdsb.net/news/mandatory-reporting/614/eu-non-financial-reporting-directive-–-how-companies-make-most-out-it.

Figure 1 **Choices of ESG Investing Strategies by Institutional Investors**

(Respondents can select more than one option, therefore percentages don't add to 100%)



Second, on the academic front, a growing number of empirical studies have found a positive relationship between ESG factors and corporate financial performance,[6] supporting the proposition that ESG can actually improve financial returns for companies.

Third, the investment industry has established standards for ESG performance, measurement, and reporting supported by the formation of the Sustainability Accounting Standards Board (SASB) in 2011[7] and the International Integrated Reporting Council (IIRC) in 2010.[8]

Strategies and Reasons for ESG Investing

Two strategies are most prominent among our surveyed investors: 47% of investors use exclusionary screening or values-based exclusions and 37% use best-in-class selection (Figure 1).

Investors identified the two greatest benefits of ESG investing as "fostering a long-term mindset" (62%), followed by "cultivating better investment practices" (48%) (Figure 2). Investor interest in ESG is market-driven, with 38% citing demand from investment beneficiaries and 35% pointing to initiatives by executives. Only 18% said their interest is driven by regulatory requirements and 10% mentioned peer pressure as most relevant. There were no significant differences in perceived benefits by region, asset class, or asset owners vs. asset managers, suggesting that these benefits are truly global ones.

Asset owners (45%) were more likely than asset managers (36%) to cite "better alignment with long-term asset selection and performance" as objectives for ESG integration. Regional differences were also seen. In Asia Pacific (APAC), 37% of asset owners claimed to be motivated by better alignment with long-term asset selection and performance, as compared to 50% of asset owners from the Americas and 47% in Europe, the Middle East and Africa (EMEA). In the Americas, 47% placed greater emphasis on leveraging ESG factors for an improved risk/return profile on their investments, as compared to 26% in EMEA and 27% in APAC. However, in all regions, the majority of asset owners place strong emphasis on using ESG integration as a way to link environmental and social objectives to performance.

Perceived Barriers of Underperformance, Fiduciary Duty, and Short-Term Time Frames

It is still not uncommon for investors to believe that ESG investing requires sacrificing returns, violates fiduciary duty, and is inconsistent with investors' short time frames for outperformance. But these views are less prevalent than they used to be, in part because most academic studies find that ESG investing can produce at least competitive returns.[9]

6. Eccles, Robert G., Ioannou, Ioannis & Serafeim, George. "The Impact of Corporate Sustainability on Organizational Processes and Performance." Management Science, Volume 60, no. 11 (2014). Pages 2835-2857. Link: http://dx.doi.org/10.2139/ssrn.1964011.

Khan, Mozaffar, Serafeim, George, and Yoon, Aaron S. "Corporate Sustainability: First Evidence on Materiality." The Accounting Review, Volume 91, no. 6 (2016). Pages 1697-1724. Link: http://dx.doi.org/10.2139/ssrn.2575912.

Clark, Gordon, Feiner, Andreas & Views, Michael. "From the Stockholder to the Stakeholder: How Sustainability Can Drive Financial Outperformance." Arabesque Asset Management and Oxford University (2015). Link: http://www.arabesque.com/index.php?tt_e2de00a30f-88872897824d3e211b11.

Friede, Gunnar. "ESG & Corporate Financial Performance: Mapping the Global Landscape." Deutsche Asset & Wealth Management (2015).

7. "The Sustainability Accounting Standards Board sets industry-specific standards for corporate sustainability disclosure, with a view towards ensuring that disclosure is material, comparable, and decision-useful for investors." Link: https://www.sasb.org/sasb/vision-mission/.

8. Link: http://integratedreporting.org/the-iirc-2/.

9. Eccles, Robert G., Verheyden, Tim & Feiner, Andreas. "ESG for All? The Impact of ESG Screening on Return, Risk and Diversification." Journal of Applied Corporate Finance, Volume 28, no.2 (2016). Pages 47-55. Link: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2834790.

Kotsantonis, Sakis, Pinney, Chris & Serafeim, George. "ESG Integration in Investment Management: Myths and Realities." Journal of Applied Corporate Finance, Volume 28, no.2 (2016). Pages 10-16. Link: http://dx.doi.org/10.1111/jacf.12169.

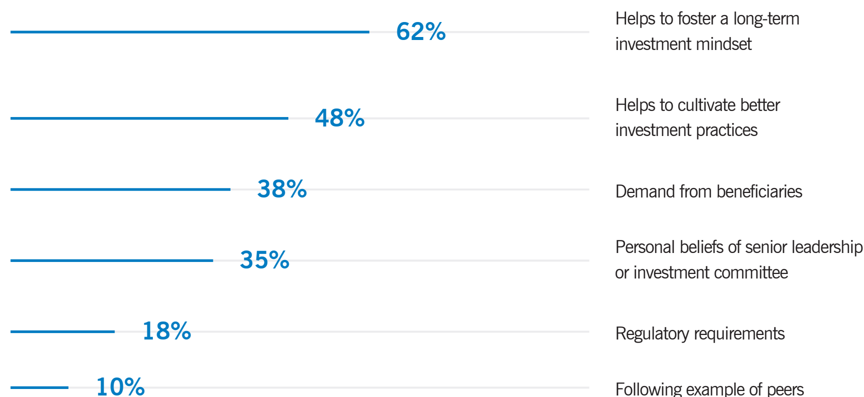
Clark, Gordon, Feiner, Andreas & Views, Michael. "From the Stockholder to the Stakeholder: How Sustainability Can Drive Financial Outperformance." Arabesque Asset Management and Oxford University (2015). Link: http://www.arabesque.com/index.php?tt_e2de00a30f-88872897824d3e211b11.

Friede, Gunnar, Lewis, Michael, Bassen, Dr. Alexander & Busch, Dr. Timo. "ESG & Corporate Financial Performance: Mapping the Global Landscape." Deutsche Asset & Wealth Management (2015).

Eccles, Robert G. "The State of ESG Literature." Presentation, New York State Common Retirement Fund, New York (2016).

Figure 2 **Reasons for ESG investing**

(Respondents can select more than one option, therefore percentages don't add to 100%)



Almost half of investors believe that ESG does not mean missing out on returns; 48% said "No" (ranging from 54% in the Americas to 40% for APAC), as compared to 35% of investors that stated "Yes," and 17% that "Do Not Know." Asset managers (51%) were somewhat more optimistic than asset owners (45%) in expressing their belief that ESG does not mean missing out on returns. And equity investors (49%) were slightly more likely than fixed income investors (47%) to report sharing this optimism.

For many years, the prevailing view was that fund fiduciaries could not take ESG issues into account because their main responsibility is to maximize the returns of beneficiaries. Recently, however, the U.S. Department of Labor's Employee Benefits Administration issued an interpretive bulletin regarding ERISA guidelines that clearly allow fund fiduciaries to take ESG criteria into account.[10] The Principles for Responsible Investment (PRI) has also published several studies within the last two years[11] that suggest it would in fact be viewed as a failure of fiduciary duty not to take ESG criteria into account.[12]

Only 10% of investors viewed regulations on or general counsel's interpretation of fiduciary duty as a barrier to ESG integration. Furthermore, 40% of asset owners and 51% of asset managers said they agree or strongly agree that the concept of fiduciary duty is shifting toward encouraging or even requiring ESG integration. In APAC, 61% of asset managers agree or strongly agree that fiduciary duty is evolving to allow or require ESG considerations as part of their fiduciary duty, as compared to 46% of asset managers in the Americas and 44% of EMEA. Asset owners in APAC (40%), the Americas (38%), and EMEA (44%) show similar degrees of confidence. At the same time, 59% of respondents either agreed or strongly agreed that their board supports ESG implementation (with only 22% saying they disagreed or strongly disagreed).

The third frequently cited barrier to ESG integration is that expectations about ESG contributions to financial performance are too short term. Studies show that the positive relationship between ESG factors and corporate financial performance takes time to be realized—typically six or seven years.[13] When asked "In what time frame would you expect ESG to deliver outperformance?," most investors agreed that outperformance would come in either three to five, or five to 10 years (63%). Investors in the Americas (40%) had longer expectations than both EMEA (29%) and APAC (29%) about when ESG outperformance is likely

10. Eccles, Robert G. "Protecting American Pension Plan Benefits." Forbes.com (2015). Link: http://www.forbes.com/sites/bobeccles/2015/10/26/protecting-american-pension-plan-benefits/#9670aa831341.

11. United Nations-supported Principles for Responsible Investment. "Fiduciary Duty in the 21st Century." Principles for Responsible Investment (2015).

United Nations-supported Principles for Responsible Investment, UNEP FI & The Generation Foundation. "Investor Obligations and Duties in 6 Asian Markets." Principles for Responsible Investment (2016).

United Nations-supported Principles for Responsible Investment & UN Global compact. "Fiduciary Duty in the 21st Century US Roadmap." Principles for Responsible Investment (2016).

See Justin Sloggett, Don Gerritsen, and Mike Tyrrell; "A Practical Guide to ESG Integration for Equity Investing." Principles for Responsible Investment, United Nations Global Compact, United Nations Environment Programme Finance Initiative (2016). Link: https://www.unpri.org/news/pri-launches-esg-integration-guide-for-equity-investors.

12. Alice Garton, "New QC Legal Opinion Confirms Pension Fund Trustees' Legal Duty to Assess Climate Risk." Client Earth Investor Briefing (2016). Link: https://www.documents.clientearth.org/wp-content/uploads/library/2016-12-02-investor-briefing-new-qc-opinion-pension-trustees-and-climate-risk-ce-en1.pdf.

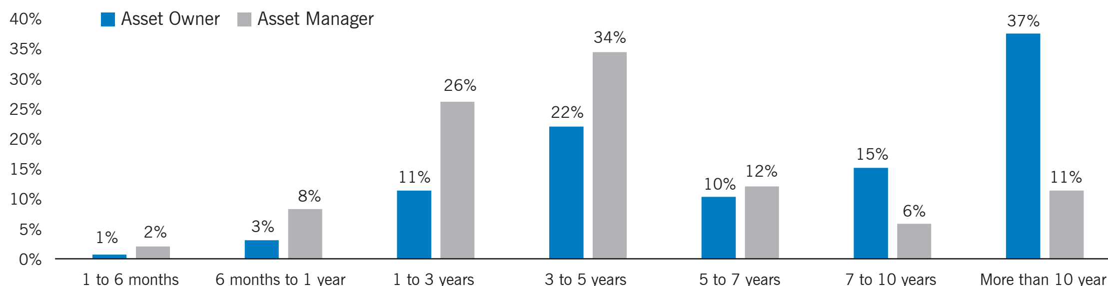
Lorna Logan and Jake Reynolds: "Climate Change: Implications for Superannuation Funds in Australia." Colonial First State, Wealth Management Group in Australia (2016).

13. Robert G. Eccles, Ioannis Ioannou and George Serafeim: "The Impact of Corporate Sustainability on Organizational Processes and Performance." Management Science, Volume 60, no. 11 (2014). Pages 2835-2857. Link: http://dx.doi.org/10.2139/ssrn.1964011.

MozaffarKhan, George Serafeim, and Aaron S. Yoon; "Corporate Sustainability: First Evidence on Materiality." The Accounting Review, Volume 91, no. 6 (2016). Pages 1697-1724. Link: http://dx.doi.org/10.2139/ssrn.2575912.

Figure 3 **What is your organization's investment horizon?**

(Respondents can select more than one option, therefore percentages don't add to 100%)



to be realized (in five to 10 years). Conversely, investors in the Americas (23%) were less likely than those in EMEA (35%) and APAC (33%) to believe that ESG will result in outperformance over shorter time frames (three to five years). Although a majority of investors in all regions do not believe ESG factors will deliver outperformance in the short term, APAC investors were most inclined to expect ESG to contribute to short-term outperformance.

When asked "to what extent do you believe ESG factors will deliver short term alpha (less than one year)?" only 8% agreed or strongly agreed. Answers among asset owners (9%), asset managers (7%), and equity (10%) and fixed income investors (6%) were broadly similar, but with regional difference: 14% of investors in APAC agreed that short-term alpha was likely or very likely, as compared to only 6% of investors in the Americas and 5% of investors in EMEA. When asked the same question about medium-term alpha (one to three years), 24% agreed or strongly agreed. Positive answers were almost equally likely among asset owners (21%) and asset managers (26%), as well as between equity (24%) and fixed income investors (23%).

Regional expectations about whether ESG would contribute to medium-term outperformance showed a similar pattern: 34% of investors in APAC agreed that ESG would make medium-term alpha likely or very likely, as compared to only 15% of investors in the Americas and 21% of investors in EMEA. When asked the same question on long-term alpha, almost half of investors (49%) said they believe ESG will produce alpha in more than three years. Between asset owners (48%) and asset managers (51%) as well as between equity (49%) and fixed income investors (50%), the statistics show that investors have similar levels of confidence about long-term alpha: 44% of investors in APAC agreed that long-term alpha was likely or very likely compared to 50% of investors in the Americas and 55% of investors in EMEA.

Most asset managers (60%) said they have investment time horizons between one and five years. In contrast, most (62%) asset owners have time frames of five years or more. (Figure 3).

Aligning Time Frames

Performance evaluation time frames are still not well-aligned with the time frames expected for achieving outperformance from ESG. Previously, we found that 63% of investors expect ESG to outperform in either three to five or five to 10 years (in line with the five to seven-year time frame studies suggest for ESG outperformance to be seen). However, the time frames asset owners use to evaluate external managers and internal portfolio managers and the time frames used by asset managers to evaluate internal portfolio managers and sub-managers are shorter than investors' expectations about when ESG will produce outperformance. Whereas 47% of asset owners and 43% of asset managers said they believe outperformance will take five years or more, only 10%-20% of investors claimed to consider five-year time frames when evaluating investment performance.

Although 37% of asset owners have investment horizons of 10 years or more, only a small fraction of asset owners actually evaluate their external managers (2%) and internal portfolio managers (5%) on a time frame of 10 years or more (Figure 4). Thus, although more closely aligned with investors' expectations for outperformance from ESG, the investment time horizons of asset owners are still inconsistent with those expectations. And reflecting more of a misalignment, only 11% of asset managers have time horizons of more than 10 years—while just 3% of them evaluate their internal portfolio managers for a time period of longer than 10 years and 2% evaluate their sub-managers for a time period of more than 10 years.

In sum, the vast majority of asset managers, as well as the majority of asset owners, are using time frames to evaluate performance that are too short to recognize the benefits of ESG. Investors in the Americas and APAC have longer time horizons than EMEA. Only 30% of EMEA investors have a time horizon of five years or more, considerably less than the Americas (58%) and APAC (50%). Similarly, for investment time horizons of 10 years or more, this is true for only 13% of EMEA-based investors, as compared to 33% of investors in the Americas and 27% in APAC.

Figure 4 **Which timeframe does your organization use to measure performance?**

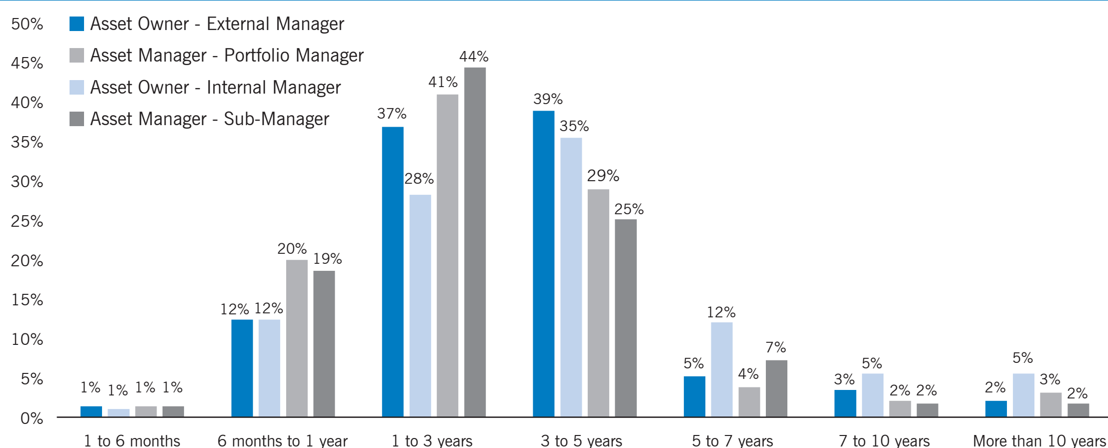


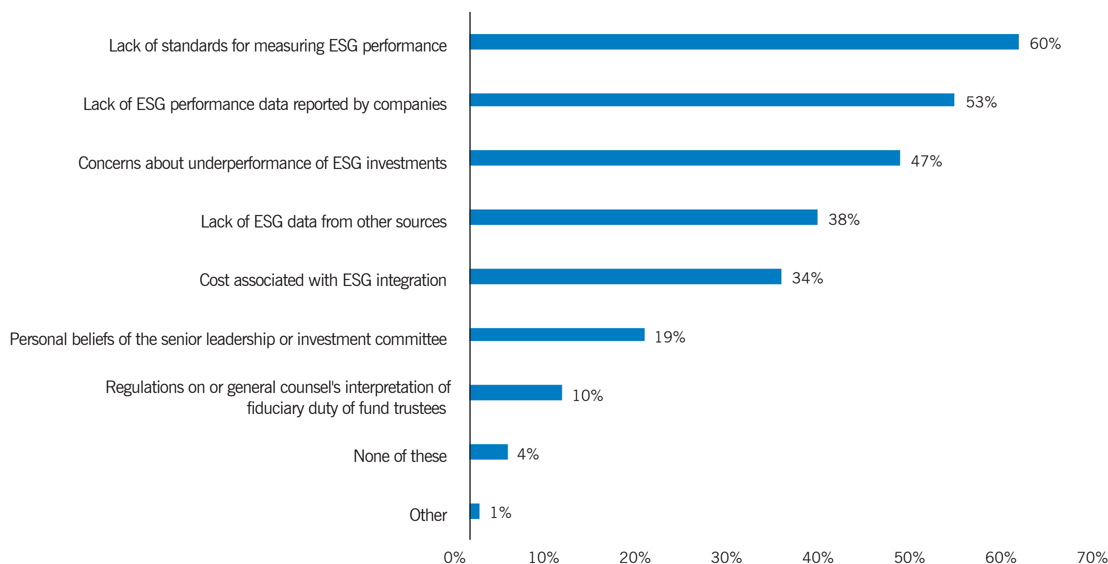
Figure 5 **Time frames for measuring performance**

	Asset Managers Internal Equities	Asset Managers External Equities	Asset Managers Internal Fixed Income	Asset Managers External Fixed Income	Asset Owners Internal Equities	Asset Owners External Equities	Asset Owners Internal Fixed Income	Asset Owners External Fixed Income
1 to 6 months	0%	1%	3%	2%	2%	0%	0%	3%
6 months to 1 year	15%	15%	25%	22%	8%	10%	17%	15%
1 to 3 years	42%	46%	40%	43%	26%	39%	31%	34%
3 to 5 years	34%	26%	24%	24%	45%	42%	26%	36%
5 to 7 years	5%	8%	3%	6%	9%	4%	15%	6%
7 to 10 years	1%	1%	3%	2%	6%	3%	5%	4%
More than 10 years	3%	2%	3%	1%	5%	2%	6%	2%
5 years or more	10%	12%	8%	10%	20%	9%	26%	12%

Statistically significant differences also exist across regions in measuring investment performance internally and externally. EMEA (23%) and the Americas (28%) are more likely to have time frames of five years or more for evaluating their internal portfolio managers than APAC (16%). Thus, the gap between investment time horizon and measuring investment performance is smallest for EMEA and largest for APAC. Asset owners show statistically significant differences when measuring their external portfolio managers as well. APAC (16%) and EMEA (15%) have shorter time frames for evaluating the performance of their external managers (one month to one year) than the Americas (9%). The Americas are skewed towards longer time frames (14% of the Americas, as compared to 9% of EMEA and 8% of APAC, claimed to have time frames of more than five years) for evaluating external portfolio managers. Although these percentages are all small in absolute terms, this suggests that EMEA, to a greater degree than the Americas or APAC, have more patience when evaluating internal managers in comparison to their external managers.

In comparing investment time horizons of equity and fixed income investors, 31% of the former and 18% of the latter claimed to have time horizons of more than 10 years. Although equity investors have longer time horizons, the percentage of equity investors that use longer time frames for measuring performance (five years or more) is similar to the percentage of fixed income investors using long time frames for evaluating performance (Figure 5). Asset managers (10%) and asset owners (20%) in equities are similar to asset managers (8%) and asset owners (26%) in fixed income in terms of their use of time frames of five years or more for evaluating their internal managers. A similar trend is seen in how equity and fixed income investors evaluate their external managers as asset managers in equities (12%), and asset owners in equities (9%) show little difference in comparison to asset managers in fixed income (10%) and asset owners in fixed income (12%) in the percentage of investors using time frames of five years or more for evaluating performance. Thus, although equity investors have somewhat longer time

Figure 6 **Barriers to ESG Integration**



horizons, the percentage of equity and fixed income investors that are using long time frames over which performance is being measured are remarkably similar.

Fixed income asset managers (both internal [28%] and external [24%]) have the highest percentage of investors using short time frames (one year or less) to evaluate performance. Asset owners in fixed income (both internal [17%] and external [18%]) have a lower percentage of investors using time frames of one year or less for evaluating performance. Equity asset managers (both internal [15%] and external [16%]) and equity asset owners (both internal [10%] and external [10%] show a lower percentage of investors that use time frames of one year or less for evaluating performance. And as these numbers suggest, fixed income asset managers are the most likely to use short time frames for evaluating the investment performance of their internal and external managers.

In evaluating the time frames for linking compensation to investment performance, 70% of investors cited the use of an annual compensation structure. This statistic was essentially the same between asset owners and managers as well as between fixed income and equity investors. Across regions, investors showed minimal variations, as most in EMEA (71%), APAC (73%), and the Americas (66%) cited the use of an annual time frame for linking compensation to performance. Nevertheless, the Americas (27%) showed statistical differences from EMEA (15%) and APAC (10%) in their use of compensation structure of two years or more.

The Real Barrier to ESG Integration: Scarcity of High-quality Material ESG data

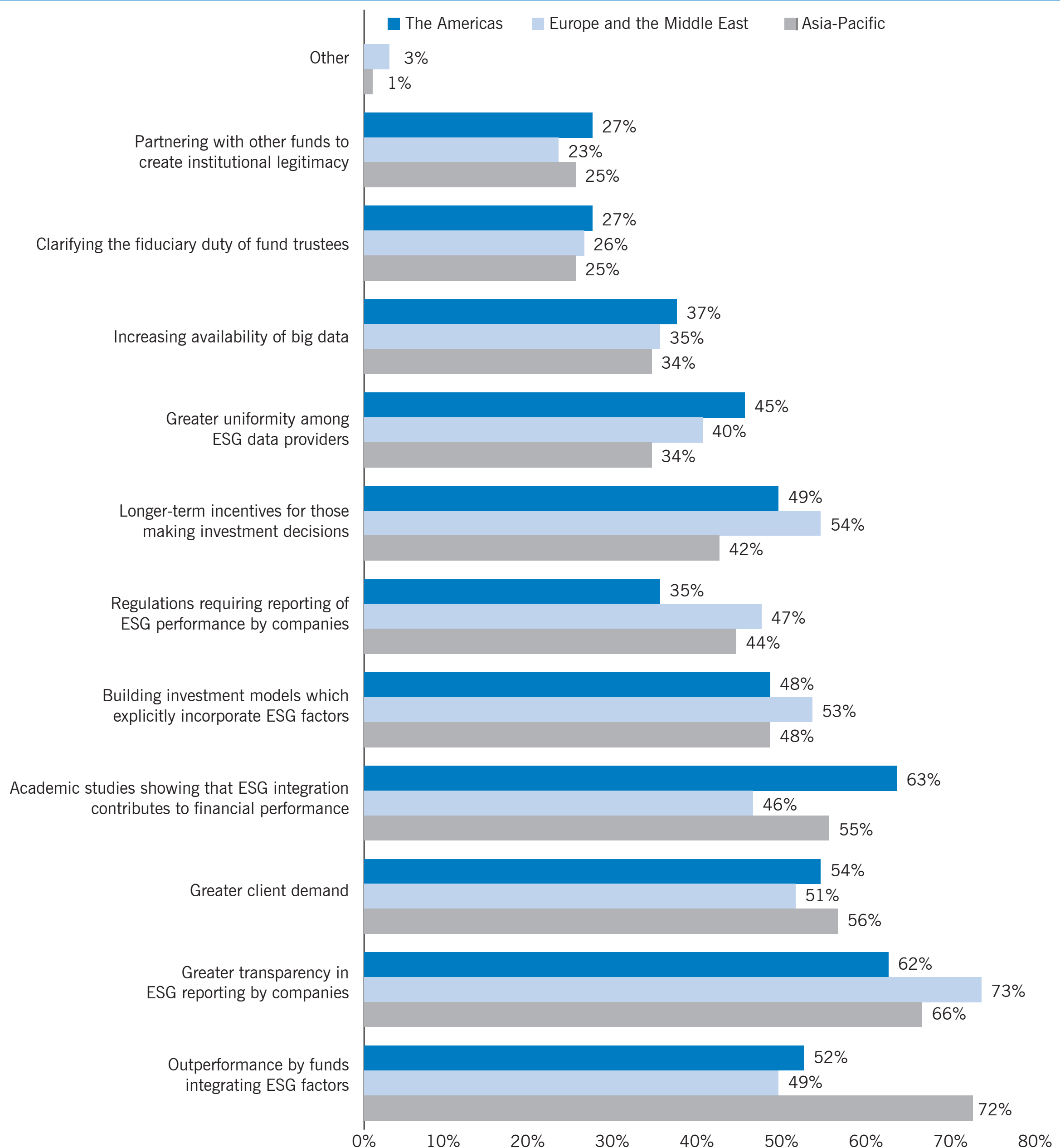
If traditional barriers to ESG integration are falling and the motivation behind the interest in this strategy is market driven, why isn't it already the dominant strategy?

The most significant barrier to ESG integration is the lack of standards in both ESG data and how it is used (Figure 6). Even if standards exist which provide good quality ESG data, the question of how these data are used remains. Sixty percent of respondents identified the absence of common standards for measuring ESG performance as the dominant concern.

Fixed income investors (64%) were more likely than equity investors (56%) to see a lack of standards for measuring ESG performance as a barrier to ESG integration. Consistent with this, 85% of asset owners and 73% of asset managers agree or strongly agree that the evolution of sustainability reporting standards will facilitate a better integration of ESG factors. Across regions, 90% of asset owners in both EMEA and the Americas agree or strongly agree that the evolution of reporting standards will facilitate better integration of ESG factors. In comparison, only 77% of asset owners in APAC agree or strongly agree.

When asked to what extent investors believe there is a lack of standardized regulation around ESG integration, 83% of asset owners and 80% of asset managers agreed or strongly agreed. High levels of agreement on the lack of standardized regulation around ESG integration are seen across regions for both asset owners and managers; however, asset owners in EMEA (70%) are significantly less likely to agree or strongly agree that there is a lack of standardized regula-

Figure 7 **Which of the following are the most useful towards improving ESG integration? Please select five answers.**



tion in comparison to asset owners in APAC (92%) and the Americas (89%). Asset managers across regions show a similar trend, with investors in EMEA (71%) significantly less likely than those in APAC (89%) and the Americas (80%) to agree or strongly agree that there is a lack of standardized regulation. When comparing asset classes, equity investors (88%) are more likely than fixed income investors (79%) to agree or strongly agree that there is a lack of standardized regulation around ESG integration.

Overcoming Barriers

When asked "In what ways have you been able to overcome the barriers to integrating ESG factors into investment decisions?" 34% of surveyed investors cited providing training on ESG to sector portfolio managers and analysts, 30% cited lengthening time frames for evaluating performance, and 30% cited explicit support from senior leadership. EMEA (20%) was less confident than APAC (36%) and the Americas (35%) that lengthening time frames will help in integrating ESG. EMEA (26%) also showed greater interest than

APAC (11%) and the Americas (15%) in aligning performance incentives to support integrating ESG factors into investment decisions. At the same time, the Americas (39%) showed greater concern with gaining support from senior leadership, while EMEA (27%) placed greater attention on increasing headcounts on ESG expertise. All regions (EMEA [36%], APAC [34%], and the Americas [33%]) cited training sector portfolio managers and analysts as a way to overcome barriers to ESG integration.

More fixed income investors (35%) than equity investors (26%) believed that lengthening time frames for evaluating performance would allow them to overcome barriers to integrating ESG factors into investment decisions. Equity investors were also more likely (19%) to cite hiring external ESG consultants than fixed income investors (12%).

When asked "what would be the most useful towards improving ESG integration?" (respondents could pick more than one answer), 71% of asset managers cited greater client demand, whereas only 35% of asset owners cited greater beneficiary demand. This shows that asset managers are more beholden to their asset owner clients for greater ESG integration than asset owners are to their beneficiaries. Also widely cited was greater transparency in ESG reporting by companies (66% for asset owners and 68% for asset managers) as well as outperformance by funds integrating ESG factors (65% for asset owners and 51% for asset managers). Across regions, 72% of investors in APAC believe outperformance by funds integrating ESG factors would be useful towards improving ESG integration, as compared to 49% of investors in EMEA and 52% of investors in the Americas (Figure 7). Fixed income investors (59%) showed greater confidence in the ability of client/beneficiary demand to improve ESG integration than equity investors (47%).

Themes from Regional and Asset Class Analysis

All regions showed high interest in using ESG integration as a way to link environmental and social objectives to performance (53% in the Americas, 68% in EMEA, and 61% in APAC) in addition to citing the importance of training sector portfolio managers and analysts, as we mentioned before. This gives insight into the fundamental uses and obstacles of ESG integration across regions. However, there are differences across regions in the challenges to ESG integration and how to overcome them.

Somewhat surprisingly, time frames in the Americas are less of an issue than they are in EMEA and APAC, as 44% of asset owners in the Americas believe their beneficiaries would tolerate underperformance for three years or more (compared to 27% in APAC and EMEA), and more asset managers in the Americas (36%) believe their asset owner clients would tolerate underperformance for three years or more (compared to 29% in APAC and 18% in EMEA). Additionally, 40% of investors in the Americas expected ESG would outperform in a comparably longer time frame, five to 10 years (compared to 29% for both APAC and EMEA). This could be due in part to the longer investment time horizons used in the Americas as 33% of investors in the Americas have an investment time horizon of more than 10 years (compared to 27% of APAC and only 13% of EMEA). Additionally, the most popular way of overcoming barriers to ESG integration in the Americas (39%) is explicit support from senior leadership, compared to 30% in APAC and 20% in EMEA. Although time frames in the Americas are relatively longer, and so more fitting for ESG integration, additional support from senior leadership is seen as needed to help further ESG integration.

Not surprisingly, EMEA seems to have the most developed regulatory environment supporting ESG integration. When asked to what extent they believe there is a lack of standardized regulation around ESG integration, investors in EMEA (70%) are significantly less likely to agree or strongly agree that there is a lack of standardized regulation around ESG integration in comparison to both APAC (92%) and the Americas (89%). Compared to the other regions, EMEA was looking for less regulatory support and more for internal solutions. When asked about the methods for overcoming the barriers to ESG integration, EMEA (26%) placed greater importance on aligning performance incentives to support integrating ESG factors into investment decisions when compared to the Americas (15%) and APAC (11%). EMEA (27%) also placed the greatest importance on increasing headcounts on ESG expertise in order to overcome the barriers to ESG integration in comparison to the Americas (23%) and APAC (20%). Additionally, only 49% of investors in EMEA (compared to 72% of investors in APAC and 52% in the Americas) believed outperformance by funds integrating ESG factors would be useful towards improving ESG integration. These statistics together suggest that for EMEA internal solutions on integrating ESG are more important, and regulatory standards and demonstrated outperformance are comparably less of an obstacle in comparison to other regions.

The APAC region is distinguished by expectations of shorter time frames for when ESG will produce alpha and greater expectations about the changing nature of fiduciary duty. When asked if ESG would produce alpha in the short term (less than one year), 14% of investors in APAC agreed (compared to 6% of investors in the Americas and 5% of investors in EMEA). Additionally, when asked if ESG would produce alpha in the medium term (one to three years), 34% of investors in APAC agreed (compared to 15% of investors in the Americas and 21% of investors in EMEA).

The shorter time frame expectations on alpha may be explained by the relatively undeveloped state of capital markets in many countries within the region, including China. With respect to evolving perception on fiduciary duty, 61% of APAC investors agreed that fiduciary duty is evolving to allow or require ESG considerations compared

with only 46% for the Americas and 44% for EMEA. This may reflect the rapidly growing interest in corporate governance and stewardship in the region and also greater hope for regulatory support.

Equity investors have longer investment time frames than fixed income investors as 31% of equity investors compared to only 18% of fixed income investors have investment time horizons of more than 10 years. Additionally, more fixed income investors (35%) than equity investors (26%) believed that lengthening time frames for evaluating performance would allow them to overcome barriers to integrating ESG factors into investment decisions. Fixed income investors (64%) are more likely than equity investors (56%) to cite a lack of standards for measuring ESG performance as a barrier to ESG integration. Fixed income investors seem more concerned with differing time frames and the lack of standards for measuring ESG performance.

Conclusion

Differences in ESG integration between our investor groups may provide strategic insight into how ESG integration can be tailored to match the characteristics of various investors looking to effectively integrate ESG analysis. As traditional barriers to ESG integration give way, investors may employ ESG analysis more consistently with holistic measurements of risk and resiliency. Additionally, a critical mass of ESG investors may increasingly expect thorough ESG analysis as fiduciary duty evolves. Investor time expectations on when ESG will contribute to financial outperformance are largely consistent with ESG investing. In general, investors appear to have both the proper investment time horizons and expectations for when ESG could deliver outperformance. However, investors may have to reevaluate their time frames for measuring performance to match the projections of when ESG could contribute to outperformance.

The lack of standards in both ESG data and how they are used remains a difficult barrier: over 80% of investors agree that common standards are lacking. Additionally, some two thirds of asset owners and 68% of asset managers cited greater transparency in ESG reporting by companies as the most useful towards improving ESG integration.

ROBERT G. ECCLES is Visiting Professor of Management Practice at the Said Business School of Oxford University.

MIRTHA D. KASTRAPELI is the Global Head of the Center for Applied Research at State Street.

STEPHANIE J. POTTER is a Freelance Sustainability Research Consultant.

The views expressed in this material are the views of Mirtha D. Kastrapelli, Robert G. Eccles and Stephanie J. Potter through the period ended March 31, 2017 and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward-looking statements. Unless otherwise noted, the opinions of the authors provided are not necessarily those of State Street. Views and opinions are subject to change at any time based on market and other conditions. 2005072.1.1.GBL.RTL
Exp. 1.31.2019

ADVISORY BOARD

Yakov Amihud
New York University

Mary Barth
Stanford University

Amar Bhidé
Tufts University

Michael Bradley
Duke University

Richard Brealey
London Business School

Michael Brennan
University of California,
Los Angeles

Robert Bruner
University of Virginia

Charles Calomiris
Columbia University

Christopher Culp
Johns Hopkins Institute for Applied Economics

Howard Davies
Institut d'Études Politiques de Paris

Robert Eccles
Harvard Business School

Carl Ferenbach
High Meadows Foundation

Kenneth French
Dartmouth College

Martin Fridson
Lehmann, Livian, Fridson Advisors LLC

Stuart L. Gillan
University of Georgia

Richard Greco
Filangieri Capital Partners

Trevor Harris
Columbia University

Glenn Hubbard
Columbia University

Michael Jensen
Harvard University

Steven Kaplan
University of Chicago

David Larcker
Stanford University

Martin Leibowitz
Morgan Stanley

Donald Lessard
Massachusetts Institute of Technology

John McConnell
Purdue University

Robert Merton
Massachusetts Institute of Technology

Stewart Myers
Massachusetts Institute of Technology

Robert Parrino
University of Texas at Austin

Richard Ruback
Harvard Business School

G. William Schwert
University of Rochester

Alan Shapiro
University of Southern California

Betty Simkins
Oklahoma State University

Clifford Smith, Jr.
University of Rochester

Charles Smithson
Rutter Associates

Laura Starks
University of Texas at Austin

Joel M. Stern
Stern Value Management

G. Bennett Stewart
EVA Dimensions

René Stulz
The Ohio State University

Sheridan Titman
University of Texas at Austin

Alex Triantis
University of Maryland

Laura D'Andrea Tyson
University of California, Berkeley

Ross Watts
Massachusetts Institute of Technology

Jerold Zimmerman
University of Rochester

EDITORIAL

Editor-in-Chief
Donald H. Chew, Jr.

Associate Editor
John L. McCormack

Design and Production
Mary McBride

Assistant Editor
Michael E. Chew

Journal of Applied Corporate Finance (ISSN 1078-1196 [print], ISSN 1745-6622 [online]) is published quarterly by Wiley Subscription Services, Inc., a Wiley Company, 111 River St., Hoboken, NJ 07030-5774 USA.

Postmaster: Send all address changes to JOURNAL OF APPLIED CORPORATE FINANCE, John Wiley & Sons Inc., C/O The Sheridan Press, PO Box 465, Hanover, PA 17331 USA.

Information for Subscribers
Journal of Applied Corporate Finance is published in four issues per year. Institutional subscription prices for 2018 are:
Print & Online: US$757 (US), US$904 (Rest of World), €588 (Europe), £463 (UK). Commercial subscription prices for 2018 are: Print & Online: US$1007 (US), US$1202 (Rest of World), €782 (Europe), £615 (UK). Individual subscription prices for 2018 are: Print & Online: US$129 (US), £73 (Rest of World), €107 (Europe), £73 (UK). Student subscription prices for 2018 are: Print & Online: US$47 (US), £26 (Rest of World), €40 (Europe), £26 (UK). Prices are exclusive of tax. Asia-Pacific GST, Canadian GST/HST and European VAT will be applied at the appropriate rates. For more information on current tax rates, please go to www.wileyonlinelibrary.com/tax-vat. The price includes online access to the current and all online back files to January 1st 2014, where available. For other pricing options, including access information and terms and conditions, please visit www.wileyonlinelibrary.com/access.

Delivery Terms and Legal Title
Where the subscription price includes print issues and delivery is to the recipient's address, delivery terms are Delivered at Place (DAP); the recipient is responsible for paying any import duty or taxes. Title to all issues transfers FOB our shipping point, freight prepaid. We will endeavour to fulfil claims for missing or damaged copies within six months of publication, within our reasonable discretion and subject to availability.

Journal Customer Services: For ordering information, claims and any inquiry concerning your journal subscription please go to www.wileycustomerhelp.com/ask or contact your nearest office.
Americas: Email: cs-journals@wiley.com; Tel: +1 781 388 8598 or
+1 800 835 6770 (toll free in the USA & Canada).
Europe, Middle East and Africa: Email: cs-journals@wiley.com;
Tel: +44 (0) 1865 778315.
Asia Pacific: Email: cs-journals@wiley.com; Tel: +65 6511 8000.
Japan: For Japanese speaking support, Email: cs-japan@wiley.com
Visit our Online Customer Help available in 7 languages at
www.wileycustomerhelp.com/ask

Production Editor: Shalini Chawla (email: jacf@wiley.com).

Back Issues: Single issues from current and recent volumes are available at the current single issue price from cs-journals@wiley.com. Earlier issues may be obtained from Periodicals Service Company, 351 Fairview Avenue – Ste 300, Hudson, NY 12534, USA. Tel: +1 518 537 4700, Fax: +1 518 537 5899, Email: psc@periodicals.com
View this journal online at wileyonlinelibrary.com/journal/jacf

Statement on Research4Life
Wiley is a founding member of the UN-backed HINARI, AGORA, and OARE initiatives. They are now collectively known as Research4Life, making online scientific content available free or at nominal cost to researchers in developing countries. Please visit Wiley's Content Access – Corporate Citizenship site: http://www.wiley.com/WileyCDA/Section/id-390082.html

For information, visit www.aginternetwork.org, www.who.int/hinari/en/, www.oaresciences.org, www.wipo.org/int/ardi/edn.

Journal of Applied Corporate Finance accepts articles for Open Access publication. Please visit http://olabout.wiley.com/WileyCDA/Section/id-828081.html for further information about OnlineOpen.

Wiley's Corporate Citizenship initiative seeks to address the environmental, social, economic, and ethical challenges faced in our business and which are important to our diverse stakeholder groups. Since launching the initiative, we have focused on sharing our content with those in need, enhancing community philanthropy, reducing our carbon impact, creating global guidelines and best practices for paper use, establishing a vendor code of ethics, and engaging our colleagues and other stakeholders in our efforts.

Follow our progress at www.wiley.com/go/citizenship

Abstracting and Indexing Services
The Journal is indexed by Accounting and Tax Index, Emerald Management Reviews (Online Edition), Environmental Science and Pollution Management, Risk Abstracts (Online Edition), and Banking Information Index.

Disclaimer
The Publisher, Cantillon and Mann, its affiliates, and Editors cannot be held responsible for errors or any consequences arising from the use of information contained in this journal; the views and opinions expressed do not necessarily reflect those of the Publisher, Cantillon and Mann, its affiliates, and Editors, neither does the publication of advertisements constitute any endorsement by the Publisher, Cantillon and Mann, its affiliates, and Editors of the products advertised.

Copyright and Copying
Copyright © 2018 Cantillon and Mann. All rights reserved. No part of this publication may be reproduced, stored or transmitted in any form or by any means without the prior permission in writing from the copyright holder. Authorization to photocopy items for internal and personal use is granted by the copyright holder for libraries and other users registered with their local Reproduction Rights Organization (RRO), e.g. Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923, USA (www.copyright.com), provided the appropriate fee is paid directly to the RRO. This consent does not extend to other kinds of copying such as copying for general distribution, for advertising or promotional purposes, for republication, for creating new collective works or for resale. Permissions for such reuse can be obtained using the RightsLink "Request Permissions" link on Wiley Online Library. Special requests should be addressed to: permissions@wiley.com.

Copyright of Journal of Applied Corporate Finance is the property of Wiley-Blackwell and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.