Impact of ASX Corporate Governance Guidelines on Sustainability Reporting ♠

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Abstract

This study examines the impact of the ASX Corporate Governance recommendations on the breadth (amount of items covered) of sustainability reporting by the firms in the Top100. We focus our analysis on the reporting of environmental and social sustainability risks and policies in firms' sustainability and annual reports. This provided insights into the impact the introduction of mandatory sustainability reporting within the ASX Guidelines has on disclosure. Using univariate analysis, we find that the average breadth of reporting across the entire sample did not significantly change for either the environmental or social category. However, disclosure change did vary by size, with large firms showing some reduction in disclosure. While multivariate tests indicate firm characteristics still influence disclosure practice, this effect has weakened, consistent with reversion towards the mean.

Keywords: sustainability; GRI; disclosure

1. Introduction

In March 2014, the Australian Securities Exchange (ASX) Corporate Governance Council (2014) released the *Corporate Governance Principles and Recommendations*, requiring publicly listed companies to disclose their exposure to social sustainability risks, in addition to the economic and environmental risks required by previous editions. In response to "increasing calls globally for the business community to address matters of economic, environmental and social sustainability" (p. 30), the guidelines require firms to disclose how they intend to address those risks. A failure to comply could ultimately lead to a firm being delisted. The recommendations came into effect in July 2014, giving firms until fiscal year ending 30 June 2015 to implement the requirements.

Extending prior research, we seek to compare the disclosure of sustainability risks for listed companies before and after the *ASX Recommendations* were issued. In analysing the quality of sustainability reporting by firms, we adopt the Global Reporting Initiative (GRI) *G3.1 Guidelines*[1] (GRI, 2011) as a benchmark to categorise sustainability disclosure in firms' annual reports and/or stand-alone sustainability reports. We seek to contribute to the body of research in sustainability reporting by providing evidence on the effectiveness (or otherwise) of externally imposed disclosure requirements. More specifically, we examine the impact of increasing the number of disclosure items on firms' disclosure choices. We show that firms paradoxically respond by reducing their disclosure coverage, presumably to increase specificity by focusing on more relevant items.

We do not explicitly hypothesise the direction of changes in sustainability disclosure practices. On the one hand, change may be driven by convergence in practice. On the other, complying with the *ASX Recommendations* may be costly, leading to firms reviewing their reporting and reducing disclosure toward the minimum considered appropriate by investors. Accordingly, our research question concerns the changes in scope of environmental and social sustainability reporting, without hypothesising an overall direction. We conduct univariate and multivariate tests controlling for the factors that influence disclosure, namely firm size, complexity and performance.

We report evidence that the scope and detail of environmental and social sustainability reporting has, on average, decreased with the introduction of the *ASX Recommendations*,

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[1] The *GRI G4 Guidelines* in 2016 became "Standards". We use the term "Guidelines" to underscore the institutional framework pertaining to the period of our study.

albeit by a statistically insignificant amount. This average decrease is associated with a convergence of reporting behaviour as firms gravitate towards a common practice. While size, complexity and performance do affect disclosure, their effect has weakened as firms focus less on breadth of disclosure and, presumably, focus more on depth of disclosure. Our results are consistent with both (a) voluntary disclosure theory, which suggests firms will set their disclosure policy according to the consideration of costs and benefits; and (b) mimetic isomorphism, which suggests firms may decrease disclosure if they believe current levels are unnecessary. This paper contributes to the body of research in sustainability reporting by providing evidence on the limited effectiveness of an externally imposed regulatory regime.

The remainder of this paper is organised as follows. The second section outlines the institutional setting, namely sustainability reporting. The research question is developed along with the research method in the third section. The fourth section describes the sample and data while the fifth section discusses the results of the multivariate tests. The final section presents the conclusions.

2. Institutional setting and literature review

The preface to the Global Reporting Initiative (GRI) *G3.1 Guidelines* (GRI, 2011) states that "transparency about the sustainability of organizational activities is of interest to a diverse range of stakeholders, including business, labour, non-governmental organizations, investors, accountancy, and others."– not dissimilar to the conceptual framework for accounting standards. The GRI measurement context is nonetheless different from traditional accounting. As Bebbington and Larrinaga (2014) observe, the multi-faceted nature of social and environmental impacts is very different from the transaction-based relationships that characterize the economic impacts more familiar to accountants.

While prior work on the regulation of disclosure has focussed on financial items and associated explanatory disclosures, some attention has been given to non-financial aspects of corporate disclosure – chiefly in the areas of board characteristics and other clearly structured aspects of corporate behaviour (Chang *et al*. 2017). Unerman and Chapman (2014) make the case that the dynamics and characteristics within the social and environmental dimensions of disclosure differ in important ways from those in the more familiar economic dimension. One of these major differences, for example, is in the area of commensuration. Economic activity relies in large part on the transactional exchange of property rights. In practice, the economic impacts are usually commensurate in monetary terms for both parties in an arm's length

transaction. In contrast, reporting a plethora of assorted social and environmental sustainability risks to a diverse range of stakeholders cannot be reduced to a single summary measure. Unerman and Chapman (2014), using the example of attempting to derive a metric for the impact of water use, point to the complexity and challenge of commensuration in the environmental dimension. Similarly, Bebbington *et al*. (2001) note the inherent inadequacy of the tools available under conventional accounting in capturing the full gamut of consequences of economic actions.

As a consequence of fundamental measurement issues for sustainability, the most widely adopted solution has been the broad disclosure (rather than summary measurement) approach popularised by the Global Reporting Initiative (GRI). While the adoption of the *GRI Guidelines* is voluntary (GRI is an independent international organisation with no enforcement powers), the GRI has become the most widely used reporting framework for non-financial disclosures in commerce (KPMG, 2015). The status of the *GRI Guidelines* has grown since the GRI developed strategic partnerships with other global initiatives, including the OECD, the United Nations Global Compact, and the UN Environment Programme (UNEP).

There are costs and benefits to increased disclosure. In terms of benefits, prior research on the relevance of the *GRI Guidelines* includes the association between sustainability disclosure, referred to as Corporate Social Responsibility (CSR) reporting in earlier studies, and the cost of capital. Dhaliwal *et al*. (2011) argued that information in CSR reports could resolve uncertainties related to a company's business and could thus reduce the costs of external financing. While the relationship between corporate disclosure and the cost of capital has been explored for several decades, this study differed from prior research by focusing on companies' CSR reports that were not prepared by commercial third-party rating agencies. The authors found that companies with higher CSR performance enjoy a reduction in the cost of equity capital after initiating CSR reports.

To date, empirical work investigating the link between CSR reporting and corporate financial performance (measured by various accounting or stock market measures) has resulted in contradictory findings. McWilliams and Siegel (2000) ascribe such conflicting results to a variety of theoretical and empirical limitations inherent in prior studies, which are apparently nonetheless repeated in later studies (Artiach *et al*., 2010; Reverte, 2012).

Most prior studies on voluntary sustainability reporting explored its association with a range of firm characteristics. A more recent study (Beck *et al.*, 2013) takes a different approach by analysing and scoring the sustainability reports of companies directly, using the coding instrument derived from the *GRI Guidelines* (2011). Their study used a sample population of the Top 40 listed companies in Australia, the UK, and Hong Kong. They find, amongst other things, that larger multi-national firms show higher levels of sustainability disclosures, with highest disclosure levels being in governance and environment. Their sample includes firms which explicitly apply the *GRI Guidelines* and firms which do not. Separately, KPMG (2015) finds that 74% of its G250 companies were reportedly using the *GRI Guidelines*, attesting to the claim that GRI is widely used by the world's largest companies.

In contrast to studies that rely on proprietary database and ratings frameworks of self-declared reporting entities (KPMG, 2015), Beck *et al.* (2013) uses a coding instrument based on the *GRI Guidelines* to determine level and type of sustainability disclosure. Some self-declared GRI reporting entities could have indeed adhered strictly to the *GRI Guidelines* and even have their sustainability reports independently attested, but others may not have the incentives or are not sufficiently committed to follow through the steps involved in applying the coding instrument provided in the *GRI Guidelines*.

Clarkson *et al.* (2011) compare voluntary disclosure theory and socio-political theories as explanations for the incentives to voluntarily engage in CSR reporting. Voluntary disclosure theory suggests that disclosure (breadth and depth) defeats the problem of the market for lemons, subject to the trade-off between the costs and benefits of disclosure, allowing superior firms to utilise disclosure mechanisms (including assurance) to distinguish themselves from inferior firms, reducing adverse selection, agency costs, market uncertainty and costs-of-capital (Akerlof, 1970). Hence, socially-responsible firms have an incentive to disclose more information without *ex-ante* regulatory intervention. Mandating disclosure would therefore primarily increase the disclosure of otherwise opaque firms. Socio-political theories, by contrast, suggest that disclosure (breadth, not depth) improves social legitimacy, giving politically and socially-salient firms an incentive to disclose without regulatory intervention. In this case, mandating disclosure would primarily increase the disclosure of otherwise inconspicuous firms.

DiMaggio and Powell (1983) compare three drivers of isomorphism, where: (i) coercive pressure is applied from external entities (including regulation); (ii) mimetic forces encourage firms to voluntarily copy each other to manage uncertainty; and (iii) normative forces

encourage professionals to work together to manage uncertainty (including attesters of sustainability reports). Which of these is manifest in sustainability disclosure is open to question. However, if the cost/benefit trade-off favours disclosure for larger and more profitable firms, then mandating disclosure would mainly increase the disclosure of smaller and less profitable firms for whom such disclosure is sub-optimal (Brown *et al.*, 1999). The best choice, from a cost/benefit trade-off of an individual firm, will not necessarily lead to the best overall social outcome. Investors consider all disclosed information to make optimal investment decisions, therefore mandating disclosure can benefit the capital market as a whole. Nonetheless, 'too much' disclosure can lead to 'clutter' that can confuse unsophisticated investors (NZICA and ICAS, 2011).

The approach to corporate governance taken in Australia by the ASX has attempted to address these cost/benefit trade-offs by taking the 'if not, why not' approach. This approach aims to avoid imposing unnecessary disclosure costs upon small firms, while also reinforcing the impact of capital markets (through cost-of-capital). ASX *Recommendation* 7.4 recommends the disclosure of material economic, environmental and social sustainability risks but explicitly does not require a sustainability report (although it does encourage issuing such a report). The *ASX Recommendations* do refer to the *GRI Guidelines*, but only as an example of such disclosure (i.e. the guidelines are not mandated).

The previous version of *ASX Recommendations* released in 2007 (with amendments in 2010) directed companies to establish a system of risk oversight and management, and internal control (ASX Corporate Governance Council, 2007). Companies are required to address risks that could have a material impact on their business; that is, they must determine the "material business risks" (p.12, p.32) they face. These risks can include, but are not limited to: operational, environmental, sustainability, compliance, strategic, ethical conduct, reputational, technological obsolescence, product or service quality, human capital, financial reporting and market-related risks. While elements of environmental risk and social risk were included, the main concern was with the financial outcome if such risks were not adequately addressed and managed. For example, if a company was in breach of product safety or environmental regulations, what might the eventual penalty and loss of reputation bear on the company's bottom line?

By contrast, the current version of *ASX Recommendations* (ASX, 2014) has broadened the scope of risk management to include non-financial risks, specifically environmental and social sustainability risks.

3. Research question and method

3.1 Research question

We consider the regulatory change in 2014, when the ASX extended its 'if not, why not approach' to include a broad range of sustainability disclosures. Voluntary disclosure and socio-political theories predict that profitable, stable, high-growth, socially-salient large firms are already incentivised to disclose, and are thus unlikely to increase their disclosure under the *ASX Recommendations*, especially where environmental risks were already being reported. Therefore, these theories suggest it is firms that lack *ex-ante* incentives to disclose (loss-making, risky, shrinking, economically and socially insignificant), that will increase their disclosure under the *ASX Recommendations*; i.e., coercive isomorphism. However, mimetic isomorphism predicts firms with higher levels of disclosure may actually decrease their disclosure when they realise it is unnecessarily high, while normative isomorphism predicts independent assurers may allow firms to decrease unnecessarily high levels of disclosure. Given the varying theoretical predictions, we have no directional priors on the direction of disclosure changes as a result of the change in the *ASX Recommendations*. Accordingly, our research question (focussing on social and environmental disclosures) is:

RQ: Did the release of the *ASX Recommendations* affect firms' coverage (breadth) of GRI items in their sustainability reports?

3.2 Research Method

GRI version G4 (GRI, 2015) applies to reports published after 31 December 2015. We have opted to survey annual reports and sustainability reports from 2013 rather than 2014 to avoid the potential impact of the revised ASX directive on risk management disclosure by some early adopters, as the *ASX Recommendations* (3Ed) were released in March 2014 and went into effect from July 2014. Unlike Beck *et al*. (2013) and other prior studies, our study includes both *voluntary* (2013) and *mandatory* sustainability disclosure (2015) periods.

Following Beck, *et al*. (2013), we analyse and score the sustainability reports of companies directly, using a coding instrument derived from the Global Reporting Initiative Guidelines. The GRI G3.1 Index and Checklist comprises three sets of Standard Disclosures, namely Profile, Management Approach, and Performance Indicators (version G3.1, 2011; Appendix A). Specific disclosure items are assigned to Profile and Performance Indicators, which consist of 126 items. Profile Disclosures incorporate Strategy and Analysis, Organizational profile, Report Parameters, and Governance. Performance Indicators encompasses the broad

spectrum of economic, environmental and social sustainability metrics, both quantitative and qualitative. Since the emphasis of the revised *ASX Recommendation* on risk management is environmental and social sustainability risks,[2] our study focuses on these non-financial performance indicators disclosures by companies. Specifically, there are 30 items for environmental sustainability disclosure and 45 items for social sustainability disclosure. Our coding instrument thus consists of a total of 75 items – therefore the environmental and social responsibility disclosures of each company are scored out of a maximum of 75 items. We first adduce univariate comparisons and descriptive statistics on disclosure around the change in reporting requirements. This is extended by estimating distinct linear regression models explaining environmental and social sustainability disclosure scores, using the change in requirements and appropriate controls as independent variables.

4. Sample and data

Our sample comprises the ASX Top 100 firms selected on the basis of market capitalisation in 2015 analysed in both 2013 and 2015[3], i.e. a possible sample of 200 annual/sustainability reports. Financial report data were sourced from the *Aspect Financial* database (item numbers used for variables are described in Table I). Sustainability data were hand collected from the annual or sustainability reports (if separate) and measures of diversification were calculated using data sourced from *Morningstar Datanalysis Premium*. Definition and construction procedures for all of our variable are listed in the notes to Table I. One entity had no financial data available for either year, while another was listed late in the first year and so both entities were deleted; this yielded 98 entities having financial data for both years. We describe disclosure characteristics and perform our analysis on this reduced sample of 196 observations. Table I presents our sample construction and descriptive statistics, while Table II reports correlation matrices for all variables other than disclosure scores.

In Table II Panel A (raw variables), we observe a clear size effect, with significant and high correlations between total assets and other variables. For our regression analyses to be

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[2] Items listed under environmental sustainability disclosure include materials usage and recycling, energy consumption and savings, water usage and recycling, aspects of biodiversity, emissions, effluents, and waste. Social sustainability disclosure covers a wide range of the firm's responsibilities to the workforce and interactions with the broader community. The disclosure items include labour practices (e.g., employment diversity and equal opportunity, labour retention, training and education, occupational health and safety), human rights (incidents of child labour, non-discrimination), society (corruption, anti-competitive behaviour), and product responsibility (customer health and safety, customer privacy).

[3] While the ASX has over 2,000 listed firms, we choose to focus on the Top100 as these firms are of the size that typically issues a CSR report.

meaningful, we scale all financial variables by total assets. Correlations are presented in Table II Panel B.

<div align="center">

INSERT TABLE I HERE

INSERT TABLE II HERE

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Disclosure indices were calculated in two ways. The basic calculation scored non-disclosure as zero, partial disclosure[4] as 1 and full disclosure as 2. The sum of these was then divided by the total possible, to yield a disclosure index expressed as a fraction. The second (strict) calculation scored full disclosure as 2, and both non-disclosure and partial disclosure as zero; the sum of scored items was once again expressed as a fraction.

Indices calculated were:

ECON: items disclosed under the heading of economic sustainability (9 items in G3.1, 9 items in G4. There are no items with identical wording between G3.1 and G4).

ENV: items disclosed under the heading of environmental sustainability (30 items in G3.1, 34 items in G4 and 9 items with identical wording – but different item numbers – between G3.1 and G4)

SOC: items disclosed under the heading of social sustainability (45 items in G3.1, 48 items in G4 and no items with identical wording between G3.1 and G4)

TOTAL: all items disclosed under economic, social and environmental sustainability

ENVcomm: items with identical descriptions in both the G3.1 and G4 Checklist (9 items; these were all environmental sustainability items)

These are the basic versions of our indices. The corresponding strict versions of these indices are *ECONmax*, *ENVmax*, *SOCmax*, *TOTALmax* and *ENVmaxcomm*, respectively.

5. Results

5.1 Univariate results

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[4] We code partial disclosure as either the disclosure of quantitative information only or the disclosure of qualitative information only when both were required.

Our results consider the change in the index scores between 2013 (GRI, 2011) and 2015 (GRI, 2015). These are presented as comparisons of means between the two reporting years: first using overall score comparisons, then as score comparisons between groups based on our control variables.

INSERT TABLE III HERE

Results for comparisons of disclosure indices across years are tabulated in Panel A of Table III. Overall, across the entire sample, we find only one significant change in disclosure indices from 2013 to 2015: Economic sustainability disclosure (*ECON*) reduced from 0.3637 to 0.3058 (p=0.0636). As the items differ between 2013 and 2015, it is not correct to say that less is being reported; instead, across the sample a smaller proportion of possible disclosure under the relevant guidance (G4 than G3.1) is being provided[5]. As our comparisons of means and regression tests yield qualitatively similar results for the basic and strict versions of the indices, hereafter we report only the strict versions.

Next, we examine changes in index scores independent of changes in the control variables: industry classification, total revenue, total assets, net profit, free cash flow, employee related costs, firm diversification, industry concentration, and assurance provider. Similar to Beck *et al*.'s (2013) use of a regression approach (in their case ANOVA), we employ linear regression to analyse cross sectional differences in GRI disclosure scores across industries, size levels and other relevant factors.

Industry classification is relevant as firms in the resources industry have a long history of environmental disclosure (Beck *et al*., 2013), while firm size (total assets, total revenue) is expected to be a key driver for both environmental and social sustainability disclosures. Net profit and free cash flows are indicators of a firm's capacity to allocate resources to sustainability reporting beyond the mandated minimum requirements. The magnitude of employee-related costs reflects the relative capital or labour intensive operations of a firm (this is particularly so given our standardising of variables by total assets). Firms with a high proportion of employee-related costs would have invested in human resources that are conducive to documenting, collating, and producing social sustainability reports.

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[5]   This is as much as we can say without taking a subjective stance on whether certain components of disclosure scores are unimportant or immaterial. We do note that firms are increasingly excluding disclosure items they (implicitly) believe to be irrelevant, rather than explicitly stating and/or discussing the items' irrelevance.

Firm diversification (measured by the number of controlled entities, *NUMENTITIES*, and number of countries of operation, *NUMCOUNTRIES*) is a driver of sustainability reporting as complexity imposes additional costs on collecting sustainability information. Industry concentration is likely to impact disclosure, since a more competitive industry suggests a firm needs to set itself apart from competitors. Lastly, assurance provider (Big4 accounting firm vs all other types of assurance provider) is commonly seen as a factor in the level of compliance and disclosure of statutory requirements by firms. As the scope and depth of sustainability reporting expand, engineering, environmental and other quality assurance providers are an increasingly feasible alternative to accounting-based assurers.

In Panels B and C of Table III, we consider disclosure by assurance source (when declared) and assurance type. Panel B shows results for Big-4 assurers, while Panel C considers the broader assurance types. There are no significant changes for firms using the Big-4 accounting firms, consistent with the idea that their clients are happy to incur necessary costs to remain at a consistent level of disclosure[6]. Although we perceive a reduction in average disclosure by non-Big-4 assurers, this may not be an overall reduction – 12 disclosers switched to a Big-4 accounting firm assurer in 2015.

In Panel C, we consider declaration of assurance type. Interestingly, for disclosers who did not declare their assurer, there was a consistent *increase* across all indices (except for economic sustainability): *TOTALmax* (p=0.0341), *ENVmax* (p=0.0327), and *SOCmax* (p=0.0446), although these increases are from a much lower base level of disclosure. As there is only a single entity declaring assurance other than third-party (e.g., internal), we cannot draw any inferences independent of the idiosyncratic characteristics of that one firm.

For the remaining control variables (Table III, Panels D to I) – industry concentration (*INDCONC*), operating revenue (*REVENUE*), total assets (*TOTALASSETS*), profit (*NOPAT*), free cash flow (*FCF*) and Employee Related Expenses (*WAGES*) – we considered changes for the quartiles of the sample by each variable. Quartiles were developed using the 2013 values of these variables, so that quartile membership remains consistent. Overall, changes were either absent or showed a decrease; there was no significant increase in disclosure. In particular, we note decreases in comprehensiveness of environmental disclosure (*ENVmax*)

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[6] Together with the effect in the non-Big-4 assurance category, we suspect that disclosure compliance is a function of a client-size effect. Although our sample size does not give us sufficient degrees of freedom to add assurance source as a variable in our later models, the evidence seems consistent with a client-size-related explanation.

from 2013 to 2015 for firms in the top quartile by revenue, total Assets and profitability (*NOPAT*).

These descriptive statistics loosely suggest that larger firms in our sample were more likely than smaller firms to decrease environmental related disclosure (from a relatively very high *ex-ante* level, to a relatively less high *ex-post* level) when the ASX required disclosure of exposure to material risks. With social related disclosure, the pattern is similar, but only for revenue quartiles.

For the lowest quartile by each variable, there are no differences in disclosure between 2013 and 2015. However, without multivariate analysis, we cannot conclude any causal relation between the control variables and sustainability disclosure.

5.2 Multivariate regression results

In addition to the control variables discussed above, we also calculate two form diversity variables, equal to the number of controlled entities a company lists (*NUMENTITIES*), as well as the number of distinct countries in which these entities are listed (*NUMCOUNTRIES*). We calculated index versions of these variables: *DIVE* is *NUMENTITIES* divided by the maximum value of *NUMENTITIES* across all companies in our sample in the same year; and *DIVC* is *NUMCOUNTRIES* divided by the maximum value of *NUMCOUNTRIES* across all companies in our sample in the same year. As the raw and index forms yield similar results, our results report only *DIVE* and *DIVC*.

The remaining financial statement variables discussed above are scaled by dividing by *TOTALASSETS* (yielding *REVENUETA*, *NOPATTA*, *FCFTA* and *WAGESTA*) to remove the impact of any size effect. Size itself is captured by *SIZE*, equal to the natural logarithm of *TOTALASSETS*[7]. Lastly, we add a *REGIME* variable, equal to 0 for 2013 and 1 for 2015.

In relation to environmental and social sustainability disclosures, we examine our research question using the following regression model, estimated in turn with ENVMAX and SOCMAX respectively as the dependant variables:

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[7]   A reviewer kindly suggested that use of a size measure equal to the logarithm of total assets may "over-control", due to TOTALASSETS also being our standardisation base for the other variables. We have also replicated Table IV using a size measure equal to the logarithm of revenue. Our results are quantitatively the same, and so the revenue-based estimates are not reported herein.

$$\begin{aligned}
\begin{matrix} ENVMAX_{i,t} \\ or\ SOCMAX_{i,t} \end{matrix} &= \alpha + \beta_1 REGIME_{i,t} + \beta_1 SIZE_{i,t} + \beta_2 REGIME_{i,t} \times SIZE_{i,t} + \beta_3 REVENUETA_{i,t} \\
&\quad + \beta_4 REGIME_{i,t} \times REVENUETA_{i,t} + \beta_5 NOPATTA_{i,t} + \beta_6 REGIME_{i,t} \\
&\quad \times NOPATTA_{i,t} + \beta_7 FCFTA_{i,t} + \beta_8 REGIME_{i,t} \times FCFTA_{i,t} + \beta_9 WAGESTA_{i,t} \\
&\quad + \beta_{10} REGIME_{i,t} \times WAGESTA_{i,t} + \beta_{11} INDCONC_{i,t} + \beta_{12} REGIME_{i,t} \\
&\quad \times INDCONC_{i,t} + \beta_{13} DIVE_{i,t} + \beta_{14} REGIME_{i,t} \times DIVE_{i,t} + \beta_{15} DIVC_{i,t} \\
&\quad + \beta_{16} REGIME_{i,t} \times DIVC_{i,t}
\end{aligned}$$

INSERT TABLE IV HERE

Results for environmental sustainability disclosure practice are tabulated in Table IV, column 1. As expected, larger companies score higher ($p<0.01$) in Environmental reporting, as measured by the *ENVmax* variable. This is consistent with both their ability to report more extensively, given the resources available to them, as well as their desire to do so (if we assume that larger companies are more exposed to lobbying of pressure groups).

Also significant is the increase in the completeness of environmental sustainability reporting resulting from the introduction of the ASX requirements to disclose sustainability risks (coefficient on REGIME is positive at $p<0.05$). However, the negative coefficient on the interaction variable REGIME×SIZE ($p<0.05$) indicates that improvement is mitigated by a reduced size effect. Given that larger firms already have more complete reporting, it is likely that they have relatively less scope for improvement. Accordingly, the larger the firm, the weaker the effect of the regime change on reporting (demonstrated by a REGIME coefficient of 1.0728 for all firms, but for large firms the total coefficient will be the sum of the coefficient on REGIME and REGIME×SIZE, 1.0728-0.0464).

Beyond regime, size and their interaction, there is no other significant effect. Overall, the regime shift from the third edition of the *ASX Recommendations* appears to have prompted a convergence of disclosure around common practice. While larger firms are more likely to disclose more Environmental items than smaller firms, this effect has decreased. We speculate that the long history of environmental reporting meant that companies committed to reporting environmental sustainability are focusing on disclosure depth (more information for important items) than disclosure breadth (more coverage of items, with minimal depth).

Results for the disclosure of social sustainability risks are tabulated in Table IV, column 2. Once again, the size effect is manifest, suggesting that resourcing and/or public visibility is a key issue in determining the extent of reporting. Nevertheless, there is no other significant

coefficient. The institutional change (*REGIME*) has not had a significant impact on *SOCmax* – unlike the results for environmental disclosure.

It seems, therefore, that the extent of sustainability reporting around the period of change in ASX requirements is associated with firm size. The change in sustainability reporting requirements has only impacted on environmental sustainability reporting, but not on social sustainability[8]. We describe below our robustness tests to determine the strength of these conclusions.

5.3 Robustness tests

To test the robustness of our findings we use alternative measures of disclosure; we measure left hand side variables as disclosure changes (rather than magnitudes); we relax some distributional assumptions by replacing control variables by their quartile placement; we undertake modelling in extreme quartiles, allowing for our regression model to fit differently for different size firms; and we consider reversion towards the mean. We separately rerun our regression for the top quartile of firms and the bottom quartile of firms only.

Our first robustness tests utilises the *ENV* and *SOC* measures, instead of *ENVmax* and *SOCmax*. The former scores full, partial and no disclosure as (2, 1, 0) whereas the latter scored full disclosure and partial compliance as (2, 0). The results (not tabulated) are qualitatively the same as our main results.

Second, we re-run our tests by using *SOCmaxDELTA* and *ENVmaxDELTA* as dependant variables, where these are defined as the change in scores between 2013 and 2015, with controls entered using values for 2015. Additionally, we re-estimate our basic regression models by replacing controls with their quartile placement (within year). In both cases (not tabulated), the results are qualitatively no different from our reported results.

Finally, linear regression modelling assumes that relationships are constant across the entire data set. However, large and small firms in our sample are likely to be quite different from each other.[9] Beck *et al* (2013) document a non-linear size-effect for sustainability disclosure.

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[8]　A reviewer kindly referred the authors to Chen and Bouvain's (2009) suggestion that Australian firms are stronger in social disclosure than firms from some other countries. They compare different countries (Australia, UK and Germany) cross-sectionally, concluding that national level factors affect disclosure practice (convergence), while we are comparing one country longitudinally, concluding that disclosure practice (partially) converges over time around (national) norms. In that sense, our conclusion is broadly consistent with theirs.

[9]　 Ordering our sample in ascending order by TOTALASSETS for 2015, the firm at the 90th percentile has merely 6% of the assets of the largest firm. In other words, these firms may well differ in terms of incentives and exposure.

To allow for this, we re-run our regression models separately for the top and bottom quartiles. Table V reports regression model estimations similar to Table IV, but this time for extreme top and bottom quartiles of firms by total assets (SIZE).

INSERT TABLE V HERE

From Table V (environmental, columns 1 and 2), it is clear that the results detected earlier are only present in the top quartile of firms by size[10]. Moreover, the presence of a firm in a concentrated industry (INDCONC) leads to higher environmental reporting, although this effect is reduced after the ASX required the disclosure of sustainability risks (REGIME×INDCONC significantly positive at $p<0.10$).[11]

Table V (social, columns 3 and 4) enhances our understanding of Table IV, where only size had an effect on social sustainability disclosure. There is a conspicuous lack of results for the lowest quartile by size. Recall from Table III Panel F that environmental and social disclosures seem to be minimal for the lowest size quartile. There simply is not a lot of disclosure activity (or change thereof) for smaller firms.

For larger firms in Table V, there is a pronounced SIZE effect (0.1577, $p<0.01$), yet this size effect is reduced (REGIME×SIZE: -0.1058, $p<0.05$) following the ASX requirement to disclose sustainability risks .[12]

Overall, Table V is consistent with the univariate analysis in Beck *et al* (2013): the size-effect is non-linear, being present only in the largest firms. Moreover, the profitability, complexity and diversity effects also appear to be only present in the largest firms. These results suggest that while the cost/benefit motivations for sustainability disclosure are predictable for larger firms, the disclosure practice of smaller firms is varied and not well understood.

Our final robustness test relates to the issue of mean reversion. Recall that mimetic isomorphism predicts that high disclosers may reduce their disclosure as these firms realise

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[10]   It is important to note that the regressions reported in Table V have low degrees of freedom, and so the results should be interpreted with caution. There is likely high collinearity between the variables, indicated by – for the low quartile – high R^2 with no significant coefficients.

[11]   We also estimated this model using a size variable equal to the logarithm of Revenue (not tabulated). The coefficients on FCFTA (Free Cash Flow), the REGIME×FCFTA interaction and INDCONC (industry concentration) lost significance. However, the coefficients on (the new) SIZE and REGIME were qualitatively the same as our reported results.

[12]   When using the revenue based-size measure (not tabulated), similarly to our earlier results, the coefficients on FCFTA (Free Cash Flow) and on the REGIME×FCFTA interaction lost significance, as well as the coefficient on the DIVE diversification measure. The coefficients on (the new) SIZE and REGIME were qualitatively the same as our reported results.

that their disclosure levels are unnecessarily higher than comparable firms. Under mean reversion due to mimetic isomorphism, we would expect high disclosers to reduce their disclosure, while low disclosers to increase their disclosure.

INSERT TABLE VI HERE

Table VI reports the results of a disclosure comparison around the change in regime for the two key disclosure types we have addressed (social and environmental), as well as for total disclosure. For each of these three disclosure metrics, we classify firms into disclosure quartiles by their disclosures in 2013. We then report *t-statistics* for disclosure measures for each quartile for each of the three measures.

The results are consistent with mean reversion. Firms in the lowest two disclosure quartiles for each metric have significantly higher disclosures in 2015 than in 2013, for each metric: $p=0.0378$, $p=0.0459$ and $p=0.0047$ for total, environmental and social respectively for the lowest quartile, $p=0.0656$, $p=0.0171$ and $p=0.0692$ respectively for the second quartile. For the highest quartile, significant decreases in disclosure are observed: $p=0.0113$, $p=0.0008$ and $p=0.0344$ for total, environmental and social respectively. For the third quartile, there is no significant change in disclosure: $p=0.9524$, $p=0.7458$ and $p=0.9248$ respectively.

6. Conclusion

We examine the breadth of coverage of the sustainability reports of the Australian Top100 listed entities and compare the reports to the corresponding *GRI Guidelines*. We chose to focus on disclosure breadth, rather than disclosure depth, due to the subjective nature of disclosure and the heterogeneous nature of business activities and related risks. We examine a variety of measures for disclosure breadth to reduce the impact of the subjective distinction between partial and full disclosure, focussing on the change in disclosure before and after the release of the *ASX Recommendations* (ASX, 2014).

We split our sample into groups by assurance provider and into quartiles based on size, complexity and performance, and then perform univariate analysis. We also perform multivariate analysis to control for the effect of any exogenous changes on disclosure breadth.

On average, we find that an insignificant decrease in disclosure breadth. When we examine the factors influencing disclosure, we confirm that size has a very strong effect on disclosure breadth, while performance and complexity also have an effect, consistent with prior research. We report evidence that while larger ASX Top100 firms disclose far more items

than smaller ASX Top100 firms, it is the larger firms that are more likely to decrease their disclosure breadth over our sample period (albeit to a level still higher than smaller firms). For the reporting of both environmental and social risks, we find that the variation in disclosure associated with size has decreased, especially among the larger firms. This result suggests that firms have responded to the *ASX Recommendations* not by simply increasing disclosure across the board, but by converging around industry norms of expected disclosure breadth.

This convergence toward norms is underscored by our test for mean reversion. Ultimately, firms that deviate from the average or accepted disclosure levels tend to adjust their disclosure policy (in our limited sample period) toward the average disclosure level. This would be consistent with avoiding the costs of being an outlier: either excess costs of over-disclosing, or drawing attention by under-disclosing.

We note that the *ASX Recommendations* only require the disclosure of 'material' risks. There is a subtle distinction between firms stating an item is explicitly immaterial and firms ignoring an item for implicitly being immaterial. Altogether, we interpret our findings as suggesting a slight convergence in disclosure around the mean over our sample period. While size, complexity and performance do still influence disclosure practice, their effect has weakened. While the firms that have disclosed less than the norm in the past have increased their disclosure coverage, firms that have disclosed more than the norm in the past have decreased their disclosure coverage. Ultimately, it is for the shareholders and other stakeholders to decide whether disclosure practice is adequate or not. Without a longer time-series, it is not possible to conclude whether this convergence is related to the introduction of the latest edition of the *ASX Recommendations* (coercive isomorphism), or is rather a natural form of mimetic isomorphism (DiMaggio and Powell, 1983).

Overall, a decrease in sustainability disclosure after the introduction of the latest edition of *ASX Recommendations*, is an important issue to be considered by those lobbying for the introduction of mandatory sustainability reporting. However, this response to new requirements was dependent on firm size, and so the effect of regulation is actually more nuanced. In particular, as low disclosers improve their disclosure levels, it is clear that the regulation has some value.

Regulators and standard setters should consider the possible negative impacts of introducing mandatory requirements – rather than increase standards of sustainability reporting, it could

potentially decrease sustainability reporting for those firms that have the largest potential impact. However, regulation does have a role for those firms with poor disclosure.

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Table I.

Sample and descriptives

Panel A.

Sample construction

Sample year	2013	2015
Top 100 firms on ASX by 2015 market capitalisation	100	100
Firms with no financial data available either on Morningstar *Datanalysis Premium*™ or *Aspect Financial*™ databases	1	1
1 entity listed late 2013, excluded from both years	1	1
Resulting sample size in each year	98	98
total sample size		196

(contd.)

Table I: Sample and descriptives

Panel B.

Sample descriptives

Variable	year	n	mean	min	Q1	median	Q3	max
				Disclosure Scores				
ECO	2013	98	0.3637	0.1111	0.2222	0.2778	0.4444	1.0000
ECO	2015	98	0.3058	0.1111	0.1667	0.2222	0.3889	1.0000
ECOmax	2013	98	0.3279	0.1111	0.2222	0.2222	0.4444	1.0000
ECOmax	2015	98	0.2791	0.0000	0.1111	0.2222	0.3333	1.0000
SOC	2013	98	0.1955	0.0000	0.0222	0.0667	0.2889	0.9889
SOC	2015	98	0.1619	0.0000	0.0313	0.0833	0.1667	0.9271
SOCmax	2013	98	0.1652	0.0000	0.0000	0.0444	0.2000	0.9778
SOCmax	2015	98	0.1348	0.0000	0.0000	0.0625	0.1458	0.8958
ENV	2013	98	0.2405	0.0000	0.0167	0.1000	0.4000	1.0000
ENV	2015	98	0.2057	0.0000	0.0294	0.1471	0.2941	0.9706
ENVmax	2013	98	0.2091	0.0000	0.0000	0.0667	0.3667	1.0000
ENVmax	2015	98	0.1744	0.0000	0.0000	0.0882	0.2647	0.9706
ENVcomm	2013	98	0.2285	0.0000	0.0000	0.0000	0.4444	1.0000
ENVcomm	2015	98	0.2018	0.0000	0.0000	0.1111	0.3333	1.0000
ENVmaxcomm	2013	98	0.2063	0.0000	0.0000	0.0000	0.3333	1.0000
ENVmaxcomm	2015	98	0.1746	0.0000	0.0000	0.0556	0.2222	1.0000
TOTAL	2013	98	0.2296	0.0119	0.0476	0.1071	0.3036	0.9940
TOTAL	2015	98	0.1925	0.0110	0.0495	0.1264	0.2444	0.9505
TOTALmax	2013	98	0.1983	0.0119	0.0238	0.0714	0.2500	0.9881
TOTALmax	2015	98	0.1639	0.0110	0.0222	0.0824	0.2198	0.9231

(contd.)

Table I: Sample and descriptives

Panel B.

Sample descriptives (contd.)

Variable	year	n	mean	min	Q1	median	Q3	max
				Firm characteristics – raw (AUD)				
REVENUE	2013	98	8,609,809,707	0	758,800,000	1,682,274,624	6,932,299,776	71,444,742,144
REVENUE	2015	98	8,601,848,344	0	957,974,016	2,167,117,312	7,360,778,752	62,129,000,448
WAGES	2013	98	-969,370,686	-8,495,753,216	-984,536,000	-155,717,312	-44,188,000	0
WAGES	2015	98	-940,953,447	-12,212,239,360	-946,800,000	-225,437,472	-47,200,000	0
NOPAT	2013	98	681,010,354	-5,776,000,000	81,070,000	178,920,496	496,000,000	11,940,701,184
NOPAT	2015	98	680,802,037	-2,697,999,872	108,890,000	254,258,496	560,000,000	9,084,000,256
FCF	2013	98	-65,122,468	-14,403,000,320	-108,982,000	2,027,000	88,100,000	19,142,000,640
FCF	2015	98	-206,623,684	-19,171,000,320	-179,000,000	26,958,000	179,499,008	16,017,000,448
TOTALASSETS	2013	98	44,946,130,041	88,592,744	1,835,399,936	6,015,257,600	14,069,699,584	808,426,995,712
TOTALASSETS	2015	98	52,418,381,002	370,903,008	2,406,899,968	6,654,489,856	15,832,999,936	955,051,999,232
INDCONC	2013	98	0.4895	0.3011	0.3982	0.4131	0.5980	0.8520
INDCONC	2015	98	0.4271	0.2182	0.2807	0.3803	0.5308	0.8595
SIZE	2013	98	22.4873	18.2996	21.3305	22.5176	23.3673	27.4184
SIZE	2015	98	22.7080	19.7315	21.6016	22.6186	23.4854	27.5850
NUMENTITIES	2013	98	66.8	0.0	13.0	34.0	65.0	1200.0
NUMENTITIES	2015	98	66.8	0.0	13.0	34.0	65.0	1200.0
NUMCOUNTRIES	2013	98	7.9	1.0	2.0	4.0	11.0	60.0
NUMCOUNTRIES	2015	98	7.9	1.0	2.0	4.0	11.0	60.0

REVENUETA	2013	98	0.6181	0.0000	0.1574	0.5178	0.8259	4.0891
REVENUETA	2015	98	0.6071	0.0000	0.1461	0.4673	0.7859	4.0805
WAGESTA	2013	98	-0.0976	-0.4892	-0.1658	-0.0490	-0.0061	0.0000
WAGESTA	2015	98	-0.0922	-0.4745	-0.1550	-0.0516	-0.0055	0.0000
NOPATTA	2013	98	0.0665	-0.3361	0.0102	0.0433	0.0806	1.6133
NOPATTA	2015	98	0.0587	-0.1907	0.0164	0.0469	0.0922	0.5756
FCFTA	2013	98	-0.0090	-0.5794	-0.0253	0.0012	0.0232	0.1739
FCFTA	2015	98	-0.0030	-0.5777	-0.0172	0.0040	0.0417	0.3025
DIVC	2013	98	0.1311	0.0167	0.0333	0.0667	0.1833	1.0000
DIVC	2015	98	0.1311	0.0167	0.0333	0.0667	0.1833	1.0000
DIVE	2013	98	0.0550	0.0000	0.0107	0.0280	0.0535	1.0000
DIVE	2015	98	0.0550	0.0000	0.0107	0.0280	0.0535	1.0000

(contd.)

Table I: Sample and descriptives

Panel B.

Sample Descriptives (contd.)

Variables:

Disclosure indices: *Indices are calculated by summing the scores on the following items for each reporting framework:*

Environmental Sustainability Disclosure (indices ENV and ENVmax):

G3:ENV and ENVMAX: items G3:EN1, G3:EN2, G3:EN3, G3:EN4, G3:EN5, G3:EN6, G3:EN7, G3:EN8, G3:EN9, G3:EN10, G3:EN11, G3:EN12, G3:EN13, G3:EN14, G3:EN15, G3:EN16, G3:EN17, G3:EN18, G3:EN19, G3:EN20, G3:EN21, G3:EN22, G3:EN23, G3:EN24, G3:EN25, G3:EN26, G3:EN27, G3:EN28, G3:EN29, G3:EN30

G4:ENV and ENVMAX: items G4:EN1, G4:EN2, G4:EN3, G4:EN4, G4:EN5, G4:EN6, G4:EN7, G4:EN8, G4:EN9, G4:EN10, G4:EN11, G4:EN12, G4:EN13, G4:EN14, G4:EN15, G4:EN16, G4:EN17, G4:EN18, G4:EN19, G4:EN20, G4:EN21, G4:EN22, G4:EN23, G4:EN24, G4:EN25, G4:EN26, G4:EN27, G4:EN28, G4:EN29, G4:EN30, G4:EN31, G4:EN32, G4:EN33, G4:EN34

Items identical between G3 and G4 frameworks:

G3 and G4 ENVcomm and ENVMAXcomm: items: G3:EN1, G4:EN1, G4:EN2, G3:EN2, G4:EN8, G3:EN8, G3:EN9, G4:EN9, G4:EN10, G3:EN10, G3:EN13, G4:EN13, G3:EN21, G4:EN22, G3:EN22, G3:EN23, G4:EN23, G4:EN24

Social Sustainability Disclosure (indices SOC and SOCmax)

G3:SOC and SOCMAX: items G3:HR1, G3:HR2, G3:HR3, G3:HR4, G3:HR5, G3:HR6, G3:HR7, G3:HR8, G3:HR9, G3:HR10, G3:HR11, G3:LA1, G3:LA2, G3:LA3, G3:LA4, G3:LA5, G3:LA6, G3:LA7, G3:LA8, G3:LA9, G3:LA10, G3:LA11, G3:LA12, G3:LA13, G3:LA14, G3:LA15, G3:PR1, G3:PR2, G3:PR3, G3:PR4, G3:PR5, G3:PR6, G3:PR7, G3:PR8, G3:PR9, G3:SO1, G3:SO2, G3:SO3, G3:SO4, G3:SO5, G3:SO6, G3:SO7, G3:SO8, G3:SO9, G3:SO10

G4:SOC and SOCMAX: items G4:HR1, G4:HR2, G4:HR3, G4:HR4, G4:HR5, G4:HR6, G4:HR7, G4:HR8, G4:HR9, G4:HR10, G4:HR11, G4:HR12, G4:LA1, G4:LA2, G4:LA3, G4:LA4, G4:LA5, G4:LA6, G4:LA7, G4:LA8, G4:LA9, G4:LA10, G4:LA11, G4:LA12, G4:LA13, G4:LA14, G4:LA15, G4:LA16, G4:PR1, G4:PR2, G4:PR3, G4:PR4, G4:PR5, G4:PR6, G4:PR7, G4:PR8, G4:PR9, G4:SO1, G4:SO2, G4:SO3, G4:SO4, G4:SO5, G4:SO6, G4:SO7, G4:SO8, G4:SO9, G4:SO10, G4:SO11

Economic Sustainability Disclosure (indices ECON and ECONmax):

G3:ECON and ECONmax: items G3:EC1, G3:EC2, G3:EC3, G3:EC4, G3:EC5, G3:EC6, G3:EC7, G3:EC8, G3:EC9

G4:ECON and ECONmax: items G4:EC1, G4:EC2, G4:EC3, G4:EC4, G4:EC5, G4:EC6, G4:EC7, G4:EC8, G4:EC9

The basic version of each index awards 0 points for non-disclosure, 1 point for partial-disclosure and 2 points for full disclosure. The strict version of each index awards 0 points for non-disclosure or partial-disclosure and 1 point for full disclosure. In each year, TOTAL = ENV + SOC + ECON, and TOTALmax = ENVmax + SOCmax + ECONmax

Control variables: *REVENUE (Revenue):* total revenue, calculated as the sum of *Aspect* items 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 and 17; **TOTALASSETS (Total Assets)**: *Aspect* item 5090; *NOPAT* (**Net Operating Profit)** *Aspect* item 8036; *FCF* (**Free Cash Flow)** *Aspect* item 9000; *WAGES* (**Staff and Employee Expenses)** *Aspect* item 2200; *INDCONC* (**Industry Concentration)** calculated by the ratio of TOP3 Revenue and Revenue across an entire 2-digit GICS industry code for a year in the *Aspect* dataset. TOP3 Revenue is calculated as the revenue of the top 3 firms in the firm's 2-digit GICS industry. If the industry contains less than 3 firms, top 3 revenue is equal to the revenue for the single top firm; *REGIME* is the Sustainability Framework applied – this is 0 for G3.1 in 2013, and 1 for G4 in 2015; *SIZE* is the natural logarithm of *TOTALASSETS*; *REVENUETA*, *NOPATTA*, *FCFTA* and *WAGESTA* are the respective variables divided by TOTALASSETS; *NUMENTITIES* is the number of controlled entities disclosed by the firm; *DIVE* is *NUMENTITIES* divided by the maximum value of *NUMENTITIES* across all companies in our sample for the same year; *NUMCOUNTRIES* is the number of distinct countries in which the firm's controlled entities are listed; and **DIVC** is *NUMCOUNTRIES* divided by the maximum value of *NUMCOUNTRIES* across all companies in our sample for the same year.

Significance:

Significance levels (from Table II onwards) are denoted as follows: *** p<0.01, ** p<0.05, * p<0.10

Table II.

Correlation matrices of explanatory variables

Panel A.

Raw variables (2013\2015 below\above diagonal)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
REVENUE	[1]	1	-0.6479***	0.5686***	-0.0054	0.5107***	0.2417**	0.6756***	0.1305	0.2289**
WAGES	[2]	-0.8292***	1	-0.6459***	-0.144	-0.4966***	-0.0998	-0.5559***	-0.162	-0.3017***
NOPAT	[3]	0.6606***	-0.6230***	1	-0.0627	0.8742***	0.0011	0.6283***	0.0177	-0.0016
FCF	[4]	-0.0543	0.0002	0.0794	1	-0.1207	0.0438	-0.0788	0.0699	0.1974*
TOTALASSETS	[5]	0.5315***	-0.4686***	0.7001***	0.3728***	1	-0.0663	0.6732***	-0.0199	0.0013
INDCONC	[6]	0.2003**	-0.1544	0.049	-0.0914	-0.0968	1	0.059	-0.0393	0.127
SIZE	[7]	0.6638***	-0.5791***	0.5504***	0.1094	0.6437***	0.0267	1	0.1081	0.0839
NUMENTITIES	[8]	0.1389	-0.1259	0.079	-0.0451	-0.0147	0.0143	0.1236	1	0.1834*
NUMCOUNTRIES	[9]	0.2599***	-0.2328**	0.1864*	-0.066	0.0021	0.1269	0.1037	0.1834*	1

Panel B.

Variables scaled by total assets (2013\2015 below\above diagonal)

		[1]	[2]	[3]	[4]	[5]	[6]
REVENUETA	[1]	1	-0.4329***	0.3028***	0.1124	0.0873	0.0217
WAGESTA	[2]	-0.5154***	1	-0.1556	-0.1719*	-0.2138**	-0.0079
NOPATTA	[3]	0.0509	-0.0605	1	0.1087	-0.1643	-0.0951
FCFTA	[4]	0.0124	-0.0475	0.136	1	-0.0413	0.0011
DIVC	[5]	0.1152	-0.2032**	0.0146	0.0461	1	0.1834*
DIVE	[6]	0.0251	-0.0031	-0.0558	0.0242	0.1834*	1

Variables and significance levels are as defined in Table I.

Table III.

Comparison of means of disclosure indices,

between G3.1 Framework in 2013 and G4 Framework in 2015

Panel A.

Comparison across entire sample

Variable	Basic indices, scoring 0=non-disclosure, 1=partial-disclosure, 2=full disclosure, divided by maximum possible score									
	ECON		SOC		ENV		ENVcomm		TOTAL	
year	2013	2015	2013	2015	2013	2015	2013	2015	2013	2015
obs.	98	98	98	98	98	98	98	98	98	98
mean	0.3637	0.3058	0.1955	0.1619	0.2405	0.2057	0.2285	0.2018	0.2296	0.1925
diff.	**0.0579***		0.0337		0.0348		0.0266		0.0371	
2-tailed p	**0.0636**		0.3389		0.3493		0.5282		0.2789	

	Strict indices, scoring 0=non- or partial-disclosure, 2=full disclosure, divided by maximum possible score									
	ECONmax		SOCmax		ENVmax		ENVmaxcomm		TOTALmax	
year	2013	2015	2013	2015	2013	2015	2013	2015	2013	2015
obs.	98	98	98	98	98	98	98	98	98	98
mean	0.3279	0.2791	0.1652	0.1348	0.2091	0.1744	0.2063	0.1746	0.1983	0.1639
diff.	0.0489		0.0303		0.0347		0.0317		0.0343	
2-tailed p	0.1248		0.3724		0.3480		0.4396		0.3060	

Variables and significance levels are as defined in Table I.

Table III.
Comparison of means of disclosure indices,
between G3.1 Framework in 2013 and G4 Framework in 2015 (contd.)
Panel B.
Quartiles by assurance source

Deloitte

Variable	TOTALmax		ECONmax		ENVmax		SOCmax	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	5	6	5	6	5	6	5	6
mean	0.2976	0.315	0.3778	0.4444	0.3133	0.3529	0.2711	0.2639
diff.	-0.0174		-0.0667		-0.0396		0.0072	
2-tailed p	0.9294		0.7396		0.8526		0.9697	

PriceWatershouseCoopers

Variable	TOTALmax		ECONmax		ENVmax		SOCmax	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	7	7	7	7	7	7	7	7
mean	0.3895	0.1994	0.4762	0.3333	0.4333	0.2479	0.3429	0.1399
diff.	0.1901		0.1429		0.1854		0.203	
2-tailed p	0.2692		0.3087		0.2693		0.2922	

KPMG

Variable	TOTALmax		ECONmax		ENVmax		SOCmax	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	8	12	8	12	8	12	8	12
mean	0.4155	0.3677	0.5417	0.4271	0.4708	0.3922	0.3532	0.3385
diff.	0.0478		0.1146		0.0787		0.0146	
2-tailed p	0.7513		0.4249		0.6363		0.9237	

Ernst & Young

Variable	TOTALmax		ECONmax		ENVmax		SOCmax	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	11	18	11	18	11	18	11	18
mean	0.237	0.2528	0.3737	0.3457	0.2727	0.2631	0.1859	0.2282
diff.	-0.0158		0.0281		0.0097		-0.0423	
2-tailed p	0.8478		0.7444		0.9189		0.6192	

other

Variable	TOTALmax		ECONmax		ENVmax		SOCmax	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	67	55	67	55	67	55	67	55
mean	0.1386	0.0694	0.2757	0.2	0.1361	0.069	0.1129	0.0451
diff.	**0.0692****		**0.0757****		**0.0671****		**0.0677****	
2-tailed p	**0.023**		**0.0124**		**0.044**		**0.0307**	

Variables and significance levels are as defined in Table I.

Panel C.

Quartiles by assurance type

	third-party							
Variable	TOTALmax		ECONmax		ENVmax		SOCmax	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	28	22	28	22	28	22	28	22
mean	0.331	0.2259	0.4444	0.3384	0.3459	0.2447	0.2984	0.1914
diff.	0.1051		0.1061		0.1012		0.1070	
2-tailed p	0.2289		0.1971		0.2527		0.2455	
	Other							
	TOTALmax		ECONmax		ENVmax		SOCmax	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	13	1	13	1	13	1	13	1
mean	0.4032	0.0989	0.5214	0.1111	0.4692	0.1176	0.3354	0.0833
diff.	**0.3043*****		**0.4103*****		**0.3516*****		**0.2521*****	
2-tailed p	**0.000**		**0.000**		**0.000**		**0.000**	
	Undeclared							
	TOTALmax		ECONmax		ENVmax		SOCmax	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	57	75	57	75	57	75	57	75
mean	0.0864	0.1466	0.2266	0.2639	0.0825	0.1545	0.0609	0.1189
diff.	**-0.0603****		-0.0373		**-0.0720****		**-0.0580****	
2-tailed p	**0.0341**		0.1581		**0.0327**		**0.0446**	

Variables and significance levels are as defined in Table I.

Table III.

Comparison of means of disclosure indices,

between G3.1 Framework in 2013 and G4 Framework in 2015

Panel D.

Quartiles of industry concentration (*INDCONC*)

Variable	TOTALmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	35	35	14	14
mean	0.0849	0.1229	0.3326	0.2262	0.1709	0.1336	0.2391	0.2064
diff.	-0.038		0.1064		0.0373		0.0326	
2-tailed p	0.398		0.2502		0.4107		0.7158	
Variable	ECOmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	35	35	14	14
mean	0.24	0.2183	0.4259	0.3148	0.3016	0.2794	0.3829	0.3254
diff.	0.0217		0.1111		0.0222		0.0575	
2-tailed p	0.596		0.1835		0.6254		0.5623	
Variable	ENVmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	35	35	14	14
mean	0.0787	0.1271	0.3356	0.223	0.1962	0.1529	0.2571	0.229
diff.	-0.0484		0.1126		0.0432		0.0282	
2-tailed p	0.3519		0.2508		0.4211		0.7761	

Variable	SOCmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	35	35	14	14
mean	0.0579	0.1017	0.312	0.2118	0.1278	0.0924	0.1985	0.1682
diff.	-0.0438		0.1002		0.0353		0.0304	
2-tailed p	0.3444		0.295		0.4179		0.7309	

Variables and significance levels are as defined in Table I. Different size quartiles result from 18 firms with tied values at the top of the third quartile.

Panel E.

Quartiles of revenue (*REVENUE*)

Variable	TOTALmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.1436	0.1342	0.1285	0.125	0.1593	0.17	0.3657	0.2276
diff.	0.0094		0.0035		-0.0107		**0.1381***	
2-tailed p	0.8931		0.9515		0.8518		**0.0664**	
Variable	ECOmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.24	0.2356	0.2836	0.2546	0.3022	0.2539	0.4907	0.375
diff.	0.0044		0.0289		0.0483		0.1157	
2-tailed p	0.9308		0.611		0.3143		0.164	
Variable	ENVmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.1461	0.1388	0.1097	0.1262	0.1653	0.1788	0.4195	0.2549
diff.	0.0073		-0.0165		-0.0135		**0.1646****	
2-tailed p	0.925		0.775		0.8266		**0.0486**	
Variable	SOCmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.1227	0.1118	0.1102	0.0999	0.1265	0.1476	0.3047	0.1806
diff.	0.0109		0.0103		-0.0211		**0.1241***	
2-tailed p	0.8796		0.8634		0.7358		**0.0919**	

Variables and significance levels are as defined in Table I.

Panel F.

Quartiles of total assets (*TOTALASSETS*)

Variable	TOTALmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.0488	0.0603	0.0918	0.0989	0.3089	0.2798	0.3453	0.2162
diff.	-0.0115		-0.0071		0.0291		**0.1291***	
2-tailed p	0.5713		0.889		0.6994		**0.0963**	
Variable	ECOmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.1778	0.1911	0.2465	0.2361	0.3956	0.3339	0.4954	0.3565
diff.	-0.0133		0.0104		0.0617		0.1389	
2-tailed p	0.5247		0.8023		0.3234		0.1138	
Variable	ENVmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.0461	0.0624	0.0764	0.0919	0.3373	0.3071	0.3779	0.2353
diff.	-0.0163		-0.0155		0.0303		**0.1426***	
2-tailed p	0.6405		0.7645		0.6987		**0.0975**	
Variable	SOCmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.0249	0.0343	0.0713	0.0781	0.2724	0.25	0.2935	0.1763
diff.	-0.0094		-0.0068		0.0223		0.1172	
2-tailed p	0.519		0.9023		0.7856		0.121	

Variables and significance levels are as defined in Table I.

Panel G.

Quartiles of net operating profit after tax (*NOPAT*)

Variable	TOTALmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.104	0.0846	0.1687	0.1589	0.1267	0.1161	0.4007	0.3015
diff.	0.0195		0.0098		0.0106		0.0992	
2-tailed p	0.6105		0.9014		0.7991		0.2071	
Variable	ECOmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.24	0.2089	0.2882	0.2685	0.2756	0.2444	0.5139	0.3987
diff.	0.0311		0.0197		0.0311		0.1152	
2-tailed p	0.4632		0.7535		0.4585		0.1657	
Variable	ENVmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.0994	0.1071	0.1542	0.152	0.124	0.1212	0.4668	0.3223
diff.	-0.0077		0.0022		0.0028		**0.1445***	
2-tailed p	0.8645		0.9774		0.9558		**0.0966**	
Variable	SOCmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.08	0.0452	0.1547	0.1432	0.0987	0.0884	0.3337	0.2682
diff.	0.0348		0.0114		0.0103		0.0655	
2-tailed p	0.358		0.8946		0.8		0.4088	

Variables and significance levels are as defined in Table I.

Panel H.

Quartiles of Free Cash Flow (*FCF*)

Variable	TOTALmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.3063	0.219	0.1129	0.1221	0.201	0.1719	0.1683	0.1401
diff.	0.0873		-0.0092		0.0291		0.0282	
2-tailed p	0.2492		0.8613		0.6911		0.6390	
Variable	ECOmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.4856	0.3778	0.2454	0.2274	0.2756	0.2667	0.3009	0.2407
diff.	0.1078		0.0179		0.0089		0.0602	
2-tailed p	0.1727		0.6889		0.8633		0.3260	
Variable	ENVmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.3348	0.2447	0.1077	0.136	0.216	0.1847	0.1722	0.1287
diff.	0.0901		-0.0283		0.0313		0.0435	
2-tailed p	0.2789		0.6439		0.6841		0.5146	
Variable	SOCmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.2516	0.171	0.0899	0.0921	0.1761	0.145	0.1391	0.1293
diff.	0.0806		-0.0022		0.0311		0.0098	
2-tailed p	0.2895		0.9672		0.6937		0.8686	

Variables and significance levels are as defined in Table I.

Panel I.

Quartiles of employee expenses (*WAGES*)

Variable	TOTALmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.3178	0.2393	0.1359	0.1013	0.1856	0.1676	0.1494	0.1442
diff.	0.0784		0.0347		0.0180		0.0051	
2-tailed p	0.2828		0.5714		0.7901		0.9324	
Variable	ECOmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.4622	0.3739	0.2778	0.2315	0.3256	0.2800	0.2407	0.2269
diff.	0.0883		0.0463		0.0456		0.0139	
2-tailed p	0.2622		0.3551		0.4763		0.7587	
Variable	ENVmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.3654	0.26	0.1181	0.0919	0.1821	0.1859	0.1653	0.1556
diff.	0.1054		0.0261		-0.0038		0.0096	
2-tailed p	0.2039		0.6767		0.9571		0.8878	
Variable	SOCmax							
quartile	low		2		3		high	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	25	25	24	24	25	25	24	24
mean	0.257	0.1992	0.1195	0.0834	0.1602	0.1335	0.1204	0.1207
diff.	0.0578		0.0360		0.0267		-0.0002	
2-tailed p	0.4203		0.5788		0.7058		0.9971	

Variables and significance levels are as defined in Table I.

Table IV.

Determinants of *ENVmax* and *SOCmax* after ASX disclosure requirements

Dependent Variable:	(1) *ENVmax*	(2) *SOCmax*
	Coefficient (t-statistic)	Coefficient (t-statistic)
Intercept	**-1.7058***** **(-4.9300)**	**-1.2562***** **(-3.7100)**
REGIME	**1.0728**** **(2.0600)**	0.5885 (1.1600)
SIZE	**0.0809***** **(5.6400)**	**0.0624***** **(4.4400)**
REGIME×SIZE	**-0.0464**** **(-2.1500)**	-0.0269 (-1.2800)
REVENUETA	0.0200 (0.4600)	0.0107 (0.2500)
REGIME×REVENUETA	0.0217 (0.3500)	0.0051 (0.0900)
NOPATTA	0.0300 (0.2200)	-0.0300 (-0.2200)
REGIME×NOPATTA	-0.0754 (-0.2200)	0.0434 (0.1300)
FCFTA	-0.3639 (-1.2700)	**-0.4739*** **(-1.6900)**
REGIME×FCFTA	0.4097 (1.1100)	0.5134 (1.4200)
WAGESTA	0.0979 (0.3800)	0.1796 (0.7100)
REGIME×WAGESTA	0.3193 (0.8500)	0.1288 (0.3500)
INDCONC	0.2307 (1.3700)	0.1363 (0.8200)
REGIME×INDCONC	-0.1028 (-0.4500)	-0.0850 (-0.3800)
DIVE	-0.1744 (-0.8000)	-0.1602 (-0.7500)
REGIME×DIVE	0.1134 (0.3700)	0.1014 (0.3400)
DIVC	0.1123 (0.6800)	0.0005 (0.0000)
REGIME×DIVC	0.0413 (0.1800)	0.1847 (0.8000)
Observations	196	196
R^2	0.2651	0.2151
Adjusted-R^2	0.1949	0.1402

Variables and significance levels are as defined in Table I.

Table V.

Determinants of *ENVmax* and *SOCmax* after ASX disclosure requirements, by extreme quartiles of Size (Total Assets)

Dependent Variable:	(1) *ENVmax* lowest quartile	(2) *ENVmax* highest quartile	(3) *SOCmax* lowest quartile	(4) *SOCmax* highest quartile
	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)
Intercept	-0.8119	**-5.3026*****	-0.3474	-4.1189***
	(-1.1700)	**(-4.8100)**	(-1.1700)	(-4.2600)
REGIME	-0.7761	**4.5272*****	-0.0463	**2.7166***
	(-0.6300)	**(2.9300)**	(-0.0900)	**(2.0000)**
SIZE	0.0416	**0.1983*****	0.0193	**0.1577*****
	(1.2800)	**(4.7700)**	(1.3900)	**(4.3200)**
REGIME×SIZE	0.0380	**-0.1711*****	0.0029	**-0.1058****
	(0.6600)	**(-2.9300)**	(0.1200)	**(-2.0600)**
REVENUETA	0.0036	-0.0825	-0.0096	0.0740
	(0.0700)	(-0.4600)	(-0.4400)	(0.4700)
REGIME×REVENUETA	0.0316	0.3271	0.0129	0.0862
	(0.4300)	(1.5000)	(0.4100)	(0.4500)
NOPATTA	-0.0695	**-1.3909****	-0.0398	**-1.8511*****
	(-0.7500)	**(-2.3200)**	(-1.0100)	**(-3.5100)**
REGIME×NOPATTA	0.0366	0.4259	-0.0277	**2.6829***
	(0.1400)	(0.2700)	(-0.2600)	**(1.9300)**
FCFTA	0.0865	**-1.0509****	0.0156	**-0.9648****
	(0.2600)	**(-2.4800)**	(0.1100)	**(-2.5900)**
REGIME×FCFTA	-0.3953	**1.6478****	0.0030	**1.3319****
	(-0.8700)	**(2.4000)**	(0.0200)	**(2.2100)**
WAGESTA	0.3355	-1.6977	0.0919	-1.1225
	(0.8000)	(-1.3600)	(0.5100)	(-1.0200)
REGIME×WAGESTA	0.2475	1.3876	0.0914	1.6506
	(0.4300)	(0.8900)	(0.3700)	(1.2100)
INDCONC	0.1038	**1.2933*****	-0.0118	**0.7674****
	(0.4600)	**(3.9000)**	(-0.1200)	**(2.6400)**
REGIME×INDCONC	-0.0082	**-0.8528***	-0.0202	-0.2740
	(-0.0300)	**(-1.8200)**	(-0.1700)	(-0.6700)
DIVE	0.1003	-0.8754	-0.0650	-0.9463*
	(0.0800)	(-1.4200)	(-0.1200)	(-1.7500)
REGIME×DIVE	0.2250	0.7258	-0.0876	0.5620
	(0.1200)	(0.8200)	(-0.1100)	(0.7300)
DIVC	0.2582	0.3562	0.1749	0.2614
	(0.6400)	(0.9100)	(1.0100)	(0.7600)
REGIME×DIVC	-0.0578	-0.1502	-0.0302	-0.2105
	(-0.1000)	(-0.2900)	(-0.1300)	(-0.4600)
Observations	50	48	50	48
R²	0.3030	0.6533	0.2720	0.6517
Adjusted-R²	0.3030	0.4568	0.2720	0.4544

Variables and significance levels are as defined in Table I.

Table VI.

Comparison of means of disclosure indices between G3.1 Framework in 2013 and G4 Framework in 2015 by quartile of previous (2013) disclosure

Variable	TOTALmax							
quartile	low 2013 TOTALmax disclosers		2		3		high 2013 TOTALmax disclosers	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	24	24	24	24	25	25	25	25
mean	0.0164	0.0352	0.0377	0.0673	0.1404	0.1418	0.5849	0.4024
diff.	**-0.0189****		**-0.0296***		0.0013		**0.1825****	
2-tailed p	**0.0378**		**0.0656**		0.9524		**0.0113**	
Variable	ENVmax							
quartile	low 2013 ENVmax disclosers		2		3		high 2013 ENVmax disclosers	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	24	24	24	24	25	25	25	25
mean	0	0.0319	0.0097	0.0637	0.1568	0.1682	0.6533	0.4235
diff.	**-0.0319****		**-0.0540****		-0.0114		**0.2290*****	
2-tailed p	**0.0459**		**0.0171**		0.7458		**0.0008**	
Variable	SOCmax							
quartile	low 2013 SOCmax disclosers		2		3		high 2013 SOCmax disclosers	
year	2013	2015	2013	2015	2013	2015	2013	2015
obs.	24	24	24	24	25	25	25	25
mean	0.0000	0.0174	0.0102	0.0391	0.0908	0.0926	0.5469	0.3818
diff.	**-0.0174*****		**-0.0289***		-0.0018		**0.1651****	
2-tailed p	**0.0047**		**0.0692**		0.9248		**0.0344**	

Variables and significance levels are as defined in Table I.

Appendix A – Coding Instrument for Environmental and Social Sustainability Disclosures
Extracted from GRI (version G3.1)

Environmental	
Indicator	**Disclosure**
Materials	
EN1	Materials used by weight or volume.
EN2	Percentage of materials used that are recycled input materials.
Energy	
EN3	Direct energy consumption by primary energy source.
EN4	Indirect energy consumption by primary source.
EN5	Energy saved due to conservation and efficiency improvements.
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.
EN7	Initiatives to reduce indirect energy consumption and reductions achieved.
Water	
EN8	Total water withdrawal by source.
EN9	Water sources significantly affected by withdrawal of water.
EN10	Percentage and total volume of water recycled and reused.
Biodiversity	
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.
EN13	Habitats protected or restored.
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.
EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.
Emissions, effluents and waste	
EN16	Total direct and indirect greenhouse gas emissions by weight.
EN17	Other relevant indirect greenhouse gas emissions by weight.
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.
EN19	Emissions of ozone-depleting substances by weight.
EN20	NOx, SOx, and other significant air emissions by type and weight.
EN21	Total water discharge by quality and destination.
EN22	Total weight of waste by type and disposal method.
EN23	Total number and volume of significant spills.
EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.
Products and services	
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.

EN27	Percentage of products sold and their packaging materials that are reclaimed by category.
Compliance	
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.
Transport	
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.
Overall	
EN30	Total environmental protection expenditures and investments by type.
Social: Labor practices and decent work	
Indicator	**Disclosure**
Employment	
LA1	Total workforce by employment type, employment contract, and region, broken down by gender.
LA2	Total number and rate of new employee hires and employee turnover by age group, gender, and region.
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.
LA15	Return to work and retention rates after parental leave, by gender.
Labor/management relations	
LA4	Percentage of employees covered by collective bargaining agreements.
LA5	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements.
Occupational health and safety	
LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs.
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region and by gender.
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.
LA9	Health and safety topics covered in formal agreements with trade unions.
Training and education	
LA10	Average hours of training per year per employee by gender, and by employee category.
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.
LA12	Percentage of employees receiving regular performance and career development reviews, by gender.
Diversity and equal opportunity	
LA13	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.
Equal remuneration for women and men	
LA14	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation.

Social: Human Rights	
Indicator	**Disclosure**
Investment and procurement practices	
HR1	Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening.
HR2	Percentage of significant suppliers, contractors and other business partners that have undergone human rights screening, and actions taken.
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.
Non-discrimination	
HR4	Total number of incidents of discrimination and corrective actions taken.
Freedom of association and collective bargaining	
HR5	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights.
Child labor	
HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor.
Prevention of forced and compulsory labor	
HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor.
Security practices	
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.
Indigenous rights	
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken.
Assessment	
HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.
Remediation	
HR11	Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms.
Social: Society	
Indicator	**Disclosure**
Local communities	
SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.
SO9	Operations with significant potential or actual negative impacts on local communities.
SO10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.
Corruption	
SO2	Percentage and total number of business units analyzed for risks related to corruption.

SO3	Percentage of employees trained in organization's anti-corruption policies and procedures.
SO4	Actions taken in response to incidents of corruption.
Public policy	
SO5	Public policy positions and participation in public policy development and lobbying.
SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.
Anti-competitive behavior	
SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes.
Compliance	
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.
Social: Product Responsibility	
Indicator	**Disclosure**
Customer health and safety	
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.
Product and service labelling	
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.
Marketing communications	
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.
Customer privacy	
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.
Compliance	
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.