Exploring the links between ESG supervision and performance

NN investment partners

GLASS LEWIS

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Executive summary

How do companies oversee the environmental, social and governance (ESG) aspects of their business and manage the associated risks? Different companies take different approaches. Some have board-level committees fully devoted to ESG and sustainability supervision; others integrate ESG oversight into existing committees. Some disclose their methods of managing and measuring ESG to a greater degree than others.

To determine how these and other questions affect companies' ESG performance, NN Investment Partners and governance services provider Glass Lewis conducted a joint study. This paper explores the study's findings and the reasons underlying the links between ESG management and performance. By assessing the strength of these relationships and how they are influenced by factors such as region and industry, we aim to help investors make better decisions on where to invest their money for the most sustainable returns.

The study conducted by NN IP and Glass Lewis examines the relationship between companies' performance with regard to environmental, social and governance factors, and the characteristics of each company's ESG supervisory structures.

ESG performance data used in the study are based on NN IP's ESG Lens, a proprietary tool that assesses a wide range of data points to arrive at a single ESG score for a given company. Appendix 2 provides details on the ESG Lens. Glass Lewis provided data on disclosure, board-level ESG expertise and ESG governance structure for the companies included in the study.

Key findings of the study

- Companies with a stand-alone ESG committee at the board level tend to have higher ESG scores
- Companies in Europe and the US, two regions with the most extensive extra-financial reporting obligations, have stand-alone ESG committees at the board level more often than companies based elsewhere
- The quality of disclosure is stronger in Europe than in the US, where reporting requirements are laxer and many companies seem to take a "legal minimum" approach to disclosure
- ESG scores for companies with below-board committees surpassed those for companies with combined committees, suggesting that a combined committee may not wield the force of a stand-alone committee in terms of ESG supervision
- Companies that do not disclose details of their supervision of ESG risks and opportunities had the lowest ESG scores

NN IP and Glass Lewis worked together to arrive at the insights and conclusions, which highlight relationships between committee presence, country of origin, industry, and 2020 ESG performance. While using a single year's ESG score has clear limitations, this report suggests some useful insights and represents a departure point for further research. In addition to the study's findings, it presents background on the development of ESG awareness in the corporate world, a look at how the regulatory landscape is evolving, and the current state of research on the topic. Details on the tools and methodologies used in the study, as well as a look at how the regulatory landscape is evolving across the globe, are included in separate appendices.

Contents

The challenges of managing and measuring ESG performance

Investors are increasingly looking for ways to measure ESG performance consistently across the entire spectrum of companies. Companies, for their part, are finding ways to better manage the specific ESG risks and opportunities associated with their business, the impact of their operations on society and on the environment, and the reputational consequences they could face.

Companies face rising expectations among their stakeholders, including governments and citizens as well as investors, about how they manage ESG factors. Regulators are underpinning this trend by imposing more stringent demands and requiring more transparency from institutional investors on how they incorporate material ESG factors into their investment decisions. Numerous supranational standards recognize the need for urgent action and provide guidance on responsible corporate behaviour. These include the Paris Agreement and the United Nation's Sustainable Development Goals (SDGs), as well as international guidelines and norms such as the UN Global Compact, the UN Guiding Principles on Business & Human Rights, and the OECD Guidelines. Companies may use these frameworks to demonstrate their commitment to sustainability and responsible business conduct.

As a result of these developments, the number of companies establishing a board-level committee to oversee ESG aspects of their business has grown significantly. While ESG committees are not yet as prevalent as audit, remuneration, or nomination committees, they have attracted broad interest from sustainable investors who seek to promote strong governance structures as well as robust ESG performance. They have also become a subject of academic study, where they are often called "corporate social responsibility" or "sustainability" committees. To provide context for our study, we offer a brief overview of the current state of research, followed by the findings of the NN IP-Glass Lewis study.

State of research

The development of board-level ESG oversight

Best practices in corporate governance have evolved rapidly in recent decades due to changing perceptions of investor stewardship and companies' roles within society. Boards meet more often, discuss more topics, and are burdened with more stakeholder expectations than ever before. In this context, board committees began as experiments, then became best practices, and eventually turned into the principal way in which specific matters are institutionalized into the organization at board level.[1] Following in the footsteps of the audit, remuneration, and nomination committees, the stand-alone ESG committee may also one day become common practice, propelled into the spotlight by directors' increasing role in the oversight of extra-financial performance.[2]

As early as 2010, The Corporate Library,[3] an independent research firm, reported that 65% of S&P 100 firms and nearly one-fifth of the Russell 1000 had a committee charged with ESG supervision, either through a stand-alone committee or through an established committee tasked with this additional duty. Industries exposed to high environmental risk are most likely to form such a committee. In the UK, the Institute of Business Ethics[4] found that 55 companies in the FTSE 350 had an ESG committee in 2016. In 2019, consulting firm Russell Reynolds[5] found that over half of French blue chip and midcap companies had a committee dedicated to ESG.

The voluntary decision to adopt stand-alone or combined board-level ESG committees is influenced by internal factors (e.g., a company culture that values sustainability) and external factors (e.g., stakeholder and regulatory pressures).[6,7] Because these committees are voluntary, their presence could be viewed as signalling a company's heightened focus on ESG,[8] but this may reflect only a superficial commitment. Research conducted by the MIT Sloan Management Review and The Boston Consulting Group[9] in 2015 found that out of 3,800 US managers surveyed, only 22% perceived that their boards provide substantial oversight on sustainability. External factors such as recommendations, soft law, and shareholder expectations can influence companies to set up committee oversight of ESG issues, but mandatory extra-financial disclosure requirements have a more direct and material impact on the presence of defined oversight structure.[7]

The effect on ESG performance

Research seeking to tie ESG committee presence to ESG performance has had mixed results. Some studies have found little evidence that ESG committees affect ESG performance,[10, 11] while others find a positive link.[12, 13] Many papers that do not find a significant link between committee presence and ESG performance concentrate on environmental performance. As Burke et al. (2019) point out, specialized ESG committees at different companies may have somewhat different areas of focus, depending on the issues most relevant to the company and its industry. By looking solely at environmental performance, studies may overlook improved performance under non-environmental performance-related metrics, thereby doing a disservice to ESG committees focussed on other stakeholders such as employees, suppliers, and local communities.

Composition of ESG committees

As ESG oversight becomes more commonplace, with a variety of approaches, academic research is beginning to focus on committees' structural characteristics and how they relate to ESG performance. Eberhardt-Toth (2017) found evidence of better ESG performance in companies in which the dedicated committee has a larger proportion of independent directors, a higher average age of directors, a female chair, and a smaller size.[14] Additionally, Burke et al. (2019), cited above, found that ESG committees' effectiveness tends to be positively influenced by committee size, independence, and meeting frequency.[12]

1 Sims, R. R. (1991). The institutionalization of organizational ethics. Journal of Business Ethics, 10(7), 493–506.
2 Tonello, M., Vidal, D.J., Carroll, A.B., Shabana, K.M., Kerr, J.E., Peloza, J., Shang, J., Lemon, K.N., Roberts, J.H., Raghubir, P., Winer, R., Du, S., Bhattacharya, C.B., Sen, S., Lev, B.I., Petrovits, C., RadhakrishnWan, S., (2011). Sustainability Matters: Why and How Corporate Boards Should Become Involved. The Conference Board Research, New York. Report no. R-1481-11-RR.
3 Calvert Asset Management and The Corporate Library. (2010). Board oversight of environmental and social issues: An analysis of current North American practice.
4 Institute of Business Ethics. (2016). Culture by committee: The pros and cons. London: Institute of Business Ethics Pub.
5 Russel Reynolds Associates (2020). France Board Governance Study 2020.
6 Eccles, R. G., Iannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. Management Science, 6, 2835–2857.
7 Gennari, F.; Salvioni, D.M. (2019) CSR committees on boards: The impact of the external country level factors. Journal of Management Governance. 23, 1–27.
8 Adams, C.A., (2002). Internal organisational factors influencing corporate social and ethical reporting: beyond current theorising. Account. Audit. Account. J. 15.
9 MIT Sloan Management Review, The Boston Consulting Group, and the UN Global Compact (2015). Joining Forces: Collaboration and Leadership for Sustainability.
10 Rodrigue, M., Magnan, M., & Cho, C. H. (2013). Is environmental governance substantive or symbolic? An empirical investigation. Journal of Business Ethics, 114, 107–129.
11 Al-Tuwaijiri, S. A., Christensen, T. E., & Hughes, K. E., II. (2004). The relations among environmental disclosure, environmental performance, and economic performance: A simultaneous equations approach. Accounting, Organizations and Society, 29, 447–47112.
12 Burke, J. J., Hoitash, R., & Hoitash, U. (2019). The heterogeneity of board-level sustainability committees and corporate social performance. Journal of Business Ethics. 154:1161–1186.
13 Baraibar-Diez, E., & Odriozola, M. D. (2019). CSR committees and their effect on ESG performance in UK, France, Germany, and Spain. Sustainability, 11(18), 5077.
14 Eberhardt-Toth, E. 2017. Who should be on a board corporate responsibility committee? Journal of Cleaner Production, 140, 1926-1935.

Findings and insights of the NN IP - Glass Lewis study

We analysed our sample of 129 companies in terms of **supervisory governance structure**, **disclosure quality**, and **ESG expertise at board level**, with particular focus on comparing these factors with companies' ESG Lens scores. The ESG Lens performance of each company was divided into quartiles, with the lowest performers making up the bottom and the highest performers comprising the top. Details of the composition of our sample can be found in Appendix 1. Descriptions of the ESG Lens and Glass Lewis's data are provided in Appendices 2 and 3 respectively.

Governance structure

This report's primary focus is on ESG oversight and its relationship to companies' 2020 ESG Lens scores. The formation of specialized committees at board level is widely regarded as an effective way to improve board effectiveness. We therefore investigated whether companies with board-level committees dedicated to ESG oversight had better ESG Lens scores than those without. This section also includes breakdowns of ESG governance structure by region and sector, to ascertain whether our sample suggests a link between ESG committee presence and external pressures from regulatory bodies or sectoral influences.

As expected, companies in sectors susceptible to greater scrutiny of ESG issues, such as the energy sector, were more likely to have stand-alone or combined ESG committees. Similarly, European companies, which are under the greatest regulatory pressure to report extra-financial information, were the most likely to have some form of ESG committee in place. Somewhat surprisingly, however, companies with below-board supervision had better ESG Lens scores than those that assigned the task to a combined committee. Nevertheless, the highest proportion of above-median ESG Lens scores were registered at companies that instituted a specialized committee, whether at or below board level, to oversee ESG performance.

Supervisory structure versus ESG Lens score

- Companies with a stand-alone committee supervisory structure tended to have higher NN IP ESG Lens scores. Most companies in this group fell above the median.
- Companies with a stand-alone committee and those with below-board supervision were the only groups with a majority of their constituents above the median. Companies with a stand-alone committee performed better than companies with below-board supervision.
- Companies that do not disclose an ESG supervisory structure performed the worst among all the groups considered in the sample.

Supervisory structure by region

- In keeping with findings from Gennari and Salvioni (2019), regions with more compulsory extra-financial reporting showed a higher occurrence of stand-alone ESG committees.
- Whole-board oversight of ESG is by far the least-used supervisory structure in all regions.
- Companies in the Asia-Pacific region had a higher proportion of companies without relevant disclosure of ESG oversight mechanisms at the board level than other regions.

Figure 1: Supervisory structures per ESG score quartile

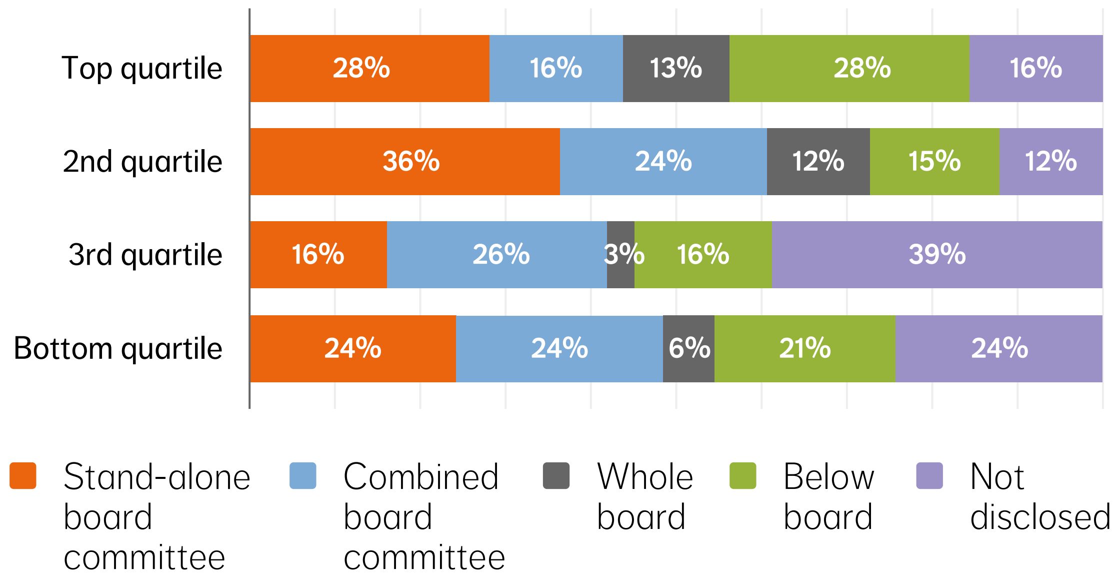
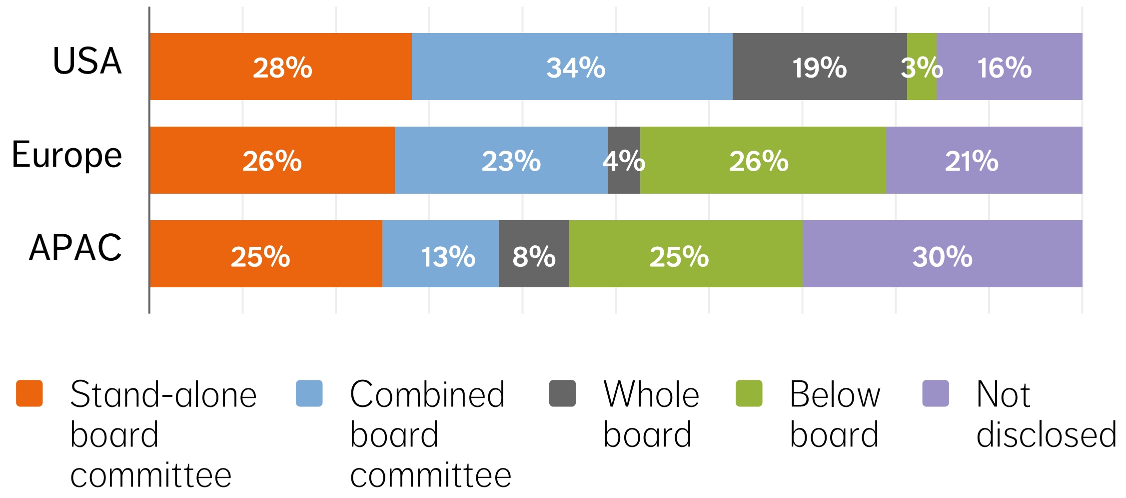


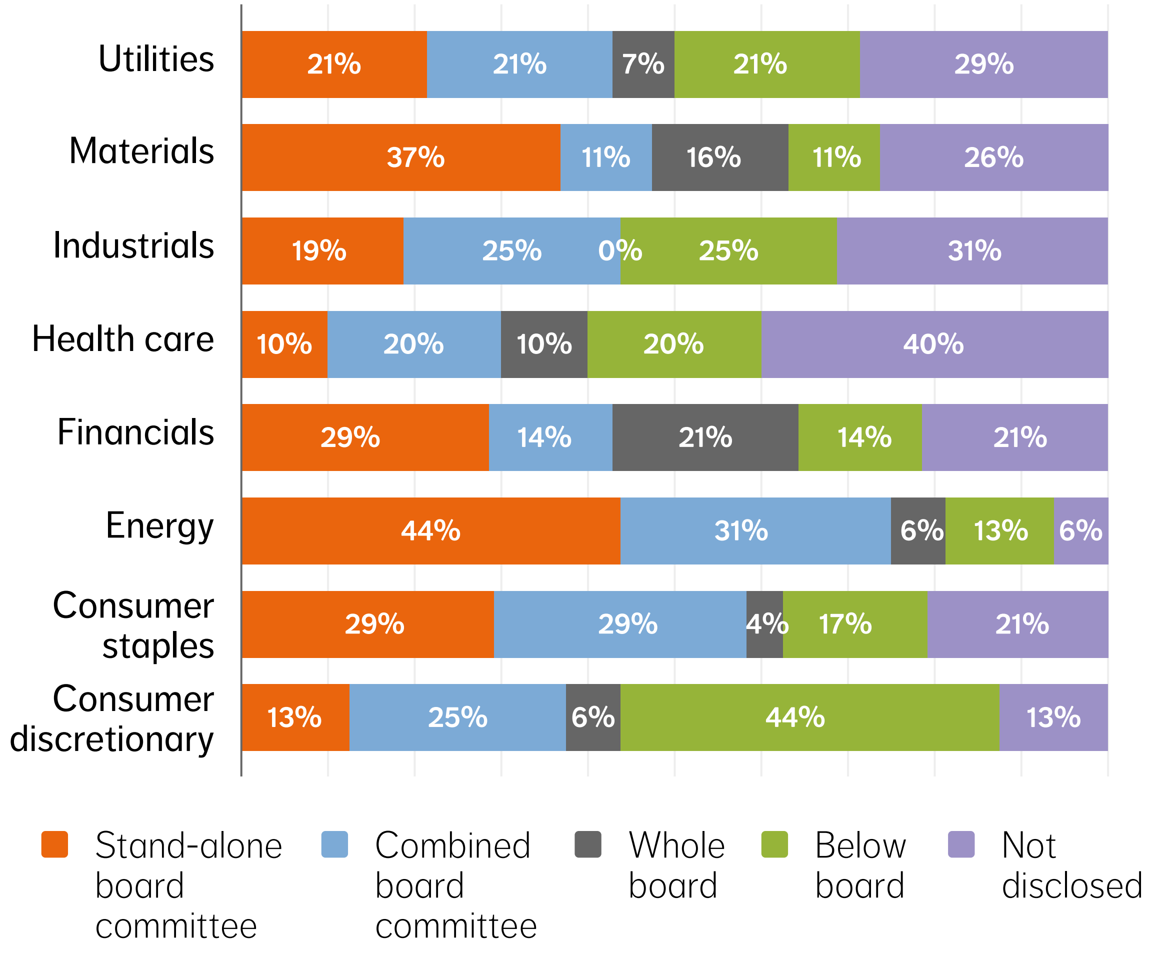
Figure 2: Supervisory structures per region



Supervisory structure by sector

- Stand-alone committees were most prevalent in the energy sector (44%), followed by materials (37%).
- Companies in the energy sector may have more stand-alone committees due to greater scrutiny of environmental issues, most notably climate change.
- Health care had the lowest proportion of committees (stand-alone and combined), as measured by the sum of the proportion of committees present in the stand-alone and combined categories.

Figure 3: Supervisory structures per sector



Disclosure

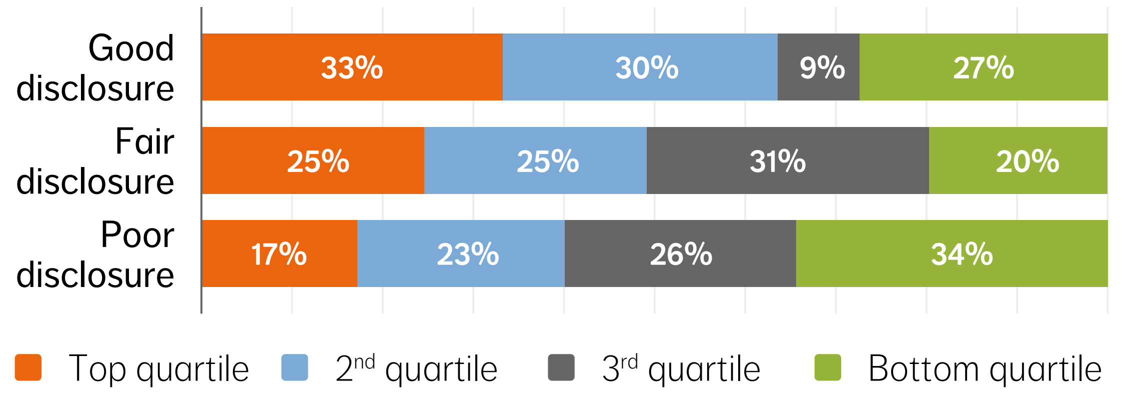
Every company in the sample was assigned a disclosure rating, based on an evaluation of the quantity and quality of the information provided about how ESG performance is supervised. Details of this assessment can be found in Appendix 3. In this section we investigate the link between the level of disclosure and each company's ESG Lens score. We also include comparisons with region and sector ESG performance, as disclosure requirements and the activities of a company's sector are likely to influence the information it deems necessary to disclose.

While many companies with the best disclosure practices also had better ESG Lens scores, a significant number (27%) fell in the bottom quartile. This could be attributable to a need for transparency among companies that face significant ESG challenges, or to the particularities of the sample we used. The insights gleaned from the sectoral and regional comparisons are also somewhat counterintuitive. Environmental sensitivities in certain sectors and extra-financial reporting obligations in some regions do not always lead to higher-quality disclosure.

Disclosure versus ESG Lens score

- Although increased transparency often strengthens insight into a company's ESG risks and opportunities, it does not guarantee strong ESG performance. This becomes apparent in the research. Companies with good disclosure practices were nearly equally represented in the bottom and top quartiles (see Appendix 3 for definitions of the disclosure categories used). As Walls et al. (2012) suggest, companies with significant controversies may have more incentives to disclose or be part of industries with a generally lower score[1]. Moreover, disclosure corresponds only to what the company wants to divulge to stakeholders, not its performance.
- Good disclosure practices, while not a guarantee, were linked to better ESG Lens scores.
- Companies with disclosure classified as "Fair" had ESG Lens scores that were almost equally divided above and below the median line.
- Companies with poor disclosure tended to have below-median ESG Lens scores, the largest portion of which fell into the bottom quartile.

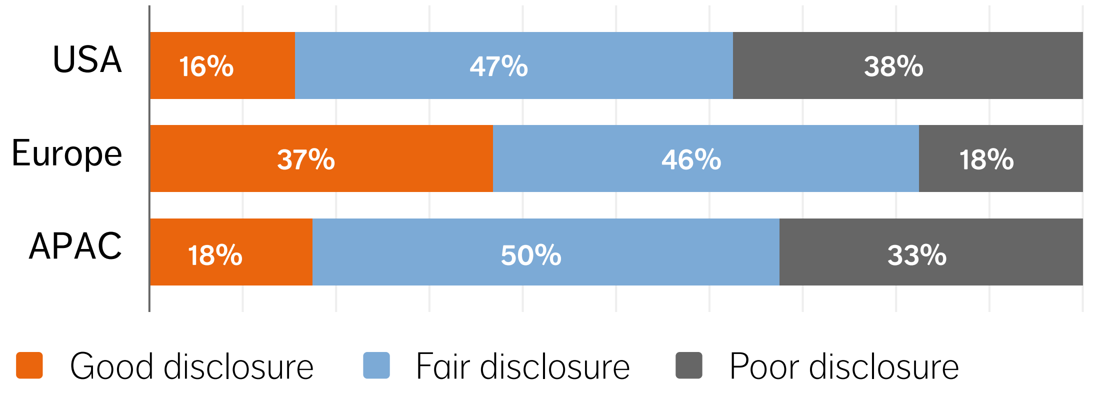
Figure 4: ESG score quartiles per level of disclosure quality



Disclosure by region

- Mandatory extra-financial disclosure and quality of disclosure seemingly do not always go hand in hand for companies in our sample.
- European companies scored significantly higher than US companies on disclosure quality.
- The somewhat better performance of Asia-Pacific companies than US companies in terms of disclosure may stem from the different reporting regimes in the two regions. The US has a shallow but mandatory reporting regime, while disclosure mechanisms in Asia-Pacific countries tend to be voluntary; as a result, companies that choose to disclose may be more focused on disclosing high-quality ESG information.

Figure 5: Disclosure quality per region

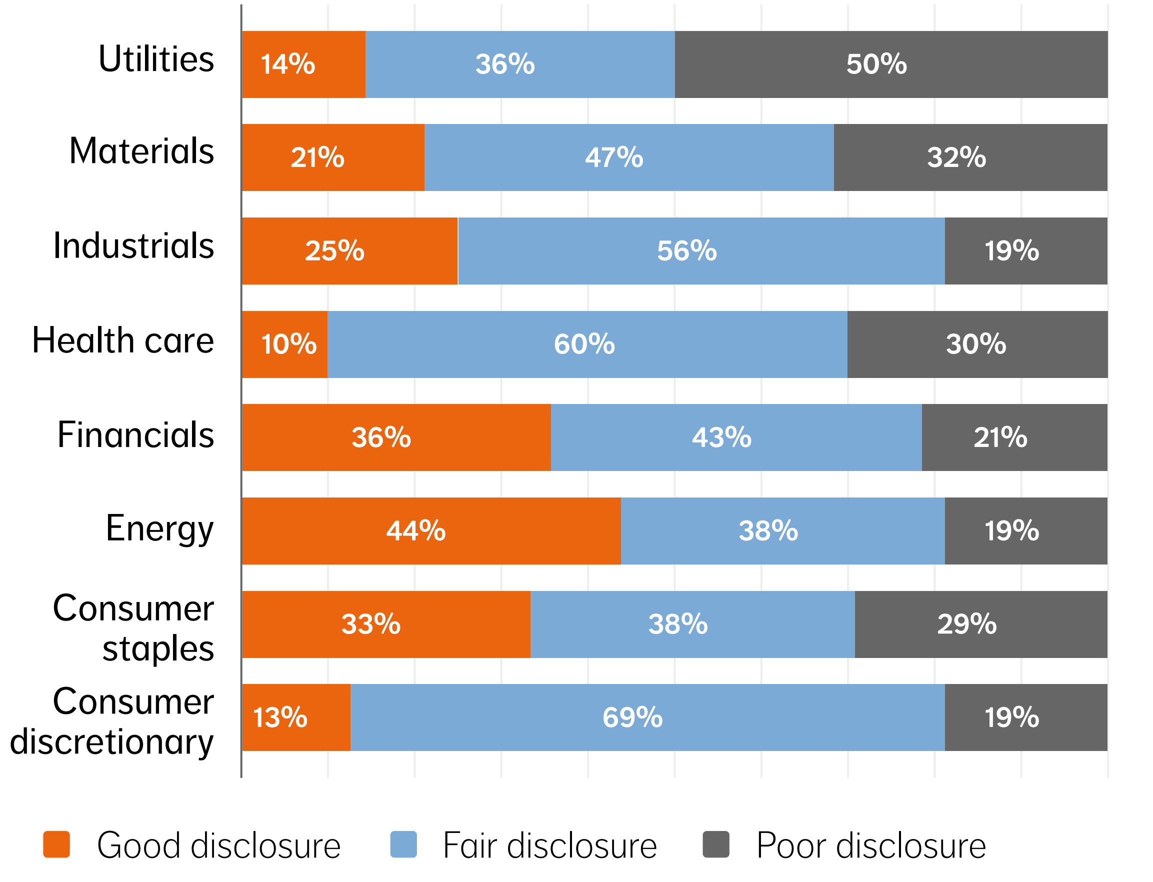


1 Walls, J. L., Berrone, P., & Phan, P. H. (2012). Corporate governance and environmental performance: Is there really a link? Strategic Management Journal, 33(8), 885–913

Disclosure by sector

- Companies in the energy sector were the most likely to have a "Good" disclosure rating, which may be linked to elevated levels of shareholder scrutiny of ESG factors in the sector, and the additional disclosure that this may require.
- Companies in the consumer discretionary, health care, and utilities sectors had the lowest proportion of "Good" ratings in the sample; companies in the utilities sector also had the highest proportion of "Poor" ratings.

Figure 6: Disclosure quality per sector



ESG expertise

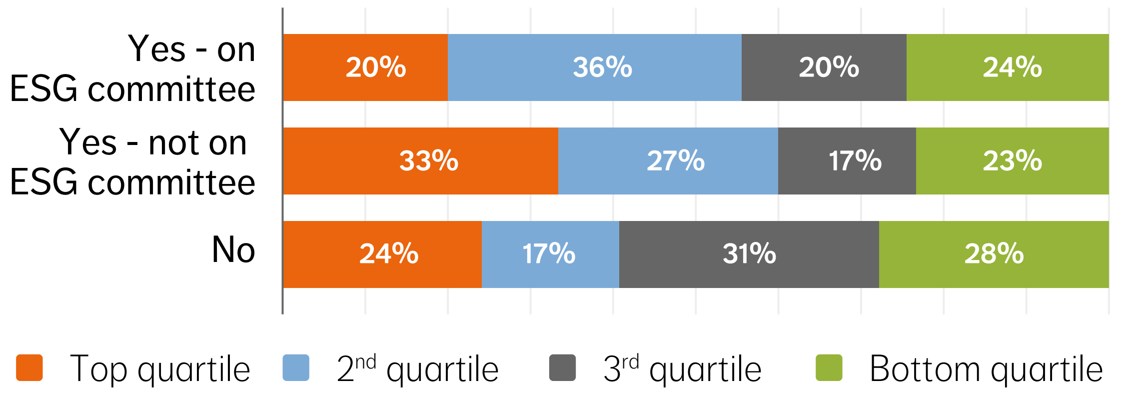
The link between the presence of ESG experts on the board and companies' performance on sustainability is thus far nearly unexplored in the academic literature. Within the limits imposed by our sample and a single year of ESG Lens scores, we investigate differences between companies that have directors with relevant ESG experience and those that do not. Details on the assessment and attribution of ESG skills can be found in Appendix 3.

We also categorize the presence of ESG expertise by region and sector in search of further insights. We found that companies that had at least one director with a background in a relevant ESG field typically had better 2020 ESG Lens scores than those that did not. Further, companies in which at least one such director sat on a combined or stand-alone ESG committee had the greatest proportion of above-median ESG Lens scores.

ESG expertise versus ESG Lens score

- Companies without any ESG expertise at the board level tended to have below-median ESG Lens scores.

Figure 7: ESG score quartile per category of board-level ESG expertise

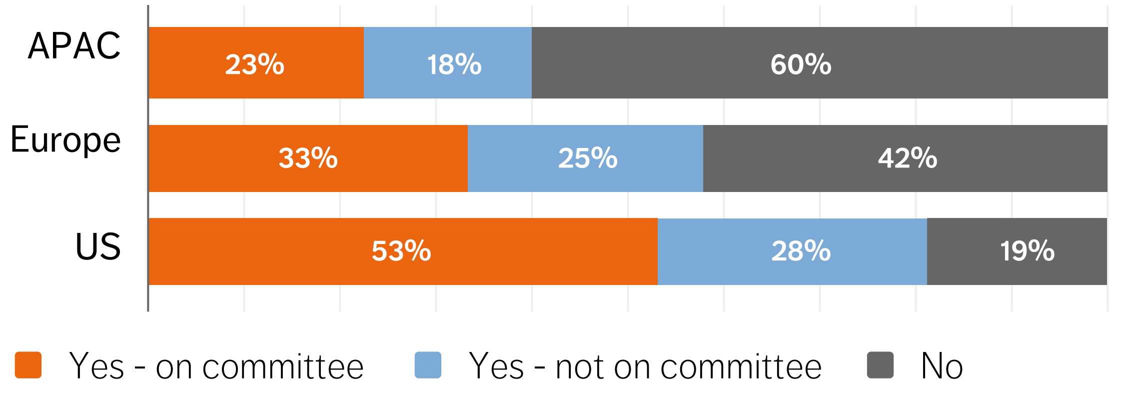


- Companies with ESG expertise at board level, but not on the ESG committee, were just as likely to score above the median as those that have ESG expertise at board level and on the ESG committee.

ESG expertise by region

- The highest incidence of reported ESG expertise on boards was in Europe (58%) and the US (81%). In a majority of cases, companies in both regions had at least one director with reported ESG skills.
- The regions with the longest history of extra-financial reporting and highest levels of formal ESG committees had the most ESG experts on the board.

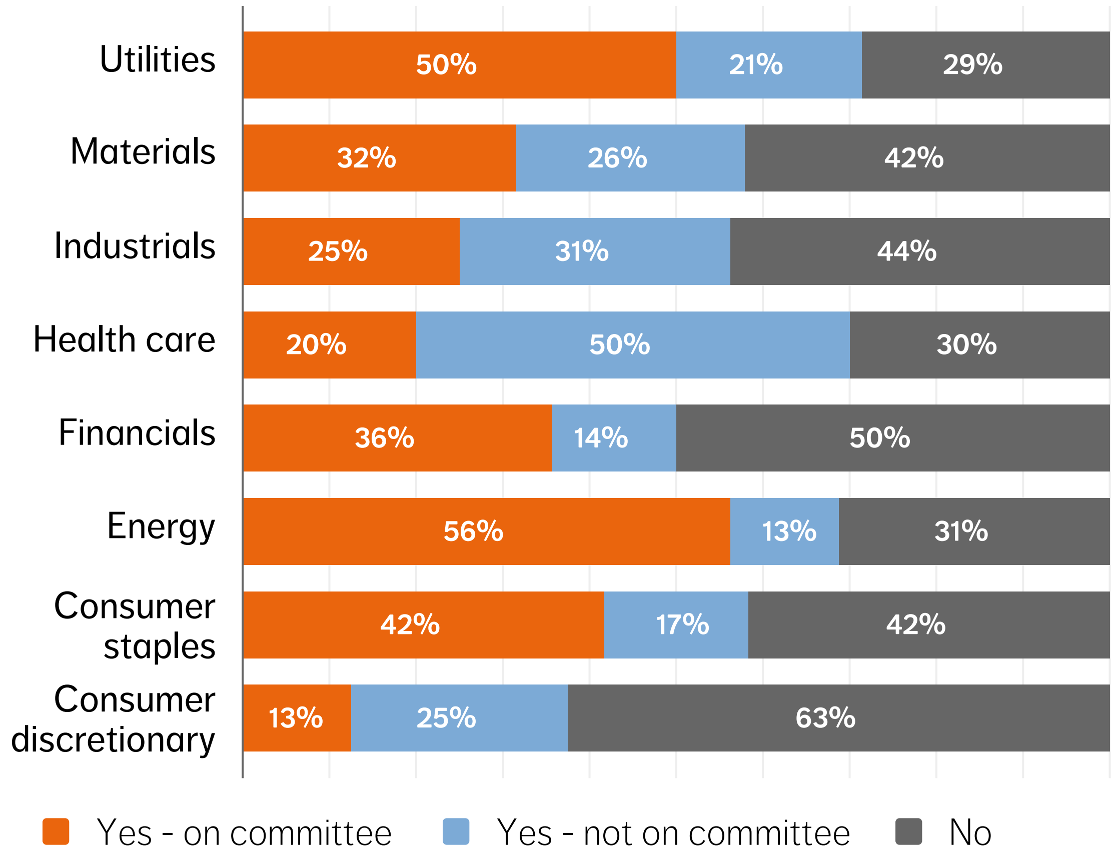
Figure 8: Board-level ESG expertise per region



ESG expertise by sector

- Companies in the health care, energy, and utilities sectors were the most likely to have board-level ESG expertise. They were also among the most likely to have board-level committee oversight of ESG, presumably due to high ESG risk in these sectors.
- Companies in the financials and consumer discretionary sectors were the least likely to have directors with specific ESG expertise at the board level. These two sectors were also the least likely to have a board-level committee dedicated to ESG oversight.

Figure 9: Board-level ESG expertise per sector



ESG scores and governance structures among the best and worst disclosers

In the final section of our analysis, we explore the relationship between ESG Lens scores and governance structures among the companies with the best and worst disclosure practices. We then examine ESG scores within the three main geographical regions.

Disclosure and supervision structure versus ESG Lens score

- Figure 10 compares the data on supervisory structure and disclosure quality with the companies' ESG Lens scores.
- There are clear links between disclosure quality and ESG committee presence.
- In every supervisory structure category, companies with good disclosure practices have better ESG Lens scores than companies with poor disclosure practices.

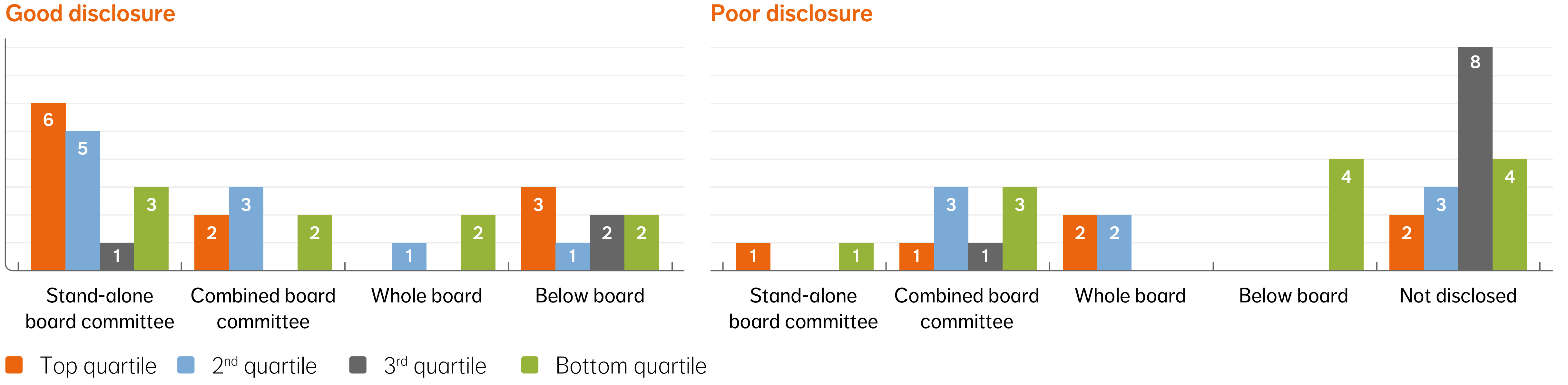
Figure 11: ESG score quartiles per region

	Top quartile	2nd quartile	3rd quartile	Bottom quartile
APAC	13%	15%	28%	45%
Europe	32%	30%	19%	19%
US	28%	31%	28%	13%

Region versus ESG Lens score

- From a regional standpoint, ESG Lens scores are highest in Europe and the US, in line with previous findings on board-level ESG expertise and ESG committee presence.

Figure 10: ESG score quartiles per supervisory structure among best and worst disclosers



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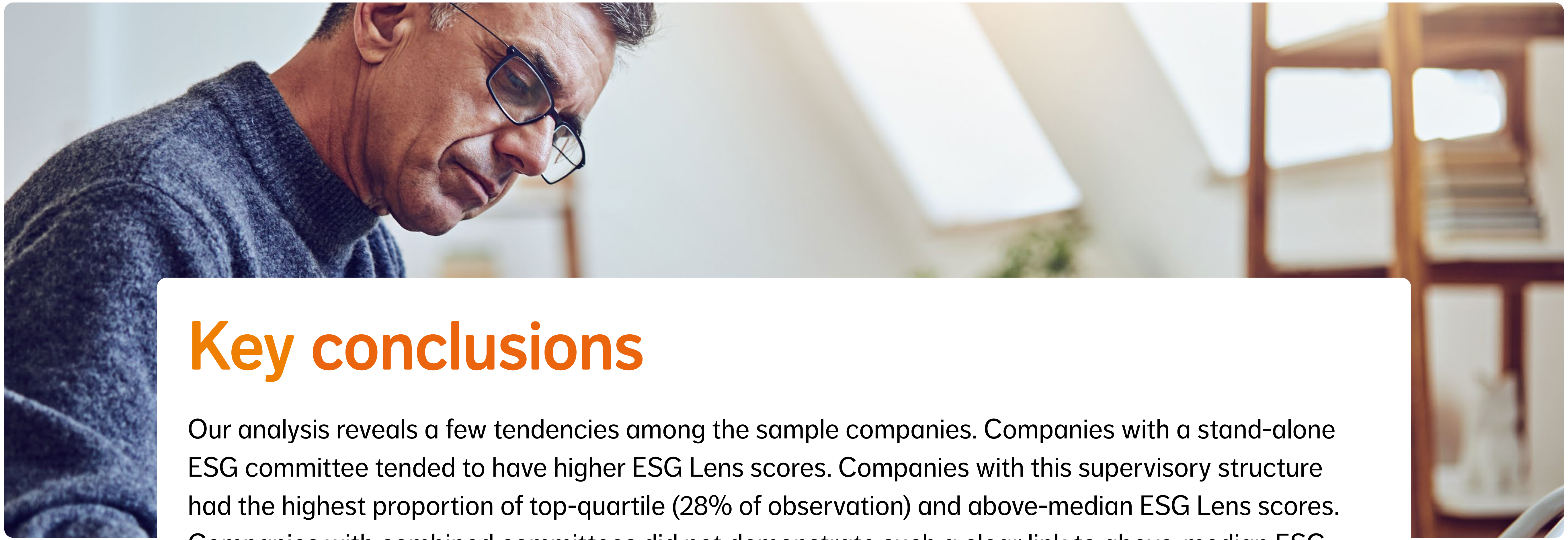
About NN IP and Glass Lewis



Key conclusions

Our analysis reveals a few tendencies among the sample companies. Companies with a stand-alone ESG committee tended to have higher ESG Lens scores. Companies with this supervisory structure had the highest proportion of top-quartile (28% of observation) and above-median ESG Lens scores. Companies with combined committees did not demonstrate such a clear link to above-median ESG Lens scores and were surpassed by companies with below-board committees, indicating that a combined committee may not carry the weight of a stand-alone committee in terms of ESG supervision. Unsurprisingly, companies that do not provide disclosure regarding the supervision of ESG performed the worst in terms of ESG Lens scores.

As predicted by the academic literature, companies in regions with more developed extra-financial reporting obligations (i.e., Europe and the US) tended to have a stand-alone board level ESG committee. Somewhat surprisingly, the quality of disclosure was strong in Europe but not in the US, where many companies appear to have taken a “legal minimum” approach to disclosure. The relatively weak US reporting requirements may explain the differences in disclosure quality.

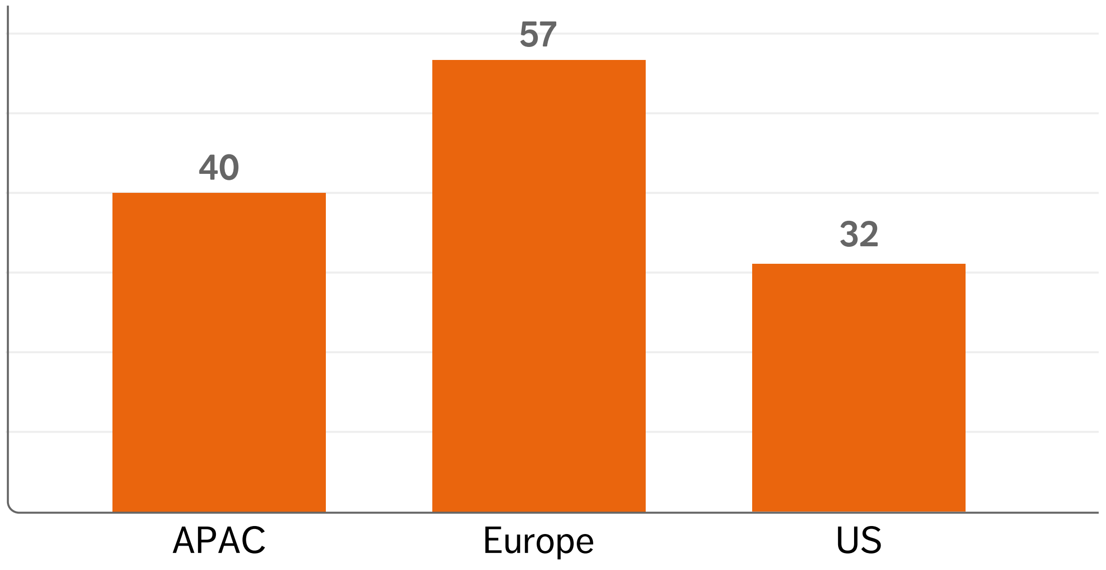
We aim to expand our coverage both in terms of breadth of companies and historical data about the supervisory structure, with the goal of identifying the ideal structure that performs consistently over time.

Appendix 1:
Sample description

Our sample is based on companies with which NN Investment Partners has engaged on ESG topics. As NN IP's controversy and thematic engagement programmes address various ESG issues across regions and sectors, the sample is broad and diversified. Engagements are mostly focused on European issuers, followed by companies based in Canada, the US, and Asia (ex-Japan).

We removed non-listed companies and companies for which there was insufficient disclosure to set an NN IP ESG Lens score. We also removed companies in sectors or regions with fewer than 10 observations. The result was a sample of 129 companies, comprising 57 Europe-based companies, 40 from Asia-Pacific and 32 from the US.

Figure 12: Breakdown of sample companies by region



How does NN Investment Partners engage with investees?

NN IP engages on behalf of clients to put their money to work towards creating a better world and to maximize the value of their investments. Engagements include constructive and regular dialogues with investee companies on ESG issues. They are mainly focused on breaches of international standards of corporate conduct, such as human rights abuses and corruption, and on themes that have a material impact on society, such as environmental threats and good governance practices.

NN IP uses internationally accepted standards of corporate behaviour – the guidelines and principles developed by the United Nations, the International Corporate Governance Network and the Organisation for Economic Cooperation and Development (OECD) – as the starting point for its engagements. The approach is tailored to each specific theme and each individual company.

For example, the objective of an engagement with a Dutch materials company is to ensure it aligns pay with performance, provides transparency on impact measurement, implements good governance in management systems and improves its supply chain due diligence. So far, the engagement has mainly covered the company's sustainability actions and its new management structure with two co-CEOs. The company's stand-alone sustainability committee is chaired by an independent, female board member and is tasked with supervising the managing board with respect to formulating, developing, implementing, and monitoring the company's social and environmental policies. The company's good practices with regard to ESG oversight are reflected in a high ESG Lens score on corporate governance.

Figure 13: Breakdown of sample companies by ESG supervisory structure

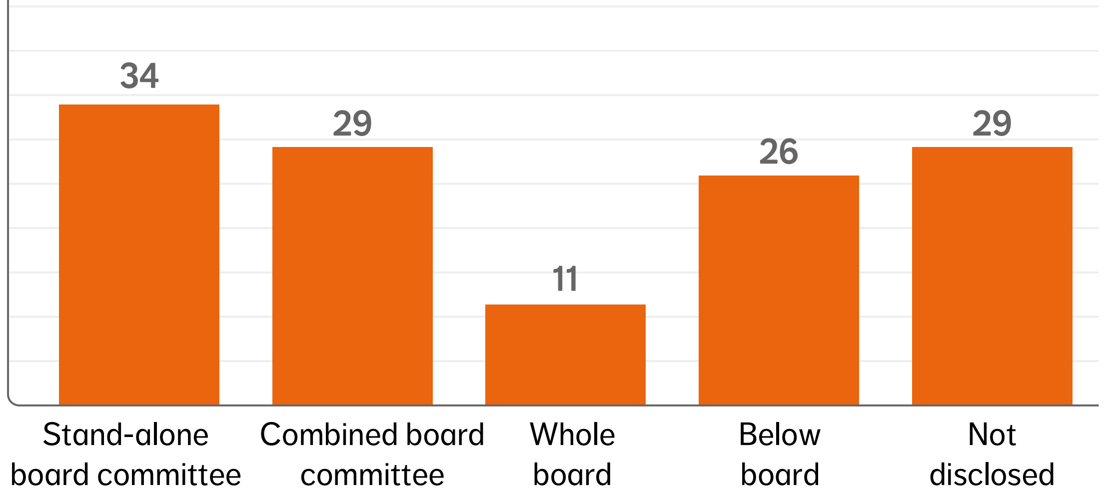


Figure 13 shows the breakdown of sample companies according to the highest point of internal supervision of ESG, as publicly disclosed by each company. The first two categories comprise companies where ESG is supervised by board-level committees. The third category includes companies that state that this function is performed by the board as a whole. Companies in the fourth category make no specific mention of board-level supervision of ESG; instead, the highest point of accountability disclosed is at the executive level. The fifth category comprises companies that make no mention of a supervisory structure dedicated to ESG oversight.

Figure 14: Breakdown of sample companies by sector

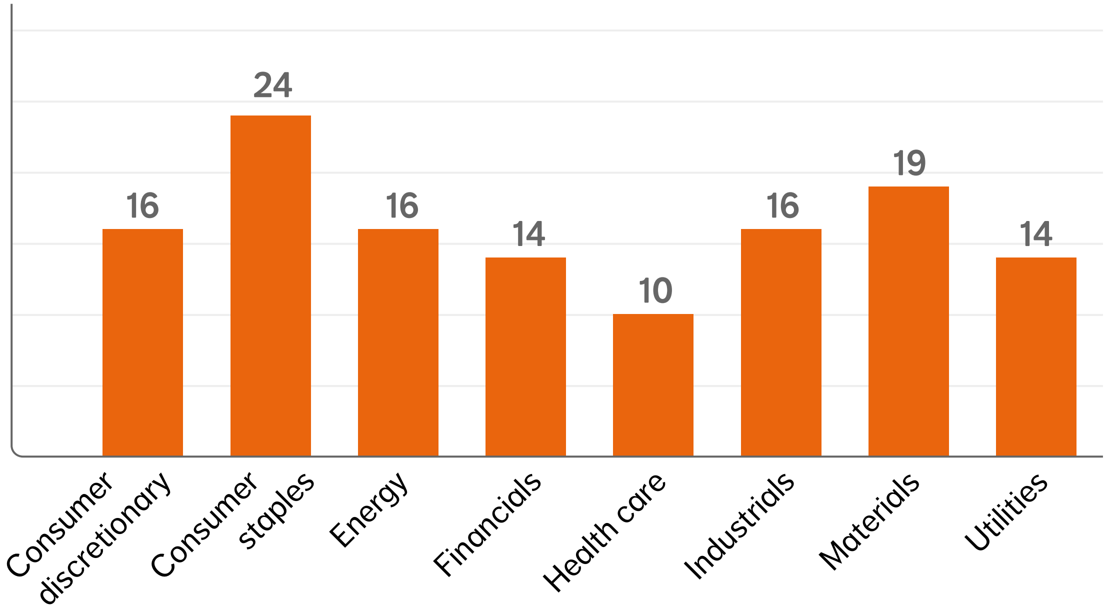
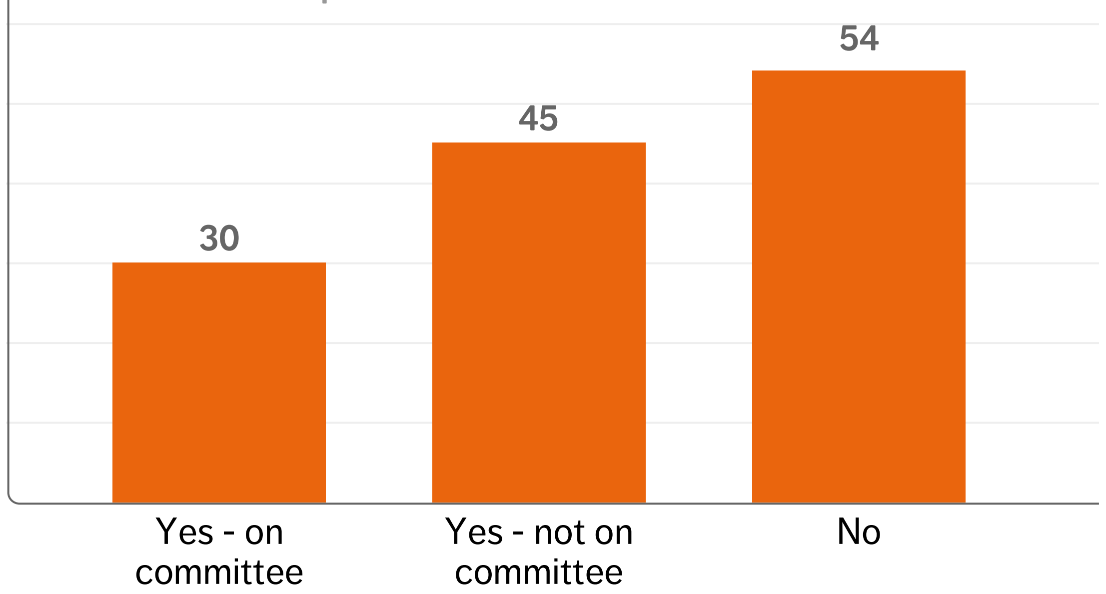


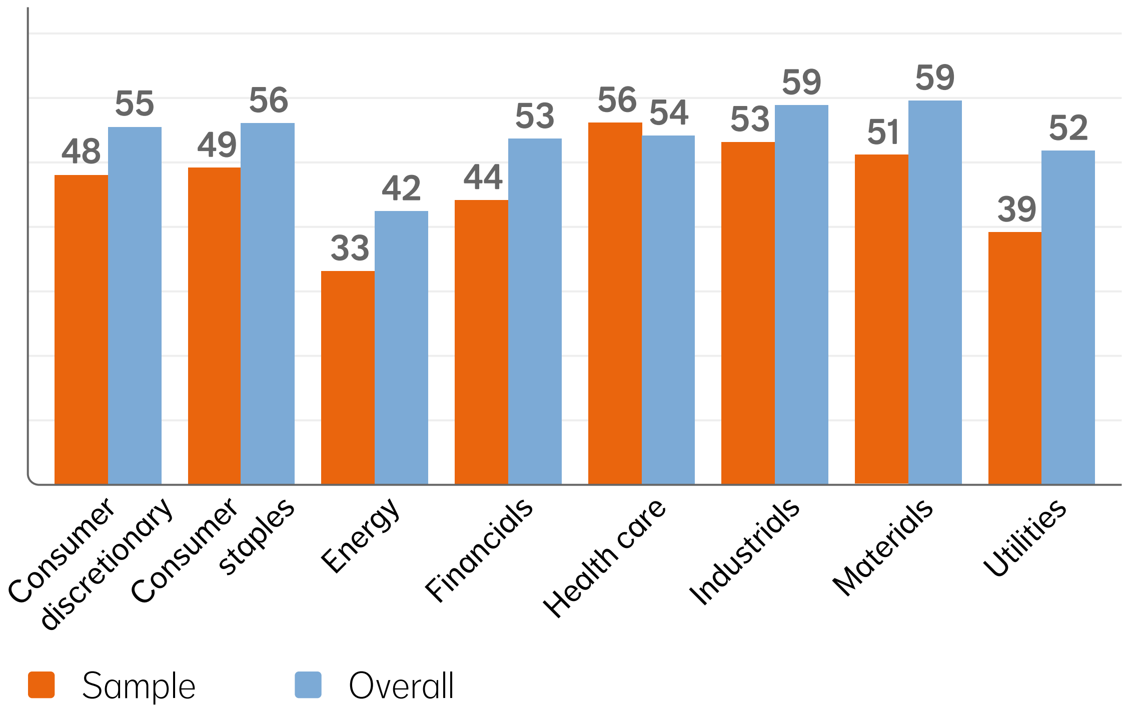
Figure 15: Breakdown of sample companies by presence of ESG expertise



ESG expertise or skill was attributed to directors on the basis of the information that the company provided in their director biographies. Glass Lewis assesses the skills that each director contributes to the board in the board skill matrix it includes in its reports. The criteria for how these skills were attributed can be found in Appendix 3 of this report.

While most companies in the sample report that they have some ESG experience, either at or below the board level, only a third have this kind of expertise among members of the ESG committee.

Figure 16: Comparison of mean ESG Lens scores of sample with ESG Lens scores of companies overall, by sector



The sample taken is the list of companies with which NN IP engages, so it is unsurprising that the mean ESG Lens score of the sample is below the average of all rated companies. The consistently lower ESG performance scores for the sample of companies with which NN IP engages indicates the need for and relevance of the engagements.

Appendix 2:

About NN IP's ESG Lens

NN IP's proprietary ESG Lens is a tool for ESG integration across a broad spectrum of investment strategies. It provides NN IP's investment teams with a single ESG score for each company or country they assess, taking into account a wide range of data points. The investment teams use the resulting score as a key input for their overall ESG assessment of the company or country in question.

The ESG Lens can be applied across equity and fixed income investment strategies, and across emerging and developed markets. Figure 17 provides a clear overview of how NN IP applies the ESG Lens in corporate analysis. The ESG Lens combines a wide range of data inputs, including daily, big data and more traditional ESG data sources. It also allows for the use of our analysts' knowledge and expertise to fine-tune the data-driven score. In this way, our overarching ESG assessment process benefits from the strengths of both man and machine: human intelligence coupled with the rigours of machine learning.

On the corporate side, the initial input for the ESG Lens comes from NN IP's ESG Materiality Framework, which provides information about the material risks to which a company in a certain sector is exposed. Issues pertaining to climate change, for instance, would have a different weighting for a software developer than for an energy company, whereas resource use and pollution is highly material for energy firms but not for real estate companies. Through assessing these material risks, and how the company is managing this exposure, investors can gain deep insights into a company's potential long-term economic success. More information about the ESG Materiality Framework and NN IP's overall approach to materiality can be found on [the RI policies page of the NN IP website].

For the ESG Lens, NN IP uses all factors of the environmental, social and governance pillars of its materiality framework, grouped into six categories. These factors are weighted according to their importance to the sector in question, using input from NN IP's analysts and ESG specialists. This weight-

Figure 17: NN IP's ESG Lens

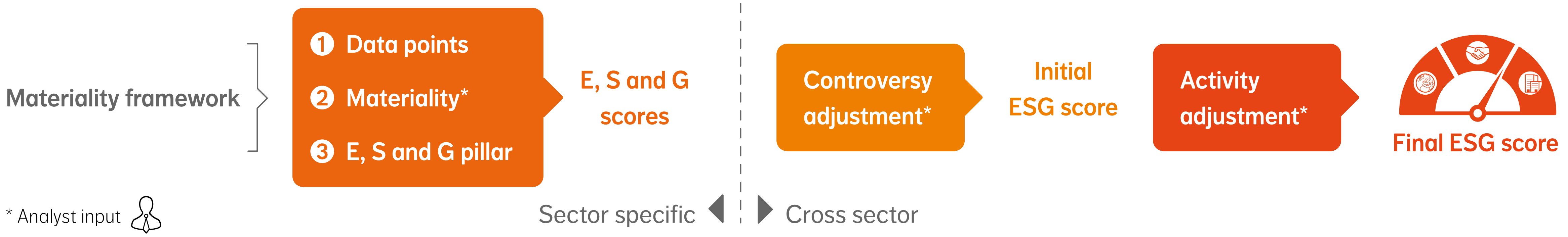


Table 1: Materialities of energy and financial sectors

	Climate change	Resource use & pollution	Human rights & human capital	Product responsibility	Corporate governance	Corporate behaviour
Energy	✓	✓	✓		✓	✓
Financials	✓		✓	✓	✓	✓

ing is dynamic, not static; in other words, the material factors that are relevant today may become irrelevant in the future, and vice versa, depending on developing global contexts and changing priorities. Table 1 provides an example of this weighting for the energy and financials sectors.

NN IP next incorporates input from three data providers – Sustainalytics, Refinitiv, and TruValue Labs – to derive a score for each ESG pillar. Sustainalytics and Refinitiv provide medium- and longer-term data on a company's ESG standing, collected from company policies and annual reports, among other sources. Sustainalytics also aggregates and analyses data on controversies. These insights are augmented by timely and dynamic insights from TruValue Labs, which analyses and quantifies news about companies in near real-time fashion by applying big-data analysis and natural language processing.

NN IP sets standards of minimum data availability for a company in order to calculate a score. Missing values can be rampant in ESG data; NN IP has therefore constructed a missing value algorithm to compute these missing data points. This algorithm uses correlations between other data fields and company characteristics to make an educated guess at a reasonable value. The missing value algorithm has proven to be twice as accurate in its predictions as traditional rule-of-thumb approaches. For more on the creation and use of this algorithm, please see the recently published paper "ESG-Net: Finding the missing ESG data in EM corporate debt".

To arrive at the E, S and G scores, NN IP ranks all companies on their performance relative to their sector peers. This is because the materiality framework assigns material issues for different sectors, and companies are scored based on these material factors. Since these scores are based on intra-sector comparison, it is difficult to compare companies from different sectors. However, being able to make inter-sector comparisons is vital, as portfolios include companies from many different sectors. In order to make these comparisons, NN IP applies two additional aspects of ESG performance: how a company behaves (controversies) and what it does (activities).

To do this, NN IP first adjusts the E, S and G scores for controversies, such as malpractice and other questionable behaviour, and incorporates an outlook (negative, neutral, or positive) for each controversy. This step includes assessment of a wide variety of controversies, including topics such as the carbon impact of products, labour relations, and animal welfare. After making the controversy adjustments to the E, S and G scores, NN IP arrives at an initial ESG score. This score is then adjusted for the impact of a company's business activities, measured in terms of how much revenue it makes from certain types of products and services. By incorporating this data, NN IP takes into account not only the company's internal ESG performance but also the ESG impact of what it produces or provides as a service. For example, business activities linked to providing green transportation or affordable housing would be viewed as sustainable, while activities linked to thermal coal or gambling would be considered unsustainable.

Finally, the ESG Lens allows analysts to provide feedback on individual companies. This feedback can increase or decrease a company's score at the level of material factors, which also affects the total score. Analysts also have the option to submit qualitative comments if they believe that the score or its underlying components do not yet capture certain information. The RI Leadership Team would then decide whether to incorporate this input into the score, to reject the changes, or to request more information.

The ESG Lens provides a comprehensive score between 1 and 100 that reflects NN IP's proprietary view on a company's ESG performance and guides its investment decision-making. This score is not just an absolute number; rather, it is a tool to help investment teams calibrate a company's valuation and attractiveness. It incorporates the company's strengths and weaknesses and aids with positioning it versus its peers. As the underlying data is dynamic, the score also demonstrates the company's momentum and ESG sustainability efforts. As a result, it is forward-looking and helps NN IP's analysts and portfolio managers decide whether to apply a discount or premium to a stock's valuation.

Appendix 3:
About Glass Lewis's research

In addition to collaborating on the key conclusions of this report, Glass Lewis provided the relevant data on disclosure, board-level ESG expertise and ESG governance structure. Glass Lewis's proxy research includes verified information gathered from public sources and thoroughly reviewed by its analysts and ESG issue specialists. ESG data are gathered and validated at least once a year, prior to the publication of Glass Lewis's research for a company's general shareholder meeting.

Glass Lewis's robust ESG data support its analysis of public companies' ESG practices in accordance with its benchmark policy guidelines. Glass Lewis has implemented clear guidelines for voting on companies that do not provide clear disclosure concerning board level ESG oversight. In addition, Glass Lewis's ESG data informs client-specified voting policies, including Glass Lewis's thematic policies.

Skills and disclosure classifications

In this report, Glass Lewis classified the companies in the sample based on whether at least one director is an expert in a relevant ESG field, and on the quality of the company's disclosure of its ESG supervisory structures. Glass Lewis' analysts carried out these classifications on the basis of the following principles.

Disclosure classification
Classification was based on the set of predefined disclosure expectations in Table 2. Companies were classified independently by at least two Glass Lewis analysts and the results were found to be consistent.

Table 2: Disclosure classification

Poor	• No disclosure of issues that are tracked • No clear disclosure regarding point of accountability • Broad/general statement (boilerplate) • The disclosure is more relevant to governance than ESG
Fair	• ESG strategy in place • Disclosure of point of accountability • Clear supervisory structure defined roles • Description of issues/indicators being overseen
Good	• Disclosure of specific ways/examples in which ESG is measured/implemented • Frequency of ESG meetings disclosed • Working guidelines in place • Disclosure of engagement and/or collaboration with stakeholders on ESG matters

How does Glass Lewis define ESG skill?

ESG skill was attributed to directors whose biographies, as published in company disclosures, met one or more of the following criteria:

- Former or current executive role with direct control over and responsibility for environment and sustainability
- Former or current role with direct accountability for environment and sustainability in the same industry
- Proven knowledge of risk management as it relates to global environmental or human rights issues
- Former or current role in non-profit or non-governmental organizations
- Former or current leadership of a trade union or experience with workforce engagement
- Academic degree in a relevant field

Business-level factors material to the business are taken into account when assessing the appropriateness of assigning the skill to the director of a specific company.

Glass Lewis recognizes the importance of ensuring the sustainability of companies, and believes that insufficient oversight of material environmental and social issues can present direct legal, financial, regulatory, and reputational risks that could harm shareholder interests. Companies should carefully monitor and manage these issues and should have an appropriate oversight structure in place to ensure that they are mitigating attendant risks and capitalizing on related opportunities to the best extent possible. To that end, Glass Lewis believes that companies should ensure that boards maintain clear oversight of material risks to their operations, including those that are environmental and social in nature. The insights from the present research open several lines of enquiry that may shape Glass Lewis policy in the years to come.

Appendix 4:
Mandatory extra-financial disclosure and ESG supervision at board level

While few regulators specifically mandate board supervision of ESG performance, extra-financial reporting obligations are becoming more prevalent globally. Moreover, in Europe, regulation has added reporting requirements for investors. Regulation and investor expectations can serve as external pressures on companies to define the board's role in ESG oversight. Below are examples of current regulations regarding board oversight of ESG performance and/or extra-financial reporting in some of the countries most represented in our sample.

Europe

The Non-Financial Reporting Directive came into force in 2014, requiring listed companies with more than 500 employees, and with either a balance sheet total of more than EUR 20 million or net turnover exceeding EUR 40 million, to include an extra-financial statement in their annual report. Since the European Shareholders' Rights Directive II took effect in 2020, the boards of European listed entities must also consider social and environmental factors when making decisions.

One of the building blocks of the "EU Action Plan: Financing Sustainable Growth" is the EU Taxonomy regulation. The Taxonomy was adopted in 2020 and defines a common classification of economic activities that substantially contribute to six environmental objectives. To be environmentally sustainable, economic activity must contribute to two of these objectives without significantly harming the others.

Another building block of the EU Action Plan is the Sustainable Finance Disclosure Regulation (SFDR), which came into force in 2021. The legislation requires financial advisers and market participants to report on how they manage sustainability risks. The regulation applies at the company level (i.e., reporting on how the entire organization deals with risks) and at the product level (i.e., requiring firms to report on how such risks affect their financial products).

Even as asset managers work to implement the SFDR, new developments are under way or can be expected in the years to come. The European Commission has identified several areas that require additional action. Hence, the Commission may consider measures to help finance the transition to sustainability, the creation of a social taxonomy, and legislation on sustainable corporate governance.

US

Even though the US Securities and Exchange Commission (SEC) has not yet adopted any specific disclosure rules on ESG risks, US companies must disclose extra-financial information to comply with existing reporting requirements. These include rules requiring disclosure of material changes to the business, disclosure of certain environmental compliance costs, and disclosure of material legal proceedings. Companies must also discuss ESG risks if they are among the material risk factors for that company.

Moreover, under the 2010 Dodd Frank Act, the SEC has adopted certain "specialized disclosure" rules that pertain to social or human rights concerns.

Specifically, these rules mandate disclosure of mine safety and government payments by extractive sector firms, the use of conflict minerals, and business activities in Iran.

China

The Shanghai and Shenzhen stock exchanges have both issued guidelines (in 2008 and 2006, respectively) for the mandatory or voluntary disclosure of extra-financial data, especially sustainability reports. Both sets of guidelines are in accordance with instructions from the Chinese Securities and Regulatory Commission. The Shenzhen Exchange encourages the issuance of voluntary sustainability reports and provides six areas of disclosure as guidance, while the Shanghai Exchange has issued guidelines requesting disclosure of material ESG information by listed companies and detailing the circumstances in which environmental information disclosure is compulsory.

India

In 2012, India became the first country to mandate the presence of an ESG committee for listed entities above a certain size. The function of this committee is to recommend to the board a sustainability policy indicating the activities to be undertaken by the company, recommend the monetary amount needed for these activities, and monitor the implementation of the projects and programmes envisaged by the policy. Indian companies are not subject to mandatory extra-financial reporting.

Indonesia

The Indonesian government introduced two regulations in 2012 that mandate extra-financial disclosure for listed companies. The first mandates disclosure of sustainability policies, types of programmes, and expenditure on environmental performance, labour practices, social and community empowerment, and product responsibility. The second states that companies' annual reports should describe their social and environmental responsibilities.

Japan

Extra-financial reporting in Japan is still entirely voluntary but has become market practice following the Government Pensions Investment Fund (GPIF) becoming a PRI signatory in 2015, the adoption of the Japanese Stewardship Code in 2014, and the adoption of the Japanese Corporate Governance Code in 2015.

Malaysia

Under main market listing rules, companies are required to disclose a narrative statement on the management of material economic, environmental, and social risks and opportunities.

About NN IP

As a responsible investor, NN IP aims to improve clients' returns and the world we live in. We do this by looking beyond financial performance, because the people we work with represent more than the investments we manage.

We invest responsibly, adapt constantly

Managing assets for investors worldwide, we see active investing as a way of benefiting our clients and society as a whole. We use data and technology to adapt our investment approach to changing markets.

Our investment approach to creating long-term value

Markets are complex and not fully rational. We believe an adaptive approach creates long-term value. Fundamental analysis, real-time data and artificial intelligence help us understand what affects our clients' assets. We invest responsibly because this contributes to attractive returns and a sustainable future.

Our people, culture & heritage

We put our resources, expertise, and networks to use for the well-being of our customers, the advancement of our communities, the preservation of our planet, and the promotion of a stable, inclusive, and sustainable economy. Our purpose is to help people care for what matters most to them, because what matters to them matters to us. At NN Investment Partners we use responsible investing to bring this to life.

About Glass Lewis

Glass Lewis is the world's choice for governance solutions. We enable institutional investors and publicly listed companies to make sustainable decisions based on research and data. We cover more than 30,000 meetings each year, across approximately 100 global markets. Our team has been providing in-depth analysis of companies since 2003, relying solely on publicly available information to inform its policies, research, and voting recommendations.

Invaluable investor services

Investors around the world depend on Glass Lewis's Viewpoint platform to manage their proxy voting, policy implementation, recordkeeping, and reporting. Our industry leading Proxy Paper product provides comprehensive environmental, social, and governance research and voting recommendations weeks ahead of voting deadlines.

A platform for companies

Public companies can use our innovative Report Feedback Statement to deliver their opinion on our proxy research directly to the voting decision-maker in time for voting decisions to be made or changed.

Comprehensive, pragmatic insights

The research team engages with public companies, investors, regulators, and other industry stakeholders to gain relevant context into the realities surrounding companies, sectors, and the market in general. This enables us to provide the most comprehensive and pragmatic insights to our customers.

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