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Are required SEC proxy disclosures about the board's role in risk oversight substantive?

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ABSTRACT

The U.S. Securities and Exchange Commission (SEC) requires companies it regulates to include disclosures about the board's role in risk oversight in the annual proxy statement to shareholders. The SEC does not mandate specific content or actions that boards should perform as part of their risk oversight responsibilities, leaving the nature of activities and extent of those disclosures to the discretion of the reporting entity. This study examines whether these disclosures contain substantive information reflective of the effectiveness of the organization's risk oversight. We find that organizations disclosing more specific information (but not simply *more* information) about board risk oversight practices are associated with firms independently assessed as having the strongest management and governance processes. These findings suggest that these firms use the discretion provided by the SEC's disclosure rule to provide substantive and potentially value-relevant information for stakeholders about the entity's risk management processes and board risk oversight activities.

1. Introduction

One of the primary responsibilities of an entity's board of directors is to oversee strategic decisions made by management to ensure that risks associated with those decisions and related management actions do not exceed the appetite for risk taking among the entity's key stakeholders. Many principles-based governance frameworks emphasize the important role of the board of directors in risk oversight (COSO, 2004, 2010, 2013, 2017; ISO, 2018). And, over the past decade or so, a number of governance organizations have strengthened requirements and best-practice recommendations about processes used by boards to oversee organizational risk-taking (NYSE, 2019; SEC, 2009; Dodd-Frank, 2010; Standard & Poor's, 2012).

One of the most visible changes in governance requirements related to board risk oversight was instituted by the U.S. Securities and Exchange Commission (SEC) in December 2009 when the SEC introduced rules requiring proxy disclosures describing the board's role in risk oversight for all public companies whose securities are registered with the SEC (SEC, 2009). Those rules became effective for annual proxy statements issued after February 28, 2010. While the rule change required public companies to include new disclosures describing the board's role in risk oversight, the SEC allowed each entity to determine what would be disclosed. The SEC did not mandate the nature of activities or extent of information that must be disclosed, and they did not mandate any specific measures that boards must perform as part of their risk oversight responsibility.

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While there is an implied assumption by the SEC's decision that stakeholders may benefit from these new disclosures about the board's role in risk oversight, we are not aware of any empirical evidence as to whether there is any information relevance in the disclosures now being provided. Because the SEC's rules do not mandate any specific guidelines for what must be disclosed or how the board should engage in risk oversight, there is opportunity for sizable variation in the type of information disclosed by entities. Thus, despite the fact that the SEC apparently believed additional disclosures about the board's role in risk oversight warranted its mandate, it remains uncertain from a public policy perspective as to whether the discretion allowed has led to the disclosure of information about board risk oversight that sheds substantive insights about the effectiveness of the board's risk oversight practices. It is possible that the nature of activities and extent of information provided includes little, if any, useful information about the entity's risk governance.

Separate from this new proxy disclosure rule, some of the credit rating agencies have expanded their consideration of processes used by management and boards of directors in the oversight of strategy and risks for the organization as an input to their credit rating evaluations (Standard & Poor's, 2008). Based on the belief that the strategic competence, operational effectiveness, and the ability to shape an enterprise's competitiveness is important to capital markets participants and the entity's ultimate success, Standard and Poor's (S&P) announced in November 2012 that they would start including evaluations of an organization's "management and governance" as one of the factors they use internally to assess the enterprise's overall creditworthiness (S&P, 2012).

The S&P evaluation is based on consideration of 15 specific factors they believe are related to management and governance, with eight of those factors focused on management's engagement in risk management and strategy development and oversight and with seven additional factors focused on the board, including emphasis on the engagement of the board in risk oversight.[1] Ultimately, the assessment of all the information they separately obtain directly from the organization is used by S&P to arrive at an overall score for the entity's combined management and governance that is summarized by S&P into one of four possible management and governance capabilities: strong, satisfactory, fair, or weak.

S&P's evaluation of management and governance effectiveness represents a unique, independent assessment of the overall state of strategy and risk governance for the firm given that S&P has direct access to information not publicly available. While S&P would have access to the proxy disclosures, the information sources they use to make these evaluations are much more expansive and detailed. The importance of the ratings process gives S&P the ability to make a number of direct, targeted inquiries about specific management and board processes and they have access to documentation such as meeting agendas and minutes, which are typically obtained during onsite visits by S&P to the entity to observe management and boards first-hand. They also can subsequently request updates and follow-up on unresolved concerns with management after their visits. This access provides S&P a unique lens to observe and evaluate overall management and governance effectiveness using information most key stakeholders cannot obtain themselves.

It is important to note that this evaluation by S&P is not publicly available; instead, it is developed for S&P's internal consideration as part of the credit rating process.[2] We believe these independent evaluations made by S&P of an entity's management and governance effectiveness provide us a unique opportunity to examine whether the public disclosures in the proxy statement convey information about the effectiveness of the organization's risk management process, and the board's oversight of that process. The lack of an observable positive association between a higher S&P score and the information conveyed in the proxy disclosure might suggest that the disclosure policy is not providing substantive information useful to key stakeholders.

S&P management and governance scores for non-regulated entities are not publicly available to stakeholders. We were able to obtain access to the scores for 2015.[3] We use these scores to determine if boards that disclose more specific information (and also simply more information) about board risk oversight activities are positively associated with firms determined by S&P to have stronger overall management and governance activities. We rely on the S&P score to serve as a relevant benchmark against which we assess the information content of the proxy disclosures.

Based on a final sample of 243 public firms, we find that firms with higher S&P management and governance scores disclose more specific elements related to activities affecting the board's risk oversight capabilities than do firms with lower scores. We refer to this as providing more specific information about their risk oversight processes. Further analysis reveals that firms with the highest S&P management and governance scores (i.e., strong) also provide more extensive disclosures (based on word count) and they provide more specific information about particular board risk oversight processes (based on the number and types of board risk activities) to highlight higher quality board risk oversight. When we include both disclosure measures together, we observe that only our measure for the specificity of the disclosure is significant, which implies that this is the driver of the observed positive association. Our findings suggest that firms with the strongest assessed level of management and governance use the flexibility provided by the SEC's disclosure rules to provide more specific information about board risk oversight to distinguish themselves from firms with less effective management and governance. From a public policy perspective, our findings suggest that the SEC's decision to not dictate the specific items about board risk oversight to be disclosed actually provides an opportunity for more effective management and governance firms to share relevant

[1] Details about the 15 factors and S&P's evaluation techniques are discussed further in section three of the paper.

[2] While S&P has released similar evaluations for insurance entities, they have not made their management and governance scores available for organizations in all other non-regulated industry sectors outside of insurance. Furthermore, their evaluation process differs for insurance entities. Our sample excludes insurance companies.

[3] The scores were provided to the authors by S&P for research purposes with the condition that individual scores remain anonymous. S&P only provided access to 2015; scores for other years were not made available to us.

information to stakeholders in a way that is different from firms with less robust board risk oversight. Thus, stakeholders may find substantive information content in the specifics provided about board risk oversight in the annual proxy statements to shareholders.

Our research contributes to the risk management literature by examining required disclosures concerning the board's oversight of risk by quantifying elements of the proxy disclosures and comparing them to contemporaneous independent, private rankings about management and governance, while controlling for the riskiness of the firm. This should provide evidence for stakeholders, including the SEC, to determine if the disclosure rules about board risk oversight are providing useful information.

2. Increasing focus on board risk oversight

To assist entity leaders – both management and boards – in determining what might constitute an effective enterprise risk management process, COSO issued in 2004 its *Enterprise Risk Management–Integrated Framework* to provide guidance about the key elements of an effective, top-down, enterprise-wide approach to risk management, which they revised in 2017 and retitled *Enterprise Risk Management: Integrating with Strategy and Performance*. In both editions of their framework, COSO emphasizes the important role of the board in risk oversight. In fact, the board's role in risk oversight is the first of twenty core principles that comprise effective enterprise risk management as noted in the 2017 revision:

> *An entity's board of directors plays an important role in governance and significantly influences enterprise risk management.*" *(*COSO 2017, p. 27*).*

Other organizations have issued similar frameworks, such as ISO 31000–*Risk Management Framework*, the United Kingdom's *Corporate Governance Code*, and Australia/New Zealand's 4360 *Risk Management*[4] standard. These frameworks emphasize the important leadership role of the board of directors and senior management in successfully implementing a robust risk management process (ISO, 2018; UK, 2012; AS/NZS, 2009). Beasley et al. (2019) find in large surveys of organizations (mostly U. S.), boards of directors are cited as one of the most common factors increasing senior executive focus on risk oversight, with the largest organizations especially emphasizing the board's influence.

3. Evaluations of management and governance effectiveness

In 2008, credit rating agencies, such as S&P, began to announce expanded consideration of the processes used by management and the board in the oversight of risks for organizations as a component of their credit rating evaluations for those in non-regulated industries (S&P, 2008).[5]

According to S&P, *"The term 'management and governance' encompasses the broad range of oversight and direction conducted by an enterprise's owners, board representatives, executives, and functional managers. Their strategic competence, operational effectiveness, and ability to manage risks shape an enterprise's competitiveness in the marketplace and credit profile. If an enterprise has the ability to manage important strategic and operating risks, then its management plays a positive role in determining its operational success. Alternatively, weak management with a flawed operating strategy or an inability to execute its business plan effectively is likely to substantially weaken an enterprise's credit profile*" (S&P, 2012).

S&P evaluates an entity's "management and governance" using a 15-factor model that consists of eight factors related to "management" and seven factors related to "governance." The comprehensiveness of the organization's enterprise-wide risk management techniques and the board's overall oversight effectiveness are sub-components of S&P's ratings evaluation. The eight management factors center on S&P's assessment of management's strategic positioning, risk management/financial management, and organizational effectiveness. S&P scores each of these eight factors separately as either positive, neutral, or negative. One of these eight management factors focuses explicitly on the entity's risk management. For that factor, S&P evaluates the entity's *"comprehensiveness of enterprise-wide risk management standards and tolerances.*" S&P assesses that component positively if it concludes, based on their private discussions with the management team, that *"management has successfully instituted comprehensive policies that effectively identify, monitor, select, and mitigate key risks and has articulated tolerances to key stakeholders.*"

The seven governance factors focus on the board's effectiveness. These seven factors may only be scored as neutral or negative. S&P views strong governance as important, but it cannot overcome a weak business profile, hence, the lack of positive scores for these seven factors. Two of the seven factors focus on the board's risk oversight capabilities. Specifically, those two factors assess whether (1) *"The board maintains sufficient independence from management to provide effective oversight of it. The board retains control as the final decision-making authority with respect to key enterprise risks, compensation, and/or conflicts of interest*" and (2) *"Management and the board of directors have professional, independent members who are capably engaged in*

[4] Originally issued in 1995 and revised in 2004 by the Standards New Zealand, the joint Australian/New Zealand Committee decided to not revise it in 2009 and instead promote the ISO 31000-*Risk Management* standard.

[5] S&P uses a different process to separately score "management and governance" factors for insurance entities and those scores are publicly available. However, when S&P began evaluation of "management and governance" for all other non-insurance corporate entities in 2012, they chose at that time to not make those assessments publicly available. This paper examines "management and governance" scores for non-insurance corporate entities we obtained privately from S&P.

risk oversight on behalf of all stakeholders, including minority interests. The influence of controlling shareholders is offset by risk-aware professional management and a board that effectively serves the interests of all stakeholders" (S&P, 2012).

S&P uses its evaluations of these 15 factors to arrive at an overall management and governance score[6] that is either strong, satisfactory, fair, or weak. That score then becomes an input to S&P's overall credit rating assessment. To earn a strong rating at least five of the eight management factors must be positive, none can be rated as negative, and no negative governance factors can be present. A satisfactory rating requires that at least three of the eight management factors be positive, none can be rated as negative, and no negative governance factors can be present. A fair rating is awarded when the combination of ratings on each factor is not covered by one of the other three categories (i.e., strong, satisfactory, or weak), or any governance factors are rated as negative. Finally, a weak rating is assigned when five or more of the management factors are negative or when any governance deficiencies are considered severe (when any negative governance factor alone or in combination with other factors impairs the ability of the enterprise to execute strategy or manage its risks).

These evaluations of an entity's management and governance effectiveness are based on S&P's ability to make direct, targeted inquiries about specific management and board processes and their ability to gain private access to detailed information provided by management and the board not available to stakeholders. Typically, these evaluations are based on onsite visits by S&P representatives to the entity to observe management and boards first-hand or to obtain access to documentation of their management and governance processes such as meeting agendas and minutes, strategic plans and top risk reports. While S&P acknowledges that public disclosures (including the proxy statement) are reviewed as part of their overall ratings evaluation, private conversations between the author team and an S&P representative provide assurance that the board risk oversight disclosure would represent only a minor input into S&P's scoring procedures. This access provides S&P a unique lens to independently observe and evaluate overall management and governance effectiveness using information most key stakeholders do not have the ability to gather.

4. Information relevance of proxy disclosures

Prior literature has identified certain characteristics of management and boards as being related to the implementation of more effective enterprise-wide risk management (hereinafter referred to as ERM). Liebenberg and Hoyt (2003) first attempted to identify the determinants of the ERM adoption finding the appointment of a Chief Risk Officer (CRO), charged with the responsibility of implementing and managing the ERM program, as a mechanism to reduce information asymmetry regarding the firm's current and expected risk profile. Supporting prior results, Beasley et al. (2005) found that the presence of a CRO and the CEO/CFO support for ERM are positively associated with the implementation of ERM.

Kleffner et al. (2003) found that many Canadian companies adopting ERM cited support from the board of directors as a main driver of the ERM adoption. Later, Desender (2007) identified that board composition is related to the degree of enterprise risk management implementation, while Brown et al. (2009) provided evidence of the relationship between corporate governance structure and risk management in high technology firms. Moreover, Gordon et al. (2009) documented that board monitoring is an important factor positively contributing to the relationship between ERM and firm performance. Baxter et al. (2013) found a positive association of better corporate governance, the presence of risk officers/committees and longer board tenure with higher ERM quality (higher ERM quality was determined based on S&P ratings for financial services companies). They also found that ERM quality is positively associated with operating performance and that information contained in ERM quality ratings was used by investors during the crisis period to identify companies more likely to rebound. More recently, Beasley et al. (2015) provides insights about board of director and senior management internal processes which are associated with more mature ERM programs and the usefulness of ERM as a strategic tool for competitive advantage.

While not directly related to proxy disclosures, Campbell et al. (2014) find that required disclosure of risk factors in 10-K reports provide information content to users. In addition, while investigating ERM integration in corporate governance, Florio and Leoni (2017) find that Italian listed companies with sophisticated ERM are more highly valued by market participants and Panfilo (2019), in the same context, found that corporate governance and risk characteristics affect a formal instead of a substantive disclosure (required for Italian firms) on ERM, also depending on companies' years of experience in ERM integration.

Most prior research that is focused on drivers of ERM measure limited observable general characteristics about the overall board, such as its composition and the tenure of its members. Until the SEC issued its proxy disclosure rule (effective in 2010), information about board processes and activities specific to the board's risk oversight was not publicly available.

Detractors of the proxy disclosures argue that the disclosure may not provide relevant information to key stakeholders for several reasons. First, given the lack of any mandate for what specific aspects of board risk oversight should be performed or disclosed, firms may simply be providing disclosures that are uninformative with respect to the actual risk oversight that the board provides. Second, many companies may be merely providing generic boilerplate disclosures without specifics or details. Third, risk oversight by the board may not provide any substantive benefit impacting the overall management and governance of the entity. Some argue that given the board is not involved in the day-to-day risk management process,

[6] Additional details about the 15 factors and S&P's evaluation techniques are described in Standard and Poor's, 2012. *Methodology: Management and Governance Credit Factors for Corporate Entities and Insurers,* S&P, New York.

there is little substantive value to their oversight of risk management activities implemented by management. For this reason, it is important to examine if proxy disclosures about the board's role in risk oversight have any substantive information that is associated with unobservable (at least publicly unavailable) management and governance practices within the organization.

From a theoretical point of view, a comparative approach may help to answer the research question. Therefore, we use institutional, agency and signaling theories to interpret our results.

Institutional theory, developed in the sociology of organizations and organizational behavior literatures, suggests that in the presence of emerging expectations, regulations, and conceptual frameworks, a number of organizations may feel pressure to disclose that they have embraced and implemented effective board risk oversight processes so that their organizations are in line with basic external expectations about board risk oversight (Powell, 1991; Cohen et al., 2008). In such a way, companies may implement minimal board risk oversight elements to be compliant with external expectations, but the board would fail to substantively adopt specific and robust key elements of what would be deemed as effective enterprise-wide risk oversight (Beasley et al., 2015). Thus, institutional theory would predict a lack of variation in board risk oversight disclosures among firms, suggesting there is little, if any, unique information content for stakeholders in a particular firm. That is, institutional theory would suggest that board risk oversight information contained in the proxy is unrelated to the effectiveness of the entity's management and governance processes.

In contrast, agency and signaling theories (Jensen and Meckling, 1976; Spence, 1973) would explain variations among companies' risk oversight practices and disclosures. Specifically, these theories would suggest a positive relation between the board's role in risk oversight disclosure and more effective overall management and governance processes within the firm.

Agency theory proposes that the interests of managers diverge from those of the owners (Jensen and Meckling, 1976). It also argues the board serves in an important governance role by monitoring and overseeing management's actions to ensure those actions are aligned with shareholder interests (Fama and Jensen, 1983) and to improve accountability (O'Sullivan, 2000). Consistent with this agency theory perspective of the importance of the board's role in governance, many studies show boards are a key driver of enterprise risk management (ERM) implementation. For instance, Beasley et al. (2005) found that the stage of ERM implementation is increasing as the independence of the board of directors is greater, and Beasley et al. (2015) found that boards are engaging in processes to advance the maturity of the organization's oversight of risk-taking by management.

Boards have responsibility for risk oversight, and the implementation of an ERM system provides a corporate control mechanism for reducing information asymmetry (O'Sullivan, 2000; Heap, 2008) and for fostering higher levels of disclosure (Oliveira et al., 2011a). Such corporate control mechanisms indeed help to monitor the attitudes of managers towards risk and to assure appropriate flows of risk reporting information (Linsley and Shrives, 2003). Therefore, any association between disclosures about board risk oversight processes in the annual proxy statement and S&P's independent assessments of an entity's management and governance effectiveness would suggest that the board risk oversight disclosure contains relevant information for key stakeholders to use when assessing the organization's management and governance effectiveness.

Information asymmetry also underpins signaling theory (Spence, 1973), mostly used to explain voluntary disclosures publicly released by firms. Such a theory rationalizes wider voluntary reporting to capital markets (Elshandidy et al., 2013). That is, managers in well performing companies will use voluntary disclosure in this context to signal their embrace of risk management best practices, thereby promoting transparency and attracting more investment (Merkl-Davies and Brennan, 2007; Oliveira et al., 2011b). Thus, risk and risk oversight disclosures may be used by boards both to signal their entity's good performance and to increase their legitimacy (Oliveira et al., 2011b). Therefore, according to signaling theory – and in line with an agency view – it is expected that a positive association will exist between S&P's independently determined score and the nature of activities and extent of information disclosed about board risk oversight processes, after controlling for differences in the overall riskiness of the firms as proxied by firm size, leverage, the volatility of firm earnings, market risk (beta), and historical returns.

Our paper explores the following research question:

RQ: *Is the nature of activities and extent of required SEC proxy disclosures about the board's role in risk oversight positively associated with organizations with higher levels of management and governance effectiveness?*

5. Methodology

We use the privately determined S&P overall management and governance score to evaluate whether there is any substantive information content in the proxy disclosures about the board's role in risk oversight. We examine whether there is a positive association between the nature of activities and extent of board risk oversight disclosures that are provided publicly by the entity in the proxy statement with S&P's management and governance score.

We obtained access to the final S&P management and governance scores for 2073 U.S. non-insurance firms evaluated by S&P through October 2015. The ratings provided to us were for both public and private firms that issued debt during the ratings period. Our need for financial statement data decreased our sample to 668 public firms with a management and governance score, which are at one of four levels: strong, satisfactory, fair, or weak.

Table 1
Sample Construction.

Panel A: Exclusions

	Strong	Satisfactory	Fair	Weak	Totals
All S&P Firms with Scores	280	1297	2306	60	3943
Less: Non-US Firms	(159)	(799)	(879)	(33)	(1870)
All US S&P Firms with Scores	121	498	1427	27	2073
Less: Missing Compustat Data	(40)	(221)	(1124)	(20)	(1405)
Available for Industry/Size Match	81	277	303	7	668
Less: Unmatched Companies		(196)	(222)	(7)	(425)
Final Sample	81	81	81	0	243

Panel B: Industry Representation in Sample

Global Industry Classification	S&P Management and Governance Rating		
	Strong	Satisfactory	Fair
10 – Energy	4	4	4
15 - Materials	6	6	6
20 – Industrials	22	22	22
25 – Consumer Discretionary	10	10	10
30 – Consumer Staples	5	5	5
35 – Health Care	6	6	6
40 – Financials	4	4	4
45 – Information Technology	10	10	10
50 – Communication Services	3	3	3
55 – Utilities	4	4	4
60 – Real Estate	7	7	7
Totals	81	81	81

Panel C: Mean (median) firm size by Industry and S&P Rating

Global Industry Classification	S&P Management and Governance Rating		
	Strong	Satisfactory	Fair
10 – Energy	11.153+++	9.707##	7.716
	(10.845)	(9.516)	(7.157)
15 - Materials	9.513+++	10.043###	7.468
	(9.610)	(10.150)	(7.577)
20 – Industrials	10.129+++	9.803###	7.790
	(10.054)	(9.471)	(7.584)
25 – Consumer Discretionary	9.890+++	10.207###	8.107
	(9.879)	(9.904)	(8.360)
30 – Consumer Staples	10.680+	9.539	8.896
	(10.431)	(9.212)	(8.383)
35 – Health Care	11.257*, ++	10.211	10.031
	(11.152)	(10.606)	(10.002)
40 – Financials	9.788	10.427	7.760
	(9.432)	(10.319)	(8.030)
45 – Information Technology	10.971+++	10.503###	8.291
	(11.189)	(10.236)	(8.196)
50 – Communication Services	11.502	10.302	8.170
	(12.023)	(10.802)	(7.280)
55 – Utilities	10.235	9.868	10.063
	(10.450)	(9.965)	(10.090)
60 – Real Estate	9.837++	9.714##	8.670
	(9.819)	(9.949)	(8.454)

*,**,*** The Dwass, Steel, Critchlow-Fligner (DSCF) test indicates that there is a significant difference in values between the Strong and Satisfactory groups indicated at the p < .01 = ***, p < .05 = **, and p < .10 = * (two-tailed test).
+,++,+++ The Dwass, Steel, Critchlow-Fligner (DSCF) test indicates that there is a significant difference in values between the Strong and Fair groups indicated at the p < .01 = +++, p < .05 = ++, and p < .10 = + (two-tailed test).
#,##,### The Dwass, Steel, Critchlow-Fligner (DSCF) test indicates that there is a significant difference in values between the Satisfactory and Fair groups indicated at the p < .01 = ###, p < .05 = ##, and p < .10 = # (two-tailed test).
Firm size is calculated as the natural log of 2015 fiscal-year-end total assets.

In Panel A of Table 1 we show how the sample was reduced to the 243 firms we study after eliminating non-US firms and those with missing financial data required for our control variables. From the 668 firms with available data we matched first on GIC sector and then on size (natural log of total assets). We provide additional discussion below on these matching pro-

cedures.[7] We first identified the 81 firms with available data that were rated as strong by S&P. We then selected 81 firms scored as satisfactory and 81 firms scored as fair based on Global Industry Classification (GIC) membership so that the same number of firms are in each of the three categories for a given industry classification in order to control for industry effects. We also selected firms to match as closely as possible based on size in each S&P category within each industry classification (after matching on industry) to minimize variation in firm size.

In Panel B of Table 1 we show that the selected sample firms represent all eleven GIC industries. We were able to successfully select an equal number of firms from each industry across the three S&P score categories we utilize, thereby removing any differences due to industry between the three S&P score categories. While there is an equal number of firms for each S&P score category within a given industry, there is variation across industries in the total sample, with approximately 27 percent of each S&P score category comprised of firms from GIC sector 20 (Industrials). The firms that were chosen for the satisfactory and fair final samples (81 each) were the *largest firms* within the specific GIC sector we matched on. For example, in GIC sector 25 (Consumer Discretionary), there were ten firms rated strong. We then selected the ten largest firms rated satisfactory and the ten largest firms rated fair within GIC 25. We chose this approach to minimize size differences within the GIC sectors and across the three ratings categories after noticing the size differences in the 661 available firm sample.[8]

For the 661 firms, the size differences based on the natural log of total assets (in millions of USD) were as follows: strong (10.34); satisfactory (9.17); and fair (8.06). After eliminating smaller firms in the satisfactory and fair samples to reach the target number in each GIC sector, the size differences are as follows: strong (10.34); satisfactory (10.01); and fair (8.30). Hence, the size match is insufficient given that the average strong firm is approximately 25 percent (24.6%) larger (based on natural logs) than the average fair firm (among the 243 firms). Similarly, the average satisfactory firm is approximately 20 percent (20.6%) larger than the average fair sample firm. As discussed below, however, these differences are less magnified within some specific GIC sectors.

In Panel C of Table 1 we provide information about firm size (natural log of total assets at fiscal year-end 2015) by GIC sector and S&P score. While we were able to match firms in the strong and satisfactory categories closely, based on size, we unfortunately observe for most GIC sectors that firms in the fair category are smaller than those in the strong and satisfactory category. In all but one industry (Health Care), there is no significant difference in size between firms rated strong and those rated satisfactory. However, there are only three industries (Financials, Communication Services, and Utilities) where no significant size difference exists across the three categories (as discussed later in the paper, we use this subsample to conduct supplemental analyses). Thus, while we were able to successfully match across industries, we were unable to select firms rated as fair that were as large, on average, as those firms in the two other S&P score categories.[9] As a result, we include size as one of the variables in our models to help control for differences in firm sizes across the three S&P ratings categories.

In order to assess the information content in proxy disclosures about board risk oversight, we reviewed principles-based risk management frameworks and board risk oversight best practices guidance issued by governance thought leaders including COSO, ISO, and NACD to identify key activities relevant to the board's discharge of its risk oversight responsibility. We identified five categories of board activities deemed to be important to board risk oversight. Within these five categories of activities we identified 11 specific board risk oversight elements that are considered best practices. Using hand-collected data we obtained from the proxy disclosures, we assign a value equal to one if the organization reports that it is engaged in that element and a value equal to zero otherwise. We believe our hand-collected measure reflects specific best practices for enterprise-wide risk oversight principles articulated by widely recognized thought leaders (COSO 2004, 2010, 2017; ISO, 2018; NACD 2009, 2018). A discussion of the five categories of activities and the 11 elements follows.

Board Acknowledgement of Risk Oversight Responsibility: We first focused on whether the board of directors explicitly recognizes in the proxy disclosure that it has an overall governance responsibility related to risk oversight. We identified two specific elements to represent their awareness of board risk oversight responsibilities. First, we determine if there is an explicit acknowledgment by the board that it is responsible for the risk oversight of the firm and capture that measure as *BdAckRespon*. Second, we create a measure (*BdDelegates*) that captures whether the board has assigned explicit responsibility for risk oversight to one of its board committees for more detailed monitoring and review of the firms' risk management processes.

Board Recognition of Management Responsibilities for Risk Oversight. While the board has overall risk oversight responsibilities, principles-based risk management frameworks and governance best practices documents emphasize that it is management's job to design and implement specific risk management procedures to actually manage the risks affecting the firm. We identified three specific measures that reflect board recognition of management's primary role related to risk management. We first measure whether the proxy disclosure mentions a specific member of management (such as a chief risk officer or equivalent) as having the lead responsibility for the risk management process (we record that as *MgtLdr*). We then measure (recorded as *MgtRkComm*) whether the disclosure states that management has formed a management-level risk committee to oversee the enterprise-wide risk management processes. Finally, we measure whether the proxy discusses the assignment of risks to risk owners within the management team for managing specific risks (recorded as *RiskOwners*).

[7] Due to the inability to find suitable matches based on size and industry for the seven firms scored by S&P as weak we excluded those firms from our final sample.

[8] As noted previously, we eliminated from the sample the seven firms available with a rating of weak.

[9] As we discuss further in the next section of the paper, there is no statistically significant size difference between our overall sample of firms rated strong and those rated satisfactory. However, sample firms rated as fair are smaller ($p < .01$) than firms rated either as strong or as satisfactory by S&P.

Board Receipt and Review of Information about Top Risks. In order for the board to be effective in risk oversight, it must both receive and review information provided by management about the top risks identified by the entity's risk management process. We have two measures related to this key activity. First, we capture whether the proxy disclosure states that the board receives a report from management about the top risks facing the organization (recorded as *ReportTopRk*). We also measure whether the proxy acknowledges whether this reporting is conducted at least annually and measure that in the variable, *ReportsAnnually*.

Board Recognition of Integration of Risk Oversight with Strategic Governance. Ultimately, the organization's efforts related to identifying and managing risks is intended to help management and the board use that risk information for strategic decision making and value creation. However, while most understand that an entity must be willing to take risks to generate desired returns, organizations often struggle to integrate their risk management efforts with their strategic planning and value creation efforts. In fact, Beasley et al. (2019) finds that only 42 percent of public companies extensively consider risk exposures when evaluating possible new strategic initiatives and only 17 percent believe their organization's risk management processes provide "mostly" to "extensively" a strategic advantage. We capture two elements of board risk oversight disclosures that reflect the board's understanding of the importance of connecting risk oversight and strategic governance. We first measure whether the proxy states that the risk management process considers "strategic risks" as one of the types of risks that management monitors (recorded as *StratRisks*). We also capture whether the proxy states if the risk management process is used as an input to the strategic planning process (recorded as *StratPlan*).

Board Consideration of the Importance of the Overall Risk Mindset. Most of the principles-based risk management frameworks and board governance best practices guidance emphasize the importance of the overall tone at the top related to the emphasis placed on effective risk management and oversight throughout the firm. We measure this in two ways. First, we determine whether the proxy statement mentions the board's consideration of "risk culture" in some way and capture that as *RiskCulture*. Then, we measure whether the proxy statement states that the board is involved in setting or overseeing the entity's overall risk appetite (*RiskAppetite*).

We used these eleven elements to develop an overall measure of the comprehensiveness of the board's risk oversight (*BdRiskActivities)* by summing the individual measures for each of the eleven elements. In Table 2 we provide more detailed descriptions of each of these variables along with descriptions of the five control variables that are also utilized to control for variation in firm size and other risk characteristics.

To develop the measures, we obtained the relevant section of the proxy that discusses the board's role in risk oversight for each of the 243 firms in our sample. Each proxy was analyzed independently by two members of the author team to obtain hand-collected measures for each of the eleven board risk oversight components. The two readers then met to agree on a final score. While there was substantial agreement, in those instances in which there were differences the proxy was reread at that time and an agreed upon score was determined, in many cases with the added perspective from a third member of the author team.

Using these proxy disclosure scores for each of the eleven board risk oversight elements, we first create an overall ERM score (*BdRiskActivities*) by summing the number of the 11 elements disclosed by the firm in the proxy. Thus, *BdRiskActivities* ranges from 0 to 11. A higher score for *BdRiskActivities* represents those firms with more information disclosed about specific risk management activities and board risk oversight practices. We use *BdRiskActivities* to then examine the association between the extent of board risk oversight processes and the S&P score. The dependent variable, *S&PSCORE*, is assigned a value of 3, if the S&P score is strong; 2, if the S&P score is satisfactory; and 1, if the S&P score is fair. A strong positive association between the publicly available board risk oversight disclosures and S&P's separately determined management and governance scores would suggest that there is information relevance in the content disclosed about board risk oversight in the public proxy disclosures, consistent with agency and signaling theories. A lack of association may suggest little information value in the public disclosures as compared to other information privately shared by the firm with S&P, consistent with institutional theory. Because the nature of the riskiness of the firm may impact both the strength of the board's risk oversight and S&P's management and governance score, we control for the riskiness of the firm by including five additional variables – firm size, leverage, the volatility of firm earnings, market risk (beta), and historical returns. Our primary analyses use both multinomial and binomial logistic regression models and the following set of variables:

$$S\&PSCORE = \beta_0 + \beta_1 BdRiskActivities + \beta_2 Size + \beta_3 Leverage + \beta_4 EarningsVol + \beta_5 Beta + \beta_6 Returns + \varepsilon$$

We also substitute *BdRiskDisclosureVol* (the natural log of word count in the risk oversight proxy disclosure) for *BdRiskActivities* in the regression above to explore whether the mere length of the disclosure is associated with the S&P score. We do this to explore whether firms with more robust risk oversight processes may have more to say (and thus provide a longer narrative) about those procedures in the required proxy disclosure. In addition, we include both measures in additional regressions to explore whether there are any incremental effects associated with one of the two disclosure measures when controlling for the alternative. Finally, we substitute our five separate categories of risk management and oversight characteristics for *BdRiskActivities* to see which characteristics, if any, are individually associated with the S&P score. These characteristics are *BdOwns*, *MgtLeads*, *RiskReports*, *Strategic*, and *Mindset*.[10]

[10] All of our analyses were rerun with a reduced sample omitting 4 financial services (GIC 40) and 4 utilities (GIC 55) from each of the three S&P categories. All results based on this smaller sample are equivalent to those discussed in the next section.

Table 2
Variable Definitions.

Dependent Variable:	
S&PSCORE	3, if S&P management and governance rating is strong; 2, if satisfactory; 1, if fair.
Independent Variables of Interest	
BdRiskActivities	Sum of the number of the 11 board risk oversight elements disclosed by that firm in the proxy. *BdRiskActivities* can range from 0 to 11.
BdRiskDisclosureVol	Natural log of word count in the board risk oversight portion of the proxy disclosure.
Subcomponents of Independent Variable of Interest – BdRiskActivities	
Board Acknowledgement of Risk Oversight Responsibility (BdOwns):	
BdAckRespon	1 if proxy states that the board is responsible for the risk oversight of the firm, 0 otherwise.
BdDelegates	1 if proxy states that the board has delegated responsibility for oversight of risk management (or risk oversight) to a board level committee (e.g., audit committee, risk committee, etc.), 0 otherwise.
Board Recognition of Management Responsibility for Risk Management (MgtLeads):	
MgtLdr	1 if proxy states that a specific member (or title) of management has the responsibility for leading the risk management process, 0 otherwise.
MgtRkComm	1 if proxy states that management has established a management-level risk committee, 0 otherwise.
RiskOwners	1 if proxy states that there is an assignment of risk owners among management to manage specific risks, 0 otherwise.
Board Receipt and Review of Information about Top Risks (RiskReports):	
ReportTopRk	1 if the proxy states that the board receives a report from management of the top risks, 0 otherwise.
ReportsAnnually	1 if the proxy states that the frequency of report of top risks to the board occurs at least annually, 0 otherwise.
Board Recognition of Integration of Risk Oversight with Strategic Governance (Strategic):	
StratRisks	1 if proxy states that the ERM process considers "strategic risks" as one of the types of risks it monitors, 0 otherwise.
StratPlan	1 if proxy states that the risk management process is used, integrated, or an input to the strategic planning process (or strategic focus of the firm), 0 otherwise.
Board Consideration of Importance of Overall Risk Mindset (Mindset):	
RiskCulture	1 if proxy states that there is a consideration of "risk culture" in some way, 0 otherwise.
RiskAppetite	1 if proxy states that the board is involved in setting/overseeing risk appetite, 0 otherwise.
Control Variables	
Size	Natural log of 2015 fiscal-year-end total assets.
Leverage	2015 fiscal-year-end Book Value of Debt / 2015 fiscal-year-end total assets.
EarningsVol	Standard Deviation of 2011–2015 quarterly EPS from operations.
BETA	Firm's coefficient loading on the market excess return ending 4/1/2016
Returns	12 month stock return starting on 04/01/2015 and ending on 3/31/2016

6. Key findings

We provide in Table 3 descriptive statistics for the overall risk oversight measures (*BdRiskActivities* and *BdRiskDisclosureVol)*, each of the 11 components of *BdRiskActivities*, and the control variables. Results are shown separately for the 81 firms within each of the three S&P management and governance categories: strong, satisfactory, and fair. On average, firms with strong management and governance scores disclose 4.62 of the 11 board risk oversight elements in their proxy statements as compared to satisfactory firms with 3.54 elements and firms rated fair with 3.63 elements. We employ the non-parametric Kruskal – Wallace (KW) test on the Wilcoxon rank-sum scores to determine whether there is a significant difference in mean scores across the three S&P groups. We also use the Dwass, Steel, Critchlow-Fligner (DSCF) method for pairwise comparisons between groups. The KW test for *BdRiskActivities* indicates a significant difference ($p < .01$) across the three groups. The DSCF method indicates a significant difference in values ($p < .01$) between the firms rated strong and *both* the satisfactory and fair groups. No significant difference is found between the satisfactory and fair groups for *BdRiskActivities*.

For the alternative measure, *BdRiskDisclosureVol,* we find a significant difference ($p < .10$) across groups and a likewise modest difference (also $p < .10$) between the satisfactory and strong groups. No other pairwise comparisons were significant for this disclosure measure. We also examine each of the eleven elements of board risk oversight to determine if any specific board risk oversight activity is noticeably different between firms across the three categories. Only four of the eleven individual elements are found to be significantly different (at the $p < .01$ level for all but *RiskOwners* ($p < .05$)) across the three groups. These are *MgtRkComm, RiskOwners, ReportTopRk,* and *ReportsAnnually*. For each of these four there is a significant difference (at $p < .01$ for the second pair and at $p < .05$ for both *MgtRkComm* and *RiskOwners*) between the strong and fair groups of firms and for *MgtRskComm* and *ReportTopRk* there is also a significant difference ($p < .01$ for *ReportTopRk* and $p < .10$ for *MgtRskComm*) in values between the strong and satisfactory groups. No other three-way or pair-wise comparisons yield significant differences.

Firms with higher management and governance scores are likely to include information in the proxy statement that the entity has created a management-level risk committee and they are significantly more likely to include discussion about the assignment of risk owners at the management level who are responsible for managing specific risks. Over 28 percent of strong management and governance firms have management-level risk committees as compared to only 14 percent of firms with satisfactory scores and 11 percent for those firms with fair ratings. Similarly, 17 percent of the strong management and

Table 3
Summary Statistics and Sample Comparisons.

	Strong Firms (n = 81)		Satisfactory Firms (n = 81)		Fair Firms (n = 81)		Kruskal - Wallace	DSCF Strong v. Satisfactory	DSCF Strong v. Fair	DSCF Satisfactory v. Fair
	Mean	Median	Mean	Median	Mean	Median				
Variables of Interest: Overall Board Risk Oversight Measures										
BdRiskActivities	4.62	4.00	3.54	3.00	3.63	3.00	YES***	YES***	YES***	NO
BdRiskDisclosureVol	5.822	5.872	5.626	5.638	5.652	5.653	YES*	YES*	NO	NO
Variables of Interest: Measures about Specific Elements of Board Risk Oversight										
Board Acknowledgement of Risk Oversight Responsibility										
BdAckRespon	0.938	1.00	0.877	1.00	0.889	1.00	NO	NO	NO	NO
BdDelegates	0.531	1.00	0.469	0.00	0.482	0.00	NO	NO	NO	NO
Board Recognition of Management Responsibility for Risk Management										
MgtLdr	0.210	0.00	0.185	0.00	0.136	0.00	NO	NO	NO	NO
MgtRkComm	0.284	0.00	0.136	0.00	0.111	0.00	YES***	YES*	YES**	NO
RiskOwners	0.173	0.00	0.086	0.00	0.049	0.00	YES**	NO	YES**	NO
Board Receipt and Review of Information about Top Risks										
ReportTopRk	0.716	1.00	0.457	0.00	0.482	0.00	YES***	YES***	YES***	NO
ReportsAnnually	0.543	1.00	0.383	0.00	0.284	0.00	YES***	NO	YES***	NO
Board Recognition of Integration of Risk Oversight with Strategic Governance										
StratRisks	0.556	1.00	0.494	0.00	0.531	1.00	NO	NO	NO	NO
StratPlanning	0.457	0.00	0.309	0.00	0.444	0.00	NO	NO	NO	NO
Board Consideration of Importance of Overall Risk Mindset										
RiskCulture	0.025	0.00	0.037	0.00	0.062	0.00	NO	NO	NO	NO
RiskAppetite	0.074	0.00	0.086	0.00	0.099	0.00	NO	NO	NO	NO
Control Variables										
Size	10.340	10.259	10.011	9.853	8.299	8.217	YES***	NO	YES***	YES***
Leverage	0.266	0.249	0.316	0.310	0.412	0.369	YES***	YES*	YES***	YES*
EarningsVol	0.386	0.221	0.379	0.236	0.525	0.247	NO	NO	NO	NO
Beta	0.945	0.948	0.976	1.001	1.181	1.050	YES***	NO	YES***	YES**
Returns	0.116	0.089	0.146	0.148	0.048	0.066	YES*	NO	NO	YES*

Variable definitions are in Table 2.
The Kruskal – Wallace test indicates that there is a significant difference between mean values across the three S&P groups.
The Dwass, Steel, Critchlow-Fligner (DSCF) test indicates that there is a significant difference in mean values between the pair of S&P groups indicated.
Significance is indicated as follows: $p < .01$ = ***, $p < .05$ = **, and $p < .10$ = * (all significance tests are two-tailed).

governance firms include discussion in the proxy statement about the assignment of risk owners to manage specific risks as compared to only 9 percent of firms with satisfactory scores, and 5 percent of firms rated fair.

Boards of directors for firms with strong management and governance are significantly more likely to receive a report from management about top risk exposures than boards of firms with either satisfactory or fair ratings. Over 71 percent of strong management and governance firms' boards receive those reports as compared to only 46 percent of boards of firms rated satisfactory, and 48 percent of firms rated fair by S&P. Boards of strong management and governance firms are also more likely to receive reports on an annual basis compared to boards of firms rated fair. Fifty-four percent (54%) of firms with strong management and governance receive risk information at least annually compared to 38 percent of firms with satisfactory scores and 28 percent for firms with an S&P rating of fair.

In Table 3 we also show that firms rated fair are significantly smaller than firms in the strong and satisfactory score categories, despite our best efforts at matching across groups. There are also statistically significant differences across groups based on leverage and market risk (all at $p < .01$). In addition, there is a modest difference ($p < .10$) across groups for the variable measuring 12-month equity market returns (*Returns*). These differences in firm financial and market characteristics suggest that it is important to control for these factors when examining whether there are differences in disclosures about board risk oversight between strong management and governance firms and firms with satisfactory or fair management and governance ratings.

We employed multivariate logit analysis (both multinomial and binomial logistic regression) to control for these observed firm differences in our test of association between board risk oversight and S&P's management and governance evaluations. In Tables 4 and 5 we provide the results of the logit analyses we use to investigate our research question.

In Table 4 we provide the results of the multinomial logistic regression that includes all three levels of the dependent variable, *S&PScore*. In Table 5 (Panels A, B, and C) we provide the results of the binomial logistic regressions that compare only two levels at one time. In Panel A of Table 5 we report the comparison between the strong and satisfactory firms, in Panel B we report the comparison between the strong and fair firms, and in Panel C we report the comparison between firms rated satisfactory and fair.

Results from our first analysis of the association of board risk oversight and the management and governance evaluations are provided in Column 1 of Table 4. These results reveal that there is a significant positive association ($p < .05$) between extent of board risk oversight elements disclosed in the proxy statement (measured by *BdRiskActivities*) and the receipt of a higher management and governance score from S&P. Firms that provide more information about specific risk management activities related to board risk oversight in the proxy statement are more likely to have received a higher management and

Table 4
Multinomial Logistic Regression of Board Risk Oversight Disclosures. $S\&PSCORE = \beta_0 + \beta_1\ VOI + \beta_2\ Size + \beta_3\ Leverage + \beta_4\ EarningsVol + \beta_5\ Beta + \beta_6\ Returns + \varepsilon$.

Variable	Column 1 Main Model Total of 11 Board Risk Oversight Elements	Column 2 Main Model Total of Words in Board Risk Oversight Disclosures	Column 3 Main Model with both VOIs
Constant (1)	6.569***	7.231***	6.397***
	(1.319)	(1.873)	(1.943)
Constant (2)	8.600***	9.249***	8.429***
	(1.373)	(1.913)	(1.979)
Variables of Interest (VOI)			
BdRiskActivities	0.130**		0.131*
	(0.075)		(0.087)
BdRiskDisclosureVol		0.183	0.012
		(0.240)	(0.272)
Control Variables			
Size	0.939***	0.949***	0.938***
	(0.124)	(0.123)	(0.123)
Leverage	−2.388***	−2.469***	−2.414***
	(0.840)	(0.838)	(0.840)
EarningsVol	−0.151	−0.164	−0.158
	(0.242)	(0.243)	(0.240)
MarketRisk (Beta)	−1.090**	−1.071**	−1.084**
	(0.463)	(0.461)	(0.462)
Returns	−0.061	−0.030	−0.057
	(0.608)	(0.614)	(0.612)
Likelihood Ratio	207.019	208.126	206.951
DF	6	6	5
Pr > ChiSq	<0.0001	<0.0001	<0.0001

Independent Variables of Interest (VOI)
BdRiskActivities Sum of the number of the 11 board risk oversight elements disclosed by that firm in the proxy. *BdRiskActivities* can range from 0 to 11.
BdRiskDisclosureVol Natural log of the word count in the risk oversight portion of the proxy disclosure.
See Table 2 for other variable definitions.
***, **, * indicate significance at the 1%, 5%, 10% level, respectively, using one-tailed tests for variables of interest and two-tailed for control variables. Standard errors are in parentheses.

Table 5
Binomial Logistic Regression of Board Risk Oversight Disclosures.

Panel A. Strong:Satisfactory Comparisons
S&PSCORE = β_0 + β_1 VOI + β_2 Size + β_3 Leverage + β_4 EarningsVol + β_5 Beta + β_6 Returns + ε

Variable	Column 1 Main Model Total of 11 Board Risk Oversight Elements	Column 2 Main Model Total of Words in Board Risk Oversight Disclosures	Column 3 Main Model with both VOIs
Constant	1.988*	5.006**	3.289
	(1.755)	(2.412)	(2.536)
Variables of Interest (VOI)			
BdRiskActivities	0.321***		0.286***
	(0.099)		(0.109)
BdRiskDisclosureVol		0.669***	0.253
		(0.316)	(0.355)
Control Variables			
Size	0.180	0.234	0.180
	(0.155)	(0.149)	(0.155)
Leverage	−1.733	−1.991*	−1.707
	(1.137)	(1.122)	(1.139)
EarningsVol	0.118	0.008	0.097
	(0.348)	(0.347)	(0.349)
MarketRisk (Beta)	−0.567	−0.510	−0.556
	(0.633)	(0.626)	(0.635)
Returns	−1.169	−1.114	−1.243
	(0.841)	(0.841)	(0.849)
Likelihood Ratio	192.618	195.880	192.216
DF	12	12	14
Pr > ChiSq	<0.0001	<0.0001	<0.0001

Panel B. Strong:Fair Comparisons
S&PSCORE = β_0 + β_1 VOI + β_2 Size + β_3 Leverage + β_4 EarningsVol + β_5 Beta + β_6 Returns + ε

Variable	Column 1 Main Model Total of 11 Board Risk Oversight Elements	Column 2 Main Model Total of Words in Board Risk Oversight Disclosures	Column 3 Main Model with both VOIs
Constant	12.410***	13.089***	12.129***
	(2.311)	(3.159)	(3.250)
Variables of Interest (VOI)			
BdRiskActivities	0.141		0.150
	(0.125)		(0.138)
BdRiskDisclosureVol		0.165	0.055
		(0.398)	(0.443)
Control Variables			
Size	1.597***	1.634***	1.598***
	(0.237)	(0.236)	(0.237)
Leverage	−4.001***	−4.221***	−4.037***
	(1.324)	(1.337)	(1.329)
EarningsVol	−0.348	−0.439	−0.381
	(0.401)	(0.406)	(0.401)
MarketRisk (Beta)	−1.570**	−1.520**	−1.558**
	(0.749)	(0.741)	(0.750)
Returns	−0.372	−0.293	−0.379
	(0.935)	(0.949)	(0.945)
Likelihood Ratio	192.618	195.880	192.216
DF	12	12	14
Pr>ChiSq	<0.0001	<0.0001	<0.0001

Panel C. Satisfactory:Fair Comparisons.
S&PSCORE = β_0 + β_1 VOI + β_2 Size + β_3 Leverage + β_4 EarningsVol + β_5 Beta + β_6 Returns + ε

Variable	Column 1 Main Model Total of 11 Board Risk Oversight Elements	Column 2 Main Model Total of Words in Board Risk Oversight Disclosures	Column 3 Main Model with both VOIs
Constant	10.422***	8.803***	8.839***
	(2.138)	(2.882)	(2.986)
Variables of Interest (VOI)			
BdRiskActivities	−0.180		0.136
	(0.120)		(0.134)
BdRiskDisclosureVol		−0.505	0.309
		(0.371)	(0.413)
Control Variables			
Size	1.412***	1.400***	1.412***
	(0.225)	(0.224)	(0.225)
Leverage	−2.268*	−2.230*	−2.331*
	(1.200)	(1.198)	(1.207)

Table 5 (*continued*)

Panel C. Satisfactory:Fair Comparisons.
S&PSCORE = β_0 + β_1 VOI + β_2 Size + β_3 Leverage + β_4 EarningsVol + β_5 Beta + β_6 Returns + ε

Variable	Column 1 Main Model Total of 11 Board Risk Oversight Elements	Column 2 Main Model Total of Words in Board Risk Oversight Disclosures	Column 3 Main Model with both VOIs
EarningsVol	−0.466	−0.447	−0.477
	(0.376)	(0.351)	(0.359)
MarketRisk (Beta)	−1.003	−1.010	−1.001
	(0.658)	(0.662)	(0.659)
Returns	0.796	0.820	0.864
	(0.858)	(0.856)	(0.863)
Likelihood Ratio	192.618	195.880	192.216
DF	12	12	14
Pr>ChiSq	<0.0001	<0.0001	<0.0001

***, **, * indicate significance at the 1%, 5%, 10% level, respectively, using one-tailed tests for variables of interest and two-tailed for control variables. Standard errors are in parentheses.
See Table 2 for variable definitions.

governance score by S&P. Those firms with higher management and governance scores are also significantly larger ($p < .01$), significantly likely ($p < .01$) to have less leverage and significantly likely ($p < .05$) to have less market risk than firms with lower management and governance scores.

In a separate analysis, we replace the *BdRiskActivities* measure of the 11 specific board risk oversight elements with the variable *BdRiskDisclosureVol*, which represents the natural log of the word count used to describe the board's role in risk oversight in the proxy statement. Perhaps the findings from our analysis in Column 1 are due simply to the fact that more words are used to describe the board risk oversight activities for the firms with higher S&P scores. The results in Column 2 reveal that firms whose board risk oversight disclosures are simply longer are *not* significantly more likely to have higher management and governance scores than firms using fewer words to describe their board risk oversight process. This is an interesting result that suggests it is the *specificity* of the activities described in the disclosure that is associated with higher S&P scores, and not simply the verbosity of the disclosure itself. The results for firm size, leverage, and market risk are the same as when *BdRiskActivities* is employed. Finally, in Column 3 we provide results when we include both of our disclosure measures, *BdRiskActivities* and *BdRiskDisclosureVol*, in the same logit regression. Our measure of the specificity of the disclosure is marginally significant ($p < .10$) while our variable measuring disclosure volume is insignificant. Hence, when we control for the length of the disclosure, we observe that the nature of activities provided in the disclosure (i.e., what specifically is disclosed) remains positively associated with the S&P score.

These findings collectively suggest that, after controlling for firm specific financial and market characteristics, the nature of activities and extent of information provided in the proxy about specific board risk oversight practices does differ between firms with higher management and governance scores from those firms with lower S&P evaluations. That suggests that the information provided about specific board risk oversight elements in the proxy disclosures contain substantive information relevant for stakeholders given firms disclosing more of those activities are associated with more extensive, private, and inside information obtained by S&P about management and governance effectiveness that is not available to stakeholders. This finding is consistent with agency theory and signaling theory, but not institutional theory.

In Table 5 we provide results from the binomial logistic regressions that separately examine the differences between strong and satisfactory firms (Panel A), strong and fair firms (Panel B), and satisfactory and fair firms (Panel C). This approach allows us to investigate whether the results we observe in Table 4 apply broadly to all three S&P score categories or are driven by differences only between two of the score categories.

The results reported in Panel A of Table 5 reveal a strong positive association ($p < .01$) between *BdRiskActivities* and the S&P management and governance score. Interestingly, in that logistic regression (reported in Column 1) we note that none of the control variables are significantly associated with the S&P score. In Column 2, we observe that the word count (natural log) is positively associated with the S&P rating ($p < .01$). In Column 3, we show that *BdRiskActivities* remains significant ($p < .01$) even when we also include the alternative measure *BdRiskDisclosureVol*. So, when comparing these two groups of firms with strong vs. satisfactory ratings (and where firm size is relatively well matched), our results are strongly supportive of the existence of substantive information content in *both* the specificity of the disclosure and also in the mere length of the risk oversight discussion these firms provide. It may be the case that for firms where S&P views the entity's management and governance as strong there is simply more for the entity to disclose about the specific substantive risk management processes being followed by the firms rated strong. However, when both measures are included in Column 3 only our measure of specificity is significantly positively associated with the S&P score.

When comparing the group of firms rated fair by S&P to those firms rated strong (Panel B) and to those firms rated satisfactory (Panel C), we do not observe these results. In these comparisons, neither *BdRiskActivities* nor the simplistic word count of the proxy disclosure are found to be significantly positively associated with the S&P score. In both Panels B and

Table 6
Multinomial and Binomial Logistic Regression of Board Risk Oversight Disclosures (Reduced Sample of 33 Firms with No Significant Size Difference Across S&P Categories). *S&PSCORE = β_0 + β_1 BdRiskActivities + β_2 Size + β_3 Leverage + β_4 EarningsVol + β_5 Beta + β_6 Returns + ε.*

Variable	Column 1 Multinomial Logistic Regression	Column 2 Binomial Logistic Regression (Strong:Satisfactory)	Column 3 Binomial Logistic Regression (Strong:Fair)	Column 4 Binomial Logistic Regression (Satisfactory:Fair)
Constant (1)	−1.706	3.058	−6.433	−9.492
	(2.142)	(5.295)	(8.726)	(8.172)
Constant (2)	0.014			
	(2.126)			
Variable of Interest				
BdRiskActivities	0.535***	0.807***	1.864***	1.057
	(0.198)	(0.461)	(0.892)	(0.831)
Control Variables				
Size	0.002	−0.100	−0.401	−0.301
	(0.191)	(0.451)	(0.746)	(0.707)
Leverage	−3.829***	2.172	−11.176*	−13.348*
	(1.447)	(4.808)	(6.513)	(7.114)
EarningsVol	−1.956***	−2.358	−6.921**	−4.563*
	(0.652)	(1.797)	(3.114)	(2.639)
MarketRisk (Beta)	−1.167	0.781	−3.130	−3.911
	(0.767)	(1.894)	(3.136)	(2.902)
Returns	0.892	1.970	5.577	3.607
	(1.210)	(3.894)	(6.573)	(5.820)
Likelihood Ratio	21.555	18.416	18.416	18.416
DF	6	12	12	12
Pr > ChiSq	<0.0001	<0.0001	<0.0001	<0.0001

***, **, * indicate significance at the 1%, 5%, 10% level, respectively, using one-tailed tests for variable of interest and two-tailed for control variables. Standard errors are in parentheses.
See Table 2 for variable definitions.

C firm size and leverage are strongly associated with the S&P score (size is positively associated while leverage is negatively associated, as observed in the multinomial analysis). Recall that we were unable to fully match based on firm size for the fair group relative to those rated satisfactory and strong. It is possible that this difference in firm size, despite our best efforts to create a matched sample for the fair group, may be preventing the more nuanced finding related to the information content of the disclosure from being observed.

To further explore this possibility, we reran our analyses on a much smaller sample of thirty-three firms across three industries where we did find no statistically significant difference in firm size across all three levels of S&P management and governance scores. Recall that these three industries, Financials, Communication Services, and Utilities, were the only three of the eleven GIC sectors where firm size across S&P groups was *not* significantly different (see Panel C in Table 1). In Table 6 we provide the results of this analysis.

These results indicate that our measure of disclosure specificity, *BdRiskActivities,* is strongly ($p < .01$) positively associated with the S&P management and governance score when using a multinomial logistic regression approach (Column 1) with all three groups of firms. This is a stronger result than we observe in Table 4, where the positive association is significant at the $p < .05$ level. In Columns 2 – 4 of Table 6, we provide results using only pairs of S&P categories (consistent with our analysis reported in Panels A – C of Table 5). In comparisons between firms rated as strong vs. satisfactory *and* strong vs. fair, we observe a significant positive association between *BdRiskActivities* and a higher S&P score. This result is significant at the $p < .01$ level in both Columns 2 and 3. This last result was not observed when the full sample was analyzed in Panel B of Table 5. We still do not observe a significant association between our measure of disclosure specificity and the S&P score when comparing satisfactory vs. fair firms (Column 4). We believe these results lend some credence to our belief that the inability to successfully match on firm size in our full sample may be limiting our ability to fully observe the association between board risk oversight disclosures and S&P management and governance rankings.

As discussed previously, we also investigated whether certain elements of board risk oversight disclosures might drive the findings we have discussed in this section. Pearson correlations between the set of independent variables we employ in our tests are provided in Table 7. We observe that there are certain variables that exhibit significant correlation. For example, *ReportsAnnually* is correlated with four of the other ten board risk oversight proxy variables and other variables are correlated at significant levels. These correlations suggest that we may be measuring more variables than the underlying concepts. For example, *ReportsAnnually* and *ReportTopRk* are both related to the board's receipt and review of information about top risks and they are correlated at the $p < .01$ level. Thus, they may represent a single underlying concept tied to reporting practices.

Table 7
Pearson Correlation Matrix for 11 Elements of Board Risk Oversight.

	BdAckResp	BdDelegates	StratRisks	StratPlan	ReportTopRk	ReportsAnnually	MgtLdr	MgtRskComm	RiskOwners	RiskAppetite
BdDelegates	0.051									
StratRisks	0.128**	0.030								
StratPlan	0.103	0.044	0.225***							
ReportTopRk	0.117*	0.047	0.173***	0.101						
ReportsAnnually	0.132**	0.077	0.208***	0.128**	0.607***					
MgtLdr	−0.063	0.017	−0.187***	0.014	0.006	−0.008				
MgtRkComm	0.009	0.124*	0.072	0.058	0.180***	0.102	0.124*			
RiskOwners	0.021	0.234***	0.104	0.081	0.142**	0.163**	0.091	0.127*		
RiskAppetite	0.053	−0.011	0.116*	0.255***	0.012	−0.014	0.049	0.011	−0.008	
RiskCulture	0.069	0.003	0.113*	0.125*	−0.063	0.041	−0.096	−0.042	−0.070	0.084

***, **, * indicate significance at the 1%, 5%, 10% level, respectively. See Table 2 for variable definitions.

Table 8
Multinomial & Binomial Logistic Regression of Board Risk Oversight Components. *S&PSCORE = β_0 + β_1 BdOwns + β_2 MgtLeads + β_3 RiskReports + β_4 Strategic + β_5 Mindset + β_6 Size + β_7 Leverage + β_8 EarningsVol + β_9 Beta + β_{10} Returns + ε.*

Variable	Column 1 Multinomial Logistic Regression	Column 2 Binomial Logistic Regression (Satisfactory: Strong)	Column 3 Binomial Logistic Regression (Fair: Strong)	Column 4 Binomial Logistic Regression (Fair: Satisfactory)
Constant (1)	6.801***	2.738	12.305***	9.567***
	(1.487)	(1.973)	(2.519)	(2.307)
Constant (2)	8.888***			
	(1.538)			
Variables of Interest				
BdOwns	−0.004	0.399	−0.670	−1.069
	(0.625)	(0.842)	(1.113)	(1.015)
MgtLeads	0.456	0.652*	0.750	0.098
	(0.287)	(0.355)	(0.461)	(0.450)
RiskReports	0.622**	1.135***	0.834*	−0.301
	(0.277)	(0.361)	(0.456)	(0.413)
Strategic	−0.001	0.247	−0.289	−0.536
	(0.290)	(0.372)	(0.474)	(0.443)
Mindset	−0.568	−0.530	−0.765	−0.235
	(0.433)	(0.571)	(0.682)	(0.606)
Control Variables				
Size	0.956***	0.221	1.658***	1.437***
	(0.126)	(0.156)	(0.248)	(0.234)
Leverage	−2.335***	−1.497	−3.913***	−2.416**
	(0.855)	(1.181)	(1.364)	(1.214)
EarningsVol	−0.128	0.139	−0.337	−0.476
	(0.246)	(0.350)	(0.388)	(0.352)
MarketRisk (Beta)	−0.982**	−0.458	−1.560**	−1.102*
	(0.463)	(0.646)	(0.756)	(0.658)
Returns	−0.037	−1.099	−0.334	0.765
	(0.613)	(0.838)	(0.938)	(0.865)
Likelihood Ratio	203.117	187.615	187.615	187.615
DFDF	10	20	20	20
Pr > ChiSq	<0.0001	<0.0001	<0.0001	<0.0001

***, **, * indicate significance at the 1%, 5%, 10% level, respectively, using two-tailed tests for all variables. Standard errors are in parentheses.
See Table 2 for variable definitions.

We alleviate this concern by using our judgment-based clustering of proxy variables based on our a priori knowledge that we employed to initially identity the 11 elements of board risk oversight as discussed earlier (and described in Table 2). We group our 11 variables according to what we believe the underlying concepts are that the proxy measure is capturing to develop five different aspects of board risk oversight. This is a dichotomous measure equal to one if any of the underlying elements for that aspect is present, zero otherwise.

Using these five measures for different facets of board risk oversight, we determine if one or more specific characteristics is most relevant for firms with higher scores for management and governance. As in our previous analyses reported in Tables 4 and 5, we employ both multinomial and binomial logistic regression to explore this disaggregated approach. The following model is employed:

$$S\&PSCORE = \beta_0 + \beta_1 BdOwns + \beta_2 MgtLeads + \beta_3 RiskReports + \beta_4 Strategic + \beta_5 Mindset + \beta_6 Size + \beta_7 Leverage + \beta_8 EarningsVol + \beta_9 Beta + \beta_{10} Returns + \varepsilon$$

These results are found in Table 8. Column 1 contains the results of the multinomial logistic regression comparing all three levels simultaneously while Columns 2 – 4 contain the results of the binomial logistic regressions comparing two levels at a time. In Column 1, we see that only one of the underlying elements of board risk oversight is associated with a higher management and governance score. Specifically, *RiskReports* is significantly ($p < .05$) positively associated with higher S&P scores. Firm size (positive), leverage (negative), and market risk (negative) are significantly associated in the same manner as our earlier analyses. In Column 2 we report the comparison between firms rated strong and those rated as satisfactory. Here we see that two of the underlying elements, *MgtLeads* and *RiskReports* are significantly positively associated with higher S&P scores. While *MgtLeads* is only weakly associated ($p < .10$), *Risk Reports* is strongly associated ($p < .01$). In Column 3 the comparison is between firms rated as strong vs. those rated as fair. In this comparison, only the underlying element *RiskReports* is significantly positive —and only weakly ($p < .10$). In Column 4, where the comparison is between firms rated satisfactory and those with fair S&P ratings, none of the underlying board risk elements are found to be significantly associated with a higher S&P management and governance ratings.

As discussed earlier, with respect to the results reported in Panels B and C of Table 5, we suspect that the imperfect match on firm size between the collection of firms rated as fair and those rated as strong or satisfactory is contributing to the lack of

findings when direct comparisons are made between the fair group and the two others. The results for the comparison between firms rated as strong and those rated as satisfactory, where a more effective firm size match was possible, indicates that the presence of management leadership and the provision of relatively frequent risk reports to the board of directors is the primary driver of the significant relationship between the overall measure of board disclosure specificity (*BdRiskActivities*) and higher S&P management and governance scores that we observe in earlier analyses.

7. Discussion and conclusions

We investigate whether the discretion provided by the SEC with respect to the nature of activities and extent of information firms may disclose about their board risk oversight processes differs for firms deemed to have more effective management and governance activities. Beginning in 2010, the U.S. Securities and Exchange Commission (SEC) has required enhanced disclosures regarding board risk oversight processes. However, this rule does not mandate any specific tasks to be performed by the board with respect to risk oversight nor does it include any requirements as to the nature of activities and extent of information to be provided about specific board risk oversight activities. The intent of the rule is to help investors better understand how the board of directors oversees the company's risk management practices implemented on a day-to-day basis by management. However, we do not know if the lack of specific requirements regarding the disclosure details results in firms disclosing little, if any, substantive information that might be relevant to stakeholders.

Our paper responds to this need by providing insights about whether certain elements of the information disclosed is associated with independent assessments of the entity's overall management and governance based on our access to private assessments about the firm's overall management and governance effectiveness. We identify eleven specific elements associated with effective risk management oversight that may or may not be disclosed in the proxy and use them to explore differences in management and governance scores assigned to a set of firms who either received strong, satisfactory, or fair scores from S&P. We find that an association does exist between the extent of elements disclosed about the board's risk oversight in the proxy statement and the firm's management and governance effectiveness score. Firms that provide information about more aspects of specific board risk oversight elements are more likely to be firms receiving a higher score on management and governance from S&P. Given S&P's evaluation is based on sources of information well beyond the proxy disclosures (much of which is based on direct inquiries of management, examples of actual documentation, and onsite visits), this positive association suggests that more specific information provided in the proxy statement about board risk oversight processes may signal valuable information to stakeholders about the strength of the entity's management and governance.

When we compare sets of firms separately across two of these three S&P categories, we find that the association holds only for the comparison between firms rated as strong and those rated as satisfactory. While logically this finding should also extend to comparisons between firms rated as fair and those rated more highly, our results do not bear this out. We conjecture that the imperfect match on firm size may be confounding the results. In a supplemental analysis utilizing a small sample of 33 firms that are better matched in size across the three categories, we do find a significant positive association between the disclosure of specific board activities and the S&P score when comparing firms rated as strong and those rated as fair by S&P. We also decompose the singular disclosure specificity score into five distinct elements and find the primary element associated with higher S&P management and governance ratings relates to the regular provision of reports of top risks affecting the entity to the board of directors. This result holds when we compare all three S&P categories simultaneously, and also when we compare strong vs. satisfactory and strong vs. fair firms separately. This result does not hold for comparisons between the satisfactory and fair categories.

In all our analyses, we control for the riskiness of the entity by including firm size, market risk, financial leverage, volatility of earnings, and historical returns (in addition to our match on industry classification) in the various models. Our results indicate that size is strongly positively associated with higher management and governance scores, while financial leverage and market risk manifest a negative significant association with higher S&P scores.

Overall, our results mostly validate the agency and signaling theories interpretation suggesting a positive relation between the board's role in risk oversight disclosure in the annual proxy statement and independent assessments by S&P of the organization's management and governance effectiveness, after controlling for the riskiness of the firm as proxied by financial and market risk variables. In contrast, there is less evidence supporting institutional theory expectations about a formal rather than substantive disclosure about board risk oversight in proxy statements.

Identifying that the disclosure of board risk oversight is informative to stakeholders with regard to the quality of management and governance as assessed by S&P provides some initial evidence that there is substantive information content contained in the board risk oversight disclosures. Our findings suggest that the discretion allowed by the SEC as to the nature of activities and extent of what must be disclosed allows firms with more effective management and governance processes the ability to communicate details about specific board risk oversight activities for the benefit of their stakeholders. Our findings also provide additional insights about the roles of boards as determinants of enterprise risk management (Kleffner, 2003; Beasley et al., 2005; Beasley et al., 2015). These findings may be informative to future academic research that uses the board risk oversight disclosures as a proxy for ERM effectiveness.

Following the academic call to investigate the dilemma between better and more regulation, in times where the issue of compliance and risk management become more important for top management (AIDEA, 2017), this study brings new insights about how public policy requirements in the form of SEC regulations for public companies to disclose information about the board's role in risk oversight may be contributing by providing useful information to stakeholders. Specifically, it

empirically shows how some elements of board risk oversight are more associated than others to stronger management and governance.

The analysis relies on our ability to accurately score the board risk oversight proxy elements. While we required agreement between two author-readers, it remains possible that we have misclassified certain elements as present or absent based on our readings of the proxy disclosures. To the extent this occurred, we have introduced additional noise into our analysis which we believe would bias against finding significant results. We also must acknowledge that the use of the overall S&P management and governance score, which encompasses fifteen separate factors, as our benchmark for the quality of the proxy disclosure is imperfect, at best. Only three of the fifteen factors are *specifically* concerned with risk management directly. The other twelve factors explore related aspects of management and governance effectiveness such as the strategic competence of both the management team and the board of directors and other factors related to operational effectiveness. Hence, to the extent that an entity's S&P management and governance rating is a function of these other factors and unrelated to their risk management processes, any association we find is less compelling. Furthermore, S&P's focus is on firms with rated debt. While we have no reason to expect that firms without rated debt might have different board risk oversight processes than those with rated debt, our study is limited to those firms with rated debt. Despite these limitations, we believe the results help validate the importance of the proxy disclosures to investors required by SEC in that many board risk oversight elements we identify are directly related to the S&P evaluation (e.g., the inclusion of strategic risks and the regular communication of risk information to the board).

These findings may also contribute to the current debate on risk disclosure regulation and practice as national and international regulatory bodies try to harmonize their efforts. Future research will be asked to examine more about the boards' role in risk oversight and its disclosure at the international level, and future research may be able to explore other measures of management governance quality beyond S&P's evaluation (e.g., is board governance associated with more favorable loan terms). Further, additional investigation could inform the link between the benefits that may derive from such kinds of disclosure and the performance, both at the investor and company level of analysis.

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