Corporate governance and management incentives: evidence from the Scandinavian countries

Belle Selene Xia and Ignace De Beelde

Abstract

Purpose – *The Scandinavian boards are known for their "best practices" for corporate governance. This paper aims to examine the management incentives behind corporate disclosure via an empirical study.*

Design/methodology/approach – *Many of the previous empirical work have focused on the US data, but the generalizability of such findings is geographically bounded. The set of management incentives in this paper is examined using a total sample of 123 local annual reports via some of the largest publicly listed firms in the Scandinavian countries between the years 2008-2012.*

Findings – *The findings of this study reveal that a firm's financial success originates from the different attributes of corporate governance. Correlation and regression analyses reveal that in terms of firm size, leverage ratio, the existence of audit committee and the independence of CEO, there is a correlation between firm-specific factors and the level of disclosure. In contrast to the previous literature, a positive relationship between corporate disclosure and information asymmetry was not found.*

Originality/value – *The results of this study are valuable to the policymakers when implementing regulations on corporate governance control. The strategic implications of the findings on business decisions and future research are also discussed.*

Keywords *Strategic management, Corporate governance, Corporate disclosure, Management incentives*

Paper type *Research paper*

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1. Introduction

Previous studies have established a key relationship between corporate governance and corporate disclosure, where corporate disclosure can be used as an effective means to reduce managerial opportunism and enhance firm performance, and thus remains as one of the most popular topics of research in the accounting literature (Elshandidy and Neri, 2015). However, there has been a continuous debate in the traditional literature between the level of disclosure and the different corporate governance attributes, such as the firm size, the leverage ratio and information asymmetry (Nerantzidis and Tsamis, 2017). Over the past decades, increasing attention has been placed in improving the accounting regulations of corporate governance and corporate disclosure, which are the prerequisites of an efficient financial market (Vidaver-Cohen and Brønn, 2015). Therefore, it is essential to update our knowledge in the subject matter.

The level of corporate disclosure is found to be influenced by the national accounting standards and the international requirements in financial reporting (Colares Oliveira *et al.*, 2016). However, these regulations may not contain stringent requirements for the financial reporting of strategic information, as some of these regulations are for guidance purposes only. When firms have the flexibility to choose their own reporting style, the level of

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disclosure is largely determined by the top management, which may not be always in the best interests of the public (Zeitoun and Pamini, 2015). Therefore, our findings on the level of disclosure are especially valuable to the policymakers when implementing regulations on corporate governance control.

Previous research has established that corporate disclosure is correlated with various corporate governance attributes (Javaid Lone *et al.*, 2016). However, these research results are geographically bound to the characteristics of the firms under study. Most of these findings are based on the US data, while there is an increasing need to examine the relationship between corporate governance and corporate disclosure elsewhere (Kang *et al.*, 2007). The motivation of this research is to examine a combination of a set of corporate governance attributes on the level of disclosure using a sample of listed companies in the Scandinavian countries.

The research questions of our study are formulated as below:

RQ1. Does the firm size correlate with the level of disclosure?

RQ2. Does the leverage ratio correlate with the level of disclosure?

RQ3. Does information asymmetry affect the level of disclosure?

Given the importance of corporate governance in managing firm performance and the strong need to improve the accounting practices related to corporate disclosure, the contribution of this paper is to evaluate the level of disclosure of listed firms in the Scandinavian countries, including its potential effect and implications on policies and corporate governance control. Our paper is organized as follows. In the next section, literature review is performed, and then hypotheses will be formulated to be further evaluated via an empirical research. Thereafter, the data and method used in this study will be introduced. The results section of this paper will also discuss the strategic implications of corporate governance on the level of disclosure.

2. Theoretical framework and hypotheses

The Scandinavian countries, particularly Denmark, Norway, Sweden and Finland, have attracted attention in the recent years because of their welfare state as well as their sound corporate governance characteristics (Thomsen, 2015). As a matter of fact, the Scandinavian governments are reconstructing their accounting rules and policies to better respond and integrate the challenges of corporate social responsibilities. That is, the Scandinavian governments are fully aware of the importance of sound corporate governance on firm performance and the financial market and, thus, have taken active regulatory initiatives to motivate quality disclosure (Knudsen *et al.*, 2015). Given the scarce research done on the corporate governance attributes and the disclosure requirement of the listed firms in the Scandinavian countries, the need to do so is strong. Consequently, this study aims to draw important policy implications of the corporate governance practices of the Scandinavian firms as a basis to establish an internationally recognized research paradigm that is relevant for firms operating in a similar institutional and governmental environment.

The Scandinavian boards are known for their “best practices” for corporate governance. That is, the concept of “creating shared value” is a recognized phenomenon among the Scandinavian corporate governance culture, where sound corporate governance and sustainable performances derive high significance in the Scandinavian business context (Strand *et al.*, 2015). Moreover, the stakeholder perceptions and responses to corporate governance and the disclosure practices are found to be similar across the individual Scandinavian countries (Vidaver-Cohen and Brønn, 2015). Corporate responsibility and stakeholder support in these countries are fully acknowledged in the business setting, which fosters firm success. As Scandinavian firms align with the public claims that firms in

these countries demonstrate high performance in corporate responsibility, this is reflected in their sound management reputation and quality disclosure. Consequently, the results of this paper will offer new interesting insights on the governance structures of the listed companies in the Scandinavian countries and, thus, contribute valuable insights to the existing literature on corporate governance.

2.1 The importance of corporate governance and corporate disclosure

A number of high profile corporate collapses have resulted in a vital need for improved corporate governance (Xia, 2016). There are ongoing debates about the efficiency of corporate governance resulting in controversies about the optimal level of compliance and performance pressure required to protect the shareholders (Zeitoun and Pamini, 2015). Consequently, there is a vital need for further research to update on the current debate to improve the accounting regulations on corporate governance control. A common aim of some of the most prominent theories of corporate governance, such as the agency theory and the stakeholder theory, have confirmed the close link between different board characteristics and firm performance (Hermalin and Weisbach, 2000). The traditional literature has also confirmed that financial reporting is closely linked to different corporate governance attributes, such as the firm size and industry groupings, and that the importance of these contextual factors together with their impact on corporate disclosure has received too little attention (Kumar and Zattoni, 2015).

Leuz *et al.* (2003) have examined the differences in earnings management across 31 countries. The authors have found that the sources of these differences originate from the company insiders who attempt to protect their private control benefits, and thus use earnings management to hide poor financial performance from the public. This phenomenon is less visible in case of strong investor protection via corporate disclosure. These research results have raised the importance of corporate disclosure as playing a strategic role in the financial market. As a matter of fact, there is an increasing need for more stringent disclosure requirements in the accounting regulations, especially with regard to the firm's financial performances. This is because firm's annual reports provide crucial information not only to the investors but also to the analysts whose reports, in turn, affect the public perception of the firm's future financial prospects (Gupta *et al.*, 2004). Consequently, the enforcement of accounting standards is highly dependent on the research results of corporate disclosure, which has strategic implications for the overall well-being of the financial market (Pucheta-Martínez and García-Meca, 2014).

2.2 Corporate disclosure and firm performance: the moderating role of corporate governance

While regulations on financial reporting must be complied, firms are often reluctant to disclose strategic information beyond the minimum requirement by the law unless there is a clear benefit of doing so (Agyei-Mensah and Agyei-Mensah, 2017). Firm incentives to disclose information can be either market-oriented or management-oriented, and these incentives can be enhanced via economic benefits or decreased via proprietary costs (Leuz and Verrecchia, 2000). Given that one of the primary goals of corporate governance is to protect the shareholders' interests and is often used as means to enhance the firm performance, corporate governance should reduce information asymmetry where management behavior can be monitored to act in the best interests of the shareholders. One way this phenomenon can be analyzed and studied is via the level and the quality of corporate disclosure. Consequently, this paper will address the ambiguity associated with corporate governance and its relation with corporate disclosure via some of the key corporate governance attributes discussed above. Our hypotheses for the present study are formulated as below:

H1. There exists a positive relationship between firm size and the level of disclosure.

H2. There exists a negative relationship between the leverage ratio and the level of disclosure.

H3. There exists no significant relationship between information asymmetry and the level of disclosure.

3. Empirical analysis

3.1 Sample and data

Our sample consisted of Scandinavian firms that are publicly listed on the stock exchange. The annual reports specified in the local language are collected, which may be argued to reflect a more accurate and up-to-date status on the corporate governance structures of these firms. They were randomly chosen in proportion to the number of satisfied firms in each industry according to the industry classification standard in Finland as a guideline, which represents one of the most commonly and widely used classification standards in the system of official statistics. The largest number of firms were found in the industry products and services and financial and information technology sectors. By some of the largest publicly listed firms in the Scandinavian countries, this list includes companies that have surpassed the value of $333,795m as measured by total assets.

The research framework established by the previous literature, including the work presented by Brüggen *et al.* (2009), guides our study where the authors have collected the disclosure items based on the previous literature and then aggregated the disclosure frequencies of occurrence to determine the level of disclosure. As a matter of fact, there have been many prominent studies in different countries using similar research frameworks including but not limited to Guthrie and Petty (2000), Brennan (2001), Bozzolan *et al.* (2003), April *et al.* (2003), Goh and Lim (2004), Abeysekera and Guthrie (2005) and Xia and De Beelde (2016). These studies confirm the benefits of performing content analysis on the annual reports of the listed firms and evaluating the level of disclosure via a regression analysis. While the previous studies contained a limited number of listed firms, such as 19 listed companies in Guthrie and Petty's (2000) research and 11 listed companies in Brennan's (2001) research, important policy implications can be drawn from the research results.

For the purpose of the present study, firms are excluded from the sample if the relevant information on the attributes of corporate governance was unavailable from the annual reports. The sample firms were divided into different sectors according to the industry type with the corresponding percentages shown in Table I. Here, the basic industry refers to the industrial sector, which exports all or nearly all of its production. Because of the non-subjective and quantitative nature of the data, two researchers have separately collected the data on the board characteristics and verified the results. The reliability of the data was

Table I Sample firms by industries

Industry type	*No. of firms*	*(%)*
Energy	5	12.20
Information technology	6	14.63
Consumer goods and services	5	12.20
Basic industry	5	12.20
Groceries	3	7.32
Finance	6	14.63
Industrial products and services	10	24.39
Health care	1	2.44
Total	41	100

further verified by auditing data from randomly selected firms to check the compatibility of the numbers.

3.2 Measures

3.2.1 Independent variables. In this paper, the annual reports enable us to study the different attributes of corporate governance of listed firms in the Scandinavian countries. These corporate governance attributes are expressed as:

- the existence of an audit committee;
- the proportion of independent non-executive directors to the total number of directors in the board;
- the duality role of CEO and the chairman of the board;
- firm size;
- information asymmetry; and
- the leverage ratio.

Dummy variables are used to denote the existence of an audit committee, as well as the duality role of CEO and chairperson of the board. That is, the value 1 is assigned for the existence of an audit committee and the duality of CEO and the chairman of the board, and 0 otherwise. The firm size is measured by the natural logarithm of the total assets in euros. It is acknowledged that the measurement of the firm size may be affected by factors such as the currency rate fluctuations. The information asymmetry indicates the percentage of stock not held by the 20 largest shareholders of the firm. The reliability of this information is limited to the information provided in the annual reports. The leverage ratio is measured by the ratio of total debt to the total equity value of the firm. The average of three years (2008, 2010 and 2012) was used in the analysis. The purpose for using an average over three years is to better control for potential changes in the leverage ratio and thus to increase the reliability of the results.

3.2.2 Dependent variables. Corporate disclosure can be measured by the level of strategic, non-financial and financial information that is voluntarily disclosed in the annual reports. The corporate disclosure items can be grouped based on the result of content analysis and then summed afterwards. This type of research framework is found to be useful in providing non-biased information of corporate disclosure in a straightforward manner that can be numerically quantified. The corporate disclosure categories in this paper are obtained from content analysis based on the research work done by Ho and Wong (2001). The level of disclosure is then expressed based on the frequencies of the disclosure items. In the subsequent correlation and regression analysis, our analysis is based on the estimation results of the sample firms in the year 2008. The data from 2010 is also analyzed and similar conclusions are found; thus, the comparison results are not presented in this paper.

3.2.3 Controlled variables. In addition to the independent and dependent variables presented above, the industry control variables are also used. Based on the industry classification guidelines, the industry type is classified by energy, IT, consumer goods and services, basic industry, groceries, finance, health care and industrial products and services. The industry classification is included in our regression models to create the corresponding indicator variables. However, as there is only one observation corresponding to the health care sector, no indicator variable was created for this sector. Moreover, the groceries' industry is merged with the consumer goods and services sector to mitigate collinearity. The basic industry, energy and industrial products and services are merged into one variable, as well as the finance and the IT industry, respectively.

3.3 Methodology

The corporate governance attributes and the firm-specific factors, such as the firm size, the leverage ratio and information asymmetry, were analyzed using a bivariate analysis of correlations to examine their effect on each other. The results from the bivariate analysis provide a basis for interpreting the results of the subsequent multivariate analysis. A regression analysis is also used to more carefully evaluate the relationship between the different corporate governance attributes on the level of disclosure. Specifically, the estimation model for the present study is formulated as below:

$$\text{DSCORE} = \beta_0 + \beta_1\text{FSIZE} + \beta_2\text{LEVE} + \beta_3\text{INFA} + \beta_4\text{INDM} + \beta_5\text{CGRO} + \varepsilon \quad (1)$$

where:

DSCORE = the level of corporate disclosure;

FSIZE = firm size as measured by the logarithm of total assets;

LEVE = the leverage ratio calculated by the debt-to-equity ratio;

INFA = the percentage of stock not held by the 20 largest shareholders of the firm;

NDM = a dummy variable coded as 1 for merged energy, basic industry and industrial products and services; and

CGRO = a dummy variable coded as 1 for merged consumer goods and services and groceries.

It is noted that the indicator for the financial and IT sectors is left out being linearly dependent on the other indicators.

4. Results

4.1 Descriptive analysis

Table II shows the summary statistics of the variables used in this study. The means, minima, maxima and standard deviations are calculated for both the dependent and the independent variables used in the analysis.

Since most of the variables are naturally bounded to the minimum and maximum values shown in the table, the outliers in the form of extreme values may only occur for firm size. However, for this variable, the large range of values pertains to the nature of the stock market, where the sample includes listed firms of different sizes. Nevertheless, this type of variation is taken into account by examining the logarithmic size of these firms in the statistical models.

To describe more of our sample frame of firms that are excluded from the analysis, the list of firms in the Scandinavian countries can be inspected by the notable firms with primarily

Table II Summary statistics of the continuous variables

Continuous variables	*Mean*	*Minimum*	*Maximum*	*SD*
Dependent variable				
Frequency of voluntary disclosures items	80	0	251	52
Independent variables				
Firm size	16087450384	13547040	163958897851	36101523841
Leverage	0.60	0.31	0.97	0.15
Information asymmetry (%)	49	0	98	21
The existence of audit committee (%)	95	0	100	22
The duality role of CEO and chairperson (%)	7	0	100	26
Independence of non-executive directors (%)	82	38	100	17

headquarters located in the respective country. As an example, the list of firms in Finland, which may include active, state owned and defunct firms, is approximately 79 where they mostly fall into the financial, basic, IT and industrial products sectors, as reflected by the sample firms under this study. The list of 304 firms in Sweden can be grouped to basic materials, conglomerates, consumer goods, financial, health care, industrial, media, oil and gas, retail, travel and leisure, telecommunications and technology industries. It is noted that some firms in this case are also Finnish–Swedish, and thus the number of firms stated should be treated as an approximation. Concerning the 53 listed firms in Norway, the country has extensive reserves of hydropower, fresh water, seafood, lumber, minerals, natural gas and petroleum, which is reflected in their strong petroleum industry. Finally, when it comes to the 111 firms in Denmark, the country is also renowned by a firm that is included in the Fortune Global 500.

Table III shows the percentage of firms having an audit committee, the duality role of CEO as the chairperson of the board and the corresponding proportion of firms in the various industries from the three specified years, namely, 2008, 2010 and 2012. The results from Table III confirm the results in Table II. That is, most of the firms in the sample have an audit committee and only few of the firms have the CEO working as the chairman of the board. This tendency has remained rather similar since the year 2008. In accordance to the previous literature, firms in the Scandinavian countries recognize that the dual role of CEO and chairman responsibilities would hinder the independence of the board and its subsequent performance and should thus be avoided. As the data sample contains firms from different industries as well, it is seen that the distribution of these firms in the IT, finance and energy industries does not play a major role when all observations are analyzed together. Therefore, the research results of this paper would give us a holistic view of the corporate disclosure practices of firms operating in the different industries.

4.2 Corporate disclosure and the attributes of corporate governance

Table IV shows the distribution of items disclosed in the annual reports regarding the corporate practices. Only a low percentage of these firms disclosed strategic information beyond the minimum requirement of the accounting regulations, as this information is often classified as strategic information to most of these firms. As an example, out of the 18 disclosed corporate governance-related terms, financial forecasts are considered strategic information, whereas a high percentage of the firms in the sample disclosed information that is directly related to finance, such as investments, including 1,622 hits in 2012. This can be explained by the accounting regulations and financial reporting standards that require firms to disclose their current financial positions as a means to protect the investors. When evaluating across industries, firms in the industry products and services, financial and information technology sectors are found to disclose more than firms in the other industries. It is acknowledged that the patterns of corporate disclosure have not changed significantly from year to year, which can be explained by the fact that the business culture of these firms is slow to change. This follows that one of the most efficient means to monitor the corporate disclosure behavior of firms is via accounting regulations and policy changes.

Table III Summary statistics of the sample firms in percentages

Sample firms	*2008 (%)*	*2010 (%)*	*2012 (%)*
The existence of an audit committee	95	95	88
CEO working as chairman	7	5	7
Industry type: Information technologies	15	15	15
Industry type: Banking and finance	20	20	20
Industry type: Energy	12	12	12
Industry type: Others	54	54	54

Table IV Frequencies of the 20 most important corporate disclosure items

Corporate disclosure items	*The no. of disclosed items* 2008	2010	2012
Future prospect	4	4	2
Products and services	55	82	93
Sales and marketing	25	27	28
Mergers and acquisitions	3	6	6
Investments	1489	1677	1662
Corporate strategy	3	7	3
Future financial results	1	1	1
Financial ratios	16	12	13
Bank loans	67	72	41
Capital expenditure	156	157	207
Financial position	129	156	199
Market share	144	165	154
Stock price	65	52	32
Operating expenses	148	125	126
Product margin	0	4	4
Debts	1066	1521	1388
Cost of goods sold	28	13	17
Cash flow forecast	7	4	1

Table V shows a bivariate correlation analysis (with the corresponding *p*-values below the estimated Pearson correlations). In Table V, the observations regarding the duality role of the CEO as chairperson of the board and information asymmetry were distinct with the latter having missing values for firms in which the CEO acts in a duality role as the chairperson. Consequently, the correlation could not be computed for this pair of variables.

The results from the bivariate analysis provide a basis for an understanding of the relationships between these key variables. It is seen that the results do not indicate serious multicollinearity among the independent variables. Moreover, there is a significant correlation between a firm's leverage ratio and firm size (0.31), as well as the firm size and

Table V Correlation analysis

Variables under study	*Discl.*	*Log. Size*	*Leverage*	*Inf. Asym.*	*Independence*	*Aud. Com.*	CEO Role	*Merg. Ind.*	*Con. and Groc.*	*Finance and IT*
Log. Size	0.35									
	0.03									
Leverage	0.24	0.31								
	0.13	0.05								
Inf. Asymmetry	0.18	0.43	−0.15							
	0.34	0.02	0.44							
Ind. of Non-exec. Dir.	0	0.16	0.19	−0.04						
	0.99	0.32	0.23	0.86						
Audit committee	−0.36	−0.26	−0.49	0.44	−0.12					
	0.02	0.09	0.00	0.01	0.45					
CEO Dual Role	*0.30*	*0.28*	*0.03*	–	*−0.01*	*−0.37*				
	0.06	*0.08*	*0.86*		*0.96*	*0.02*				
Merged industries	−0.18	0.15	0.05	0.04	0.26	0.22	*−0.09*			
	0.26	0.36	0.77	0.85	0.11	0.16	*0.59*			
Con. goods and Groc.	0.12	0.06	0.01	0.05	−0.17	0.11	*0.10*	−0.48		
	0.47	0.69	0.97	0.78	0.30	0.49	*0.54*	0		
Finance and IT	0.12	−0.10	−0.07	0.02	−0.20	−0.35	*0.03*	−0.63	−0.32	
	0.47	0.52	0.68	0.93	0.22	0.02	*0.88*	0	0.04	

Note: The three last rows and columns correspond to the field indicator variables

the level of disclosure (0.35), in accordance with the previous literature. A negative correlation between the leverage ratio and the existence of an audit committee is also seen at the 5 per cent level. This is expected, as the cost of establishing a separate audit committee might pose too much of a financial burden for a firm which is already highly leveraged. Other firm-specific factors that contribute negatively to the establishment of an audit committee include firms belonging to the financial and IT industries.

Table III shows that the indicators for CEO working as the chairperson and the existence of an audit committee exhibit rather low variation and are thus excluded in the principal regression Model 1. To more closely assess the presence of collinearity, a factor analysis of the independent variables in Model 1 is performed. A factor analysis in this case is used to capture the variability among the observed and the correlated variables in terms of factors. The interdependence relationships between the observed variables may then be used to detect the presence of collinearity. Therefore, Table VI displays the variance of the factors in proportion to the total variance. While it is expected that the last components tend to exhibit less variance, it is seen that collinearity is sufficiently modest to conduct the subsequent ordinary least square (OLS) estimation analysis.

4.3 The effect of firm size, leverage and information asymmetry on corporate disclosure

Table VII represents the results of OLS regression with the results of Model 1 presented in the first column of the table. The intercept term reflects the finance and the IT industries, for which the merged indicator variable was left out. In addition to the standard statistics, the heteroscedasticity-consistent standard errors and the Wald test for the model are computed to address the possible presence of heteroscedasticity as described in the work of White (1980). Concerning the heteroscedasticity-consistent estimates (the model *p*-values in the second place), Model 1 is found to be statistically significant. In addition to the intercept, the other statistically significant coefficient is the firm size ($\beta_1 = 11.71$). However, it is seen that information asymmetry and the leverage ratio do not play a decisive role in determining the level of disclosure. This can be explained by the fact that irrespective of the

Table VI Factor analysis of the independent variables in the OLS regression model (1)

Component	*1*	*2*	*3*	*4*	*5*
Per cent of variance	30.91	28.00	23.06	10.99	7.04
Cumulative Per cent of variance	30.91	58.91	81.97	92.96	100

Table VII OLS regression on corporate disclosure

Independent variable	*Model 1*	*Model 2*
Intercept	−134.58 (71.88/57.87)**	−135.66 (69.12/55.04)**
Log firm size	11.71 (4.22/4.41)**	11.77 (11.77/4.27)**
Leverage	−50.55 (55.97/51.30)	−46.41 (52.73/56.79)
Information asymmetry	−0.23 (0.42/0.34)	−0.22 (0.40/0.37)
Indicator for industries & energy	4.84 (16.41/13.17)	
Indicator for groceries & consumer goods	*7.78 (23.95/23.62)*	
R-square	0.28	0.28
Adjusted *R*-square	0.13	0.19
Model *p*-value	0.14/0	0.04/0

Notes: The standard errors in the second place inside the parentheses were computed using the heteroscedasticity-consistent estimator (White, 1980); **indicate the coefficients that are statistically significant on the 0.05 confidence level; indicator for groceries is not statistically significant

level of debt, firms may choose to disclose corporate information in compliance to the accounting regulations and public expectations. To further evaluate the role of information asymmetry on the level of disclosure, a simplified estimation Model 2 is specified as below:

$$\text{DSCORE} = \beta_0 + \beta_1 \text{FSIZE} + \beta_2 \text{LEVE} + \beta_3 \text{INFA} + \varepsilon \quad (2)$$

where the corporate governance attributes in Model 2 are explained in Model 1. The results of this model are shown in the second column of Table VII. In Model 2, the field indicators are removed to reduce the estimation variance.

The results of Model 1 indicate that information asymmetry does not have a strong influence on the level of disclosure as expected. The corresponding coefficient is neither statistically significant in Model 2 as well, whereas firm size (β_1 = 11.77) is also highly significant in Model 2 similarly as in Model 1. As a proxy measure, information asymmetry is measured in this paper as the percentage of stock not held by the 20 largest shareholders of a firm. It is acknowledged that other ways of measurements exist based on the market microstructure literature, firm characteristics and analysts' earnings forecasts. It is also acknowledged that information asymmetry could play a role in the business practices of firms in the other industries.

5. Discussion and conclusion

Traditional literature has established that the level of disclosure is closely linked to the corporate governance attributes, such as the firm size, leverage ratio and industry groupings, but that the importance of these contextual factors together with their impact on corporate disclosure has received too little attention (Kumar and Zattoni, 2015). In this paper, a combination of these corporate governance attributes were evaluated on the level of disclosure using a number of listed firms in the Scandinavian countries. Understanding the characteristics of the corporate governance structures in these sample firms have important policy implications on the accounting practices and the management culture in the Scandinavian countries. It is acknowledged that the impact of corporate governance on the level of disclosure necessitates further research given the national boundaries, the different regulatory as well as the economic environments in different countries. As a matter of fact, given the ownership structures and the board composition of these firms, accounting regulations and financial reporting standards that are tailored to reflect their characteristics have become even more important.

5.1 Limitations, alternative explanations and directions for future research

There exist limitations in this paper that need to be carefully addressed. First, the sample is taken from the listed companies in the Scandinavian countries and the results may be geographically bounded, cross-sectional, focusing on a point in time and may not be generalizable to different sized firms. Therefore, one future research opportunity is to look at the same attributes of corporate governance on different sized companies. However, there exist no apparent reasons why the results would significantly differ. Nevertheless, it is possible that the impact of corporate governance would show a larger effect on smaller firms, as the management efforts are more noticeable (Wagenhofer, 1990). It is also acknowledged that questions related to the use of the research in practice, teaching, public policy and further research should be considered with caution. This is because the results may be considered exploratory in nature and representative only of those sample units being analysed and discussed, and thus the results should not be extrapolated beyond the sample to infer any generalisable conclusions that may influence policy or practice.

The regression analysis suggests that there is a linear relationship between the attributes of corporate governance and the level of disclosure. However, it was impossible to determine how these attributes truly affected the quality of disclosure, partially because of the inherent restriction of how corporate governance is represented in these firms. One may speculate

that if more data were collected, the linear relationship between the firm-specific factors and the level of disclosure might change to a more curvilinear relationship (Hooghiemstra, 2000). As a matter of fact, the research method used in the present study is limited in terms of how the variables are selected and the assumptions made related to the temporal effects of these variables on each other. It is acknowledged that alternative measurement frameworks exist. Nevertheless, the goal here is not to establish a stringent causality relationship between these variables but to capture possible patterns. This is obviously not ideal but does offer some interesting insights on the corporate governance and disclosure literature.

5.2 Policy implications and conclusion

Given the prevailing occurrence of having a board failing to fulfill its duty because of challenges associated with a lack of board diversity and a lack of information transparency, more attention is needed to improve the existing accounting policies and procedures. To provide a more effective control of the firm's organizational activities, accounting regulations requiring more independence from the board would have a positive impact on both the firm performance and the quality of financial reporting. The results presented in this paper not only reveal some important characteristics of the relationship between corporate governance and the level of disclosure but also raise some interesting future research questions. Beyond the minimum requirement of corporate disclosure regulated by the reporting authorities, perhaps more stringent guidelines on monitoring the quality of disclosure are needed, as firms are often reluctant to follow the guidance of disclosure if it is not in their best interests to do so. Having accounting regulations that require firms to disclose more financial information, such as financial forecasts, not only offers an important means to monitor their long-term performance but also offers a strong protection of the investors, analysts and other public institutions that may use this information in their decision-making process. Therefore, there is a strong need to establish a more solid research framework to better understand the quality of corporate disclosure and its implications on the financial markets.

The Scandinavian firms are routinely recognized as having one of the most developed internal corporate governance mechanisms in the European region; the results of this study confirm that the independence of the board is a recognized phenomenon for these firms. While the present study has analyzed firms in the Scandinavian countries, the findings of this paper are not only interesting to a Scandinavian public but has strategic values for the international scholars who may use the theories and conclusions presented in this paper for further research. As a matter of fact, the impact of corporate governance on the level of disclosure needs to be further researched given the national boundaries, the different regulatory and economic environments, and the effectiveness of corporate governance in different countries. This is because accounting regulations tailored at monitoring board composition and ownership structure are significant above and beyond the effects of firm success but have important effect on the financial market as a whole.

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Further reading

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