

# DO BOARD OF DIRECTORS' CHARACTERISTICS AND EXECUTIVE REMUNERATION IMPACT FINANCIAL REPORTING QUALITY? A QUANTITATIVE ANALYSIS OF THE NORDIC MANUFACTURING SECTOR

Shab Hundal<sup>\*</sup>, Anne Eskola<sup>\*\*</sup>, Maroua Troudi<sup>\*\*\*</sup>

<sup>\*</sup> Corresponding author, JAMK University of Applied Sciences, Jyväskylä, Finland  
Contact details: JAMK University of Applied Sciences, Rajakatu 35, 40200 Jyväskylä, Finland  
<sup>\*\*</sup> JAMK University of Applied Sciences, Jyväskylä, Finland  
<sup>\*\*\*</sup> Esprit School of Business, Ariana, Tunisia



## Abstract

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The current paper aims to analyze the effects of corporate boards of directors' characteristics, executive remuneration, and several corporate governance characteristics of the manufacturing firms in three Nordic nations (Finland, Sweden, and Denmark) on the quality of financial information, measured by total discretionary accruals (measured by both balance sheet, and cash flow method). The extant literature underpins that boards of directors' characteristics, executive remuneration, and corporate governance characteristics do affect the quality of financial reporting. Nonetheless, there is a paucity of studies that theorize and explore linkages amongst the above-mentioned determinants to explore their effects on financial reporting quality. The current study uses discretionary accruals as the proxy of financial reporting quality. A higher (lower) level of total discretionary accruals implies a lower (higher) quality of financial reporting. The analysis has been performed based on firm-level unbalanced pooled secondary data of 88 publicly listed firms (698 firm-years) in the manufacturing sector in Finland, Sweden, and Denmark for the period 2013–2020. The results indicate that the ratio of performance remuneration to fixed remuneration of chief executive officers (CEOs) as well as that of executive board members, the experience of board members, and the number of directorship positions that are held by a firm's board members in other firms (the phenomenon of multiple directorships) adversely affect the quality of financial data. However, the level of education of the board members, board size, and firm size favorably affects the financial reporting quality.

**Keywords:** Financial Reporting Quality, Corporate Governance, Earnings Management, Executive Remuneration, Discretionary Accruals, Jones Model

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## 1. INTRODUCTION

Extensive literature on the quality of financial reporting, including its measures and the factors influencing it, has been written in the past. However, there are some research gaps, which the current study attempts to fulfil. For example, there is not enough evidence in the relevant literature on how the board of directors' characteristics and executive remuneration affect the financial reporting quality. The abovementioned research gaps are even more glaring in the Nordic corporate settings as this area of research is relatively under-explored in the context of Nordic countries. In a publicly listed company, the board of directors must approve the financial statements before their publication. The choice of accounting policies and procedures can largely be influenced by the nature and composition of the boards of directors of firms. Therefore, the characteristics of the board of directors can influence the financial reporting quality (Healy & Wahlen, 1999). Similarly, executive remuneration is considered as one of the determinants that motivate corporate executives to serve in the best interests of the firms. One argument is that producing high-quality financial reports reflects the directors' service in the best interests of the firm. However, the counterargument is that directors, in their pursuits to claim higher remuneration contingent on the pre-defined performance indicators derived from accounting data, have the motivation to influence the financial reports. Therefore, one can argue whether there exists any association between the phenomena of executive remuneration and financial reporting quality. The principal research questions of the current study are to explore whether the characteristics of a board of directors and executive remuneration influence the quality of financial reporting of the firms in the manufacturing sector in the Nordic countries: Finland, Sweden, and Denmark.

Accounting is the art of presenting financial information of an organization to its stakeholders, in a systematic and scientific manner, in the form of financial statements. The International Accounting Standards Committee (IASC) defines financial statements as a set of documents that provide information with respect to the financial position, performance, and capability of a firm so that such information helps firm stakeholders in taking business and economic decisions (Elliott & Elliott, 2009). The quality of financial information published by a firm is considered high if it represents the actual economic substance. Nevertheless, firm managers often have considerable freedom with respect to the choice of accounting methods; therefore, managerial discretion may override the true and fair economic substance of firms that financial statements are supposed to reflect. To pave the way to obtain short-term personal gains for themselves or mask certain material facts from stakeholders, a manager may be inclined to misreport the financial information, which is also known as the phenomenon of earnings management. Earnings management can be done by various means, for example, by bringing changes in a firm's capital structure, and accounting methods, and by resorting to the use of discretionary accruals

(Jones, 1991). The accounting standards and principles recognize accrual-based accounting. Xie (2001) shows that one can measure the quality of financial reporting presented by a firm more accurately by eliminating the normal or non-discretionary accruals from the accounting data, since the non-discretionary accruals can be linked to the macro-economic conditions in the market, which are dynamic, and hence their presence in the financial statements can be justified. On the other hand, discretionary accruals, as the name suggests, are open to managerial discretions, which are subjective by nature. Managers can use discretionary accruals to accomplish their vested interests and inflict agency costs on the firms. In the accounting literature, the higher (lower) levels of discretionary accruals signify a lower (higher) quality of financial reporting.

The relevant hypotheses have been formed after reviewing a variety of literature, both theoretical and empirical. These hypotheses were tested by analyzing firm-level unbalanced pooled secondary data of 88 publicly listed firms (698 firm-years) in the manufacturing sector in Finland, Sweden, and Denmark for the period 2013-2020. The inferential data analyses have been performed to develop a better understanding of the impact of the corporate board characteristics of firms and executive remuneration on the financial reporting quality.

The analyses show that the ratio of performance pay to a fixed pay of executive board members positively affects the level of discretionary accruals at the firm level, after adjusting for the firm size. In other words, the higher the performance-based pay of the executive board members for the given fixed pay, the lower the quality of financial reporting. Regarding the board of directors' characteristics, the study shows mixed results. The experience of board members serving in a firm and the number of directorships held in other firms by the firm board members, also known as the phenomenon of multiple directorships, affect the quality of financial reporting adversely. However, the education background of firm board members helps to improve the financial reporting.

The structure of the current paper is as follows. Section 2 contains both a theoretical and empirical review of the literature and multiple hypotheses. Section 3 highlights the research approach and methods. Section 4 explains empirical findings followed by Section 5 dedicated to discussion and conclusions.

## 2. LITERATURE REVIEW

The objective, true and fair information provides a real financial picture of business entities, and it also helps to improve the monitoring and decision-making power of several stakeholders affiliated with these entities. The quality of financial information is markedly associated with the corporate governance mechanisms: internal (Krishnan, 2005) and external (Song & Thakor, 2006; Armstrong et al., 2012). The interplay between the quality of financial information and corporate governance mechanisms is so strong that the effectiveness of any corporate governance system depends on the quality of financial information and vice-versa (Hundal, 2016).

Not only shareholders but also other stakeholders of firms are the beneficiaries of the quality information. Shareholders of firms need high-quality financial information to make several key corporate decisions and assess the efficiency of firm management. Such information can be related to strategic reviews, strategic plans, decisions on mergers and acquisitions, disposal of major assets or lines of business, raising capital (debt/equity/hybrid), or giving money back to the shareholders (for example, payout policy via share repurchase and/or dividends), etc. The high-quality information enables shareholders to meaningfully interact with the board of directors of a firm, and objectively assess the firm's performance and growth potential. In case shareholders are unhappy with the existing board of directors, the former can show their reaction. Such reactions can be in various forms. For example, shareholders display their activism through actions such as, in the words of Filatotchev and Dotsenko (2015), "(a) public debate (e.g., briefings to journalists, press releases, open letters or circulars ahead of general meeting, organizing action groups, etc.); (b) submitting shareholder proposal(s) to an annual general meeting; (c) calling for and submitting shareholder proposal(s) to an extraordinary general meeting; (d) litigation actions" (p. 19). Alternatively, shareholders can follow (or threaten to follow) the *Wall Street Walk* by selling (or threatening to sell) their full/partial stakes in the firm and exiting (Admati & Pfleiderer, 2009).

Similarly, the board of directors needs high-quality financial information, both published as well as confidential, to monitor the managerial actions effectively, and consequently provide guidance and improve managerial accountability systems and procedures. Furthermore, various committees, such as audit committee, remuneration committee, nomination committee, etc., formed under the umbrella of the board of directors to carry out more specialized board functions require various types of financial information. Due to increasing firm size, business complexities, and uncertainties, it is difficult to imagine directors sitting on the board of a firm without having comprehensive and objective information. In the aftermath of a series of corporate scandals witnessed at the beginning of the 21st century, the litigation risk faced by directors has increased (Cao & Narayanamoorthy, 2014). Therefore, prospective directorial candidates can demand relevant financial information unequivocally to avoid any potential reputational loss, *ceteris paribus* (Hundal, 2017).

Financial information must be dynamic. When the quantity and quality of information do not change in conjunction with the changing market, institutional, regulatory, and technological situations; or even worse, when the financial information is, deliberately, either held or released; or timings of the information are tweaked by the firm management for the rent extraction purposes, the quality of information deteriorates, resultantly (Roe, 2004).

Furthermore, information is needed for the working of various activities in the market for corporate control, such as takeover, merger and acquisition (M&A) (Deakin & Singh, 2008; Gelter, 2009). If the unhindered and true information

of a poorly operating firm is publicly available, then, in the event of its plummeting stock price such a firm can fall prey to bidders (Roe, 2004).

Similarly, high-quality information enables the capital market to allocate external finance optimally (Armstrong et al., 2010). For example, financial institutions, after knowing the managerial self-dealings of the firm, can desist to provide further finance to the firm (Roe, 2004). Equally importantly, high-quality financial information plays a pivotal role in the functioning of the managerial labor market and in determining executive remuneration. Furthermore, outside investors, analysts, media, government, regulators, etc. also need financial information.

Financial statements underscore important information that the firm provides to the above-mentioned users. However, a firm is not the only information provider of its actions; there are several other external information intermediaries, such as financial analysts, industry experts, and financial media that provide useful information about a firm (Healy & Palepu, 2001).

The firm management has the responsibility to prepare financial statements in accordance with the established accounting principles, practices, and rules. However, according to the agency theory, due to the diffused and dispersed firm-ownership structure of modern-day public corporates whereby the agent (manager) can play a relatively dominant role in the operational, and other strategic matters of the firm, when compared with the principal (owner), the phenomena of moral hazard and information asymmetries can arise (Smith et al., 2019). In theory, the accounting information aims to reflect the true and unbiased picture of the firm performance, however, in practice, several characteristics of senior executives and other members of corporate boards of directors can play a pivotal role with respect to financial reporting quality and firm performance (Hundal, 2016, 2017). Several characteristics of corporate boards, such as the experience, and education of directors, remuneration policies of the firms, board composition, board structure, and affiliations of directors with other firms in the form of multiple directorships, can determine the quality of financial reporting. The above characteristics of corporate directors can have their own dynamics with respect to motivating corporate directors to follow their personal utility functions, which can unsurprisingly come in conflict with the objectives of firms they have affiliations with. For example, the firm managers may be more interested in claiming higher levels of remuneration, especially those components of remuneration which are linked to the accounting information, second, the firm promoters may want to increase their controlling rights of the firm through ownership pyramids, and third, the outside directors, who generally are prominent customers, suppliers, relatives of the executives, former executives, consultants, etc., may choose to support the firm's managers and promoters instead of monitoring and controlling their actions (or even inactions) and outside directors of the firm can follow such actions (inactions) to protect their own economic interests (Watts & Zimmerman, 1986). In the above example, the nature of the board structure, and composition of directors can place

individual/personal utility functions on the forefront instead of the objectives and interests of firms, and such utility functions are often fulfilled through accounting manipulations. Therefore, one can argue that certain characteristics of boards of directors can play an instrumental role to erode the quality of financial reporting; nonetheless, the counter-argument to the above is that in the modern corporate world the accounting standards are not only comprehensive and in-depth, but the legal bindings associated with their compliance are also very strong and effective. Any non-compliance or violation of accounting rules can invite serious legal ramifications to the extent of delisting, and even compulsory liquidation of the erring organizations. Therefore, the gist of this counterargument is that the firm managers being afraid of likely stern regulatory actions and their potential reputational loss in the labor market of executive/outside directors desist from any misadventure and irresponsible behavior. However, critics consider this line of argument simplistic and unrealistic. Managers can create leeway to manipulate accounting data by bending, if not necessarily breaking the modern-day national and international accounting standards, rules, and procedures. By making changes in the assumptions, for example, those regarding reserves, inventory, and the timings of the recognition of gains and losses, among many other things, corporate managers can manipulate accounting numbers to serve their personal interests.

Based on the above review of the literature, the following hypotheses have been formed.

*H1: Total remuneration (sum of fixed and performance-based remuneration) of CEOs affects the quality of financial reporting ( $\pm$ ).*

*H2: Performance-based remuneration to fixed pay remuneration ratio of corporate boards of directors affects the quality of financial reporting ( $\pm$ ).*

*H2a: Performance-based remuneration to fixed pay remuneration ratio of CEOs affects the quality of financial reporting ( $\pm$ ).*

*H2b: Performance-based remuneration to fixed pay remuneration ratio of executive directors affects the quality of financial reporting ( $\pm$ ).*

*H2c: Performance-based remuneration to fixed pay remuneration ratio of non-executive directors affects the quality of financial reporting ( $\pm$ ).*

*H3: Corporate board size affects the quality of financial reporting ( $\pm$ ).*

*H4: The age of executive directors affects the quality of financial reporting ( $\pm$ ).*

*H5: Education background of directors affects the quality of financial reporting ( $\pm$ ).*

*H6: Firm-specific experience of directors affects the quality of financial reporting ( $\pm$ ).*

*H7: Multiple directorships of executive directors of a firm affect the quality of financial reporting ( $\pm$ ).*

*H8: Board independence of a firm affects the quality of financial reporting ( $\pm$ ).*

### 3. METHODOLOGY

The unbalanced pooled data have been obtained from 88 publicly listed manufacturing firms (698 firm-years): Finland (230 firm-years), Sweden (262 firm-years), and Denmark (206 firm-years), for the period 2013–2020. The stock market data have

been collected from the Nasdaq Nordic database, whereas, the data related to accounting information, board of directors' background, and other control variables, have been obtained from the financial statements and corporate governance reports of the sample firms. All sample firms prepare their financial statements in conformity with the International Financial Reporting Standards (IFRS).

In the current study, Jones model of discretionary accruals (Jones, 1991) has been used to calculate discretionary accruals. Jones model is one of the most widely used methods to calculate discretionary accruals (Dechow et al., 2012; El Diri, 2017; Huang et al., 2018). It is because, in several other models that separate the discretionary portion of total accruals from the non-discretionary ones, it is assumed that the non-discretionary portion of accruals remains constant throughout the period. However, Jones model does not follow this assumption, therefore it is a more reliable and objective model. Furthermore, Jones model controls for the impact of changes in the economic circumstances on non-discretionary accruals (Dechow et al., 1995).

The formulation of the standard Jones model is given below:

$$TA_{it}/A_{it-1} = \alpha_0 + \beta_0(1/A_{it-1}) + \beta_1(\Delta REV_{it}/A_{it-1}) + \beta_2(PPE_{it}/A_{it-1}) + \varepsilon_{it} \quad (1)$$

where:

$TA_{it}$  = total net accruals in year  $t$  (current year) for firm  $i$ ;

$\Delta REV_{it}$  = revenues in year  $t$  less revenues in year  $t-1$  (previous year) for firm  $i$ ;

$PPE_{it}$  = gross property, plant, and equipment in year  $t$  for firm  $i$ ;

$A_{it-1}$  = total assets in year  $t-1$  for firm  $i$ ;

$\varepsilon_{it}$  = error term in year  $t$  for firm  $i$ ;

$\beta_0, \beta_1, \beta_2$  = regression coefficients;

$\alpha_0$  = the intercept term.

The term  $[\alpha_0 + \beta_0(1/A_{it-1}) + \beta_1(\Delta REV_{it}/A_{it-1}) + \beta_2(PPE_{it}/A_{it-1})]$  represents the estimated value (non-discretionary accruals) of the term  $TA_{it}/A_{it-1}$ . Jones (1991) argues that the terms  $PPE_{it}$  and  $\Delta REV_{it}$  signify changes in non-discretionary accruals caused by changing economic environment. Change in revenue affects change in working capital, which in turn, affects total accruals. Revenue is exogenous as it reflects economic realities; therefore, one may argue that revenue is an objective measure of corporate performance. Nonetheless, according to an alternative argument, revenue can be endogenous too, for example, managers have a strong motivation to overstate/understate revenue in accordance with their own utility function (Marciukaityte & Szewczyk, 2011).

The term  $PPE_{it}$  in the expectations model controls for the proportion of total accruals arising due to nondiscretionary depreciation expense. The rationale for using the gross value of property, plant, and equipment instead of a change in it is that total depreciation expense is included in the total accruals measure. Similarly, all terms in the accruals expectations model are scaled by lagged assets in order to reduce heteroscedasticity (Jones, 1991). The difference between actual and estimated values of  $TA_{it}/A_{it-1}$  denotes discretionary accruals (DA).

Total net accruals are calculated using the following two methods:

1) *Balance sheet method*: Total net accruals = Change in assets - Change in liabilities - Change in cash.

2) *Cash flow method*: Total net accruals = Profit after-tax - cash earnings.

The description of the variables has been given in Table 1 below.

**Table 1.** Description of variables

Variable measurement	Label	Hypotheses	Predicted effect(s)
<b>Dependent variables</b>			
Discretionary accruals (DA) of the firm <i>i</i> for the year <i>t</i> calculated by the balance sheet method scaled by firm size (assets) of the year <i>t-1</i> .	$Y_1$		
Discretionary accruals (DA) of the firm <i>i</i> for the year <i>t</i> calculated by the cash flow method scaled by firm size (assets) of the year <i>t-1</i> .	$Y_2$		
<b>Independent variables</b>			
Natural log value of CEO's remuneration of the firm <i>i</i> for the year <i>t</i> . Natural log values are taken to avoid the linearity problem.	$X_1$	H1	(±)
CEO performance-based remuneration to fixed remuneration ratio of the firm <i>i</i> for the year <i>t</i> .	$X_2$	H2a	(±)
Median* performance-based remuneration to fixed remuneration ratio of the executive board of firm <i>i</i> for the year <i>t</i> .	$X_3$	H2b	(±)
Median performance-based remuneration to fixed remuneration ratio of non-executive board of firm <i>i</i> for the year <i>t</i> .	$X_4$	H2c	(±)
Natural log of board size of the firm <i>i</i> for the year <i>t</i> .	$X_5$	H3	(±)
The median age of executive board members of the firm <i>i</i> for the year <i>t</i> . First, the data on the age of each of the board members is collected and then the median of the same is calculated.	$X_6$	H4	(±)
The median level of education of directors of the firm <i>i</i> for the year <i>t</i> . The numeric value '1' is assigned to a board member having a bachelor's degree as the highest qualification, '2' is assigned if a master's degree is the highest qualification, and a '3' if a PhD is the highest qualification. Any education level below a bachelor's degree is given a '0' numeric value.	$X_7$	H5	(±)
Median firm-specific experience of directors of the firm <i>i</i> for the year <i>t</i> . Firm-specific experience is measured by the number of years a board member has served in the same company.	$X_8$	H6	(±)
Median multiple directorships of the firm <i>i</i> for the year <i>t</i> . It is measured by the number of directorships the board executives of a company hold in other companies.	$X_9$	H7	(±)
Board independence of a firm <i>i</i> for the year <i>t</i> . It is measured by the ratio of non-executive directors to executive directors.	$X_{10}$	H8	(±)
<b>Control variable</b>			
Natural log of assets of the firm <i>i</i> for the year <i>t</i> . It is the sum of the number of board members including executives and non-executives.	$X_{11}$		

Note: \* Median is a better representative value of the data to be analyzed than the arithmetic mean because the former is less affected by the extreme numerical values. This explanation holds true for all the median values given in the table.

The multivariate ordinary least square (OLS) regression technique is used to estimate the following functional relationship of the model:

$$Y_1 \text{ or } Y_2 = \alpha_i + \beta_1(X_1) + \beta_2(X_2) + \beta_3(X_3) + \beta_4(X_4) + \beta_5(X_5) + \beta_6(X_6) + \beta_7(X_7) + \beta_8(X_8) + \beta_9(X_9) + \beta_{10}(X_{10}) + \beta_{11}(X_{11}) + \varepsilon \quad (2)$$

#### 4. EMPIRICAL FINDINGS

The followings are the findings of empirical analysis by applying correlation and multivariate regression analysis.

Table 2 depicts correlation coefficients between various pairs of variables. It has been found that the natural log value of the CEO's remuneration ( $X_1$ ), and the CEO's performance-based remuneration to fixed remuneration ratio ( $X_2$ ) are positively and significantly associated with the discretionary accruals ( $Y_1$ ), as calculated by the balance sheet method, however, the same independent variables are negatively but insignificantly correlated with the discretionary accruals ( $Y_2$ ), as calculated by

the cash flow method. Similarly, the median performance-based remuneration to fixed remuneration ratio of the executive board ( $X_3$ ) is positively associated with both discretionary accruals ( $Y_1$ ), as calculated by the balance sheet method; however, the same independent variables are negatively associated with the discretionary accruals ( $Y_2$ ), as calculated by the cash flow method. Interestingly, the median performance-based remuneration to fixed remuneration ratio of the non-executive board ( $X_4$ ) is associated with neither  $Y_1$  nor  $Y_2$ .

Regarding the board of directors' characteristics, the median level of education of directors of the firm ( $X_7$ ) and board independence of a firm ( $X_{10}$ ) is negatively associated with  $Y_1$  and  $Y_2$ . However, the median firm-specific experience of directors of firms ( $X_8$ ) is positively associated with both  $Y_1$  and  $Y_2$ . Median multiple directorships of firm directors ( $X_9$ ) are positively associated with  $Y_2$  only. Furthermore, neither the natural log of board size of firms ( $X_5$ ) nor the median age of executive board members of firms ( $X_6$ ) has any association with  $Y_1$  or  $Y_2$ .

Table 2. Pairwise correlation matrix

	$Y_1$	$Y_2$	$X_1$	$X_2$	$X_3$	$X_4$	$X_5$	$X_6$	$X_7$	$X_8$	$X_9$	$X_{10}$	$X_{11}$
$Y_1$	1	-0.17	0.33*	0.41***	0.58**	0.05	0.02	0.14	-0.31*	0.43**	0.05	-0.53***	0.17
$Y_2$		1	-0.03	-0.14	-0.31*	0.14	0.09	0.04	-0.32*	0.31*	0.29*	-0.49**	-0.01
$X_1$			1	0.22*	0.56**	0.18	0.24	-0.07	0.13	0.14	0.09	0.17	0.27*
$X_2$				1	0.22*	0.24*	0.08	-0.04	0.11	0.09	-0.04	0.06	0.02
$X_3$					1	0.15	0.06	-0.06	0.05	0.1	-0.02	0.09	0.03
$X_4$						1	0.06	0.03	0.03	0.06	0.1	0.06	-0.02
$X_5$							1	-0.21	-0.21	0.01	-0.20	0.01	0.22
$X_6$								1	0.07	0.32*	0.13	0.12	-0.26*
$X_7$									1	-0.26*	-0.04	-0.16	-0.23*
$X_8$										1	0.22	0.13	0.08
$X_9$											1	0.09	0.21
$X_{10}$												1	0.13
$X_{11}$													1

Note: \* Correlation is significant at the 10% level of significance (2-tailed). \*\* Correlation is significant at the 5% level of significance (2-tailed). \*\*\* Correlation is significant at the 1% level of significance (2-tailed).

Table 3 illustrates the impact of various executive remunerations and board of directors' characteristics variables on the discretionary accruals ( $Y_1$ ), as calculated by the balance sheet method, and the discretionary accruals ( $Y_2$ ), as calculated by the cash flow method. The results show that the natural log value of the CEO's remuneration ( $X_1$ ), and the CEO's performance-based remuneration to fixed remuneration ratio ( $X_2$ ) positively affect ( $Y_1$ ), however, the same independent variables do not affect  $Y_2$ . In other words, as the total remuneration of the CEOs and performance-based remuneration for the given fixed remuneration of CEOs increase (decrease) the quality of financial reporting signified by the balance sheet method deteriorates (improves), however, the quality of financial reporting as measured by cash flow method remain unaffected. According to Cheng and Warfield (2005), discretionary accruals can be used to overstate the earnings to beat or meet the earnings forecast to claim high equity incentives by managers. Bergstresser and Philippon (2006) have found that CEOs whose remuneration packages comprise of a higher proportion of equity incentives are more likely to resort to earnings management activities.

An increase (decrease) in the median performance-based remuneration to fixed remuneration ratio of the executive board ( $X_3$ ) has an unfavorable (favorable) impact on both financial reporting quality measures, i.e.,  $Y_1$  and  $Y_2$  representing discretionary accruals measured by the balance sheet, and cash flow method, respectively. It can be argued that the motivation of firm executives to manipulate earnings is higher when the incentives for beating or meeting earnings forecasts are high since such incentives can lead to their personal gains. On the other hand, the median performance-based remuneration to fixed remuneration ratio of the non-executive board ( $X_4$ ) has an impact on neither  $Y_1$  nor  $Y_2$ .

Notably, any increase (decrease) in the natural log of board size of firms ( $X_5$ ), the median level of education of directors of the firm ( $X_6$ ), and board independence of a firm ( $X_{10}$ ) improve (deteriorates) the quality of financial reporting measured by both  $Y_1$  and  $Y_2$ . A similar impact is of the natural log of

assets of firms ( $X_{11}$ , measure of the firm size) on both measures of financial reporting measured by both  $Y_1$  and  $Y_2$ . One can interpret from the finding of the impact of the education background of the board members on the financial reporting that more educated board members tend to manipulate lesser the financial data of firms because educated board members understand the worth of reputational gain that they can acquire and accumulate by producing high-quality financial statements. Chiang and He (2010) find a similar favorable impact of education board members on the quality of financial reporting. The finding of the current study that a larger board improves the quality of financial reporting is in contrast with the finding of Beasley (1996), who recognizes that the likelihood of financial statement fraud is higher with a larger board. Abbott et al. (2000) find no significant relationship between board size and financial reporting quality.

On the other hand, any increase (decrease) in the median firm-specific experience of directors of the firm ( $X_8$ ) deteriorates (improves) the financial reporting quality as measured by both  $Y_1$  and  $Y_2$ . This finding is consistent with that of Chtourou et al. (2001), who have shown that there exists a direct relationship between the experience of a board member on the respective board and the likelihood of earnings management. This phenomenon can be observed because the more the board members know about the firm's operations and accounting procedures, the easier they find it to identify loopholes that can allow them to do manipulation the financial data and exercise their discretion when preparing the financial statements (Gerety & Kenneth, 1997). This subsequently lowers the quality of financial reporting by a firm. Similarly, median multiple directorships of firm executive directors ( $X_9$ ) have the same impact on variables  $Y_1$  and  $Y_2$ . The findings show an adverse impact of the phenomenon of multiple directorships of firm executive directors on the quality of financial reporting. A similar result has also been shown by Hundal (2016). However, Ferris et al. (2003) do not observe such phenomenon in their study.

**Table 3.** Multivariate regression analysis-effects of executive remuneration and board of directors variables on discretionary accruals

<i>Discretionary accruals (DA)-Balance sheet method (dependent variable)-Y<sub>1</sub></i>	<i>OLS estimates (t-statistics)</i>	<i>Discretionary accruals (DA)-Cash flow method (dependent variable)-Y<sub>2</sub></i>	<i>OLS estimates (t-statistics)</i>
Intercept	-0.191*** (-9.035)	Intercept	-0.032 (-1.234)
X <sub>1</sub>	0.123*** (12.864)	X <sub>1</sub>	-0.081 (-0.656)
X <sub>2</sub>	0.164*** (18.887)	X <sub>2</sub>	-0.103 (-1.112)
X <sub>3</sub>	0.164** (2.953)	X <sub>3</sub>	0.127** (2.878)
X <sub>4</sub>	0.072 (0.857)	X <sub>4</sub>	0.014 (0.248)
X <sub>5</sub>	-0.090** (-2.374)	X <sub>5</sub>	-0.088* (-1.722)
X <sub>6</sub>	0.209** (2.564)	X <sub>6</sub>	-0.093 (-0.730)
X <sub>7</sub>	-0.277*** (-9.038)	X <sub>7</sub>	-0.255** (-3.514)
X <sub>8</sub>	0.093** (3.195)	X <sub>8</sub>	0.047*** (7.683)
X <sub>9</sub>	0.214** (2.979)	X <sub>9</sub>	0.231* (1.968)
X <sub>10</sub>	-0.096*** (-9.374)	X <sub>10</sub>	-0.072** (-2.674)
X <sub>11</sub>	-0.042* (-1.724)	X <sub>11</sub>	-0.084** (-2.567)
Adjusted R <sup>2</sup>	0.58	Adjusted R <sup>2</sup>	0.33
Durbin-Watson test	1.92	Durbin-Watson test	2.01
Number of firm-years	698	Number of firm-years	698

Note: \* Multivariate regression coefficients significant at the 0.10 level (2-tailed). \*\* Multivariate regression coefficients significant at the 0.05 level (2-tailed). \*\*\* Multivariate regression coefficients significant at the 0.01 level (2-tailed).

However, an increase (decrease) in the median age of executive board members of firms ( $X_6$ ) unfavorably (favorably) influences the financial reporting quality as measured by both  $Y_1$ , however, the same has an insignificant impact on  $Y_2$ .

## 5. CONCLUSION

Since the approval of the board of directors is mandatory before publishing the financial statements, therefore, characteristics and background of corporate directors can be important determinants, among others, that affect the choice of accounting policies, and procedures and the resultant outcome in the form of financial reporting quality. Similarly, executive remuneration is considered an important motivation for corporate directors to perform their job efficiently and diligently. Since an important 'job' of corporate directors is to produce and publish high-quality financial reporting of the firms, therefore, one can postulate the impact of the nature and composition of executive remuneration on the financial reporting quality of the firms.

In the extant literature, there is a need to develop more and clearer theoretical underpinnings and collect systematic and convincing empirical evidence about the impact of board of directors' characteristics and executive remuneration on the financial reporting quality. Such hypothetical empirical evidence can be both vices and virtues based on their theoretical reasonings. The agency theory underscores various vices, and the resource-dependence theory highlights several virtues. According to the agency theory, several outside directors, due to their business and economic interests in the firm, can be less independent in terms of performing their core responsibility of monitoring and controlling executive actions. Such

outside albeit dependent directors can be inclined to support the CEO and his/her loyalists. Under such circumstances, the powerful CEOs of can find it easier to extract disproportionate rewards from the firms and/or manipulate financial data to emit positive signals about the firms and/or tweak the financial data to claim higher compensation if their reward is linked with the accounting performance indicators. On the other hand, the resource-dependence theory discusses various virtues. Outside directors enjoying a significant reputation in the market of corporate directors owing to their substantial experience, higher qualifications, and their professional connections (for example, measured by multiple directorships) are more likely to perform their core responsibilities including monitoring, controlling, and advising the CEO led executive teams of the firms. Such directors carrying higher premiums in the market of corporate directors can challenge the executive team openly and fearlessly if they notice managerial actions jeopardizing the interests of the firms. Therefore, it becomes imperative to theorize any discussion involving the interplay between the board of directors' characteristics, executive remuneration, and financial reporting quality from multiple theoretical standpoints. Such multiple theoretical standpoints can also be useful to interpret and infer empirical findings.

In general, there is a paucity of empirical studies exploring the interactions between the board of directors' characteristics, executive remuneration, and financial reporting quality in Nordic corporate settings. The current study has attempted to bridge the above-mentioned research gaps by analyzing the firms in the manufacturing sector in three Nordic countries: Finland, Sweden, and Denmark.

The study shows that the amount of remuneration and the proportion of performance-based remuneration for the given fixed remuneration that the CEOs receive, affect the financial reporting quality adversely. The above findings underscore that as the CEOs obtain higher remuneration and higher performance-based remuneration, they intuitively feel the pressure to produce favorable financial performance indicators to justify them. Therefore, CEOs can have a stronger motivation to tamper the financial data and/or change accounting policies and/or procedures to serve their vested interests. A similar result has been obtained about the impact of median performance-based remuneration on the fixed remuneration ratio of executive board members. A similar argument in support of the finding can be given in this context too. It can be argued based on this finding that the motivation to obtain and justify a higher level of performance-based remuneration is not merely confined to the CEOs alone. The executive directors of a firm, as a part of the CEO-led team, may want to maintain the favorable accounting performance of the firm. Overall, the motivation of the CEOs and the executives' board members to manipulate the financial performance is higher to justify their meet and beat earnings targets. The abovementioned findings come in conflict with the concept of bonding costs given in the agency theory. In theory, performance-based remuneration creates a bond between the agent (executives) and the principal (shareholders) of the firms. Owing to their aligned economic and professional interests, the agents are expected to work in the best interests of the principals. However, in the current study, based on the empirical evidence, the agents appear to be expropriating the firms' resources (obtaining higher levels of remuneration and performance-based remuneration) through financial data manipulation activities. On the other hand, the performance-based remuneration for a given level of fixed remuneration of non-executive board members has no significant impact on the quality of financial reporting.

Similarly, a larger board size can contribute to the improvement of the quality of financial reporting, *ceteris paribus*. A possible explanation of this finding is that a larger board of a firm implies a larger level of reputational capital of the firm directors. A larger board can be more meaningful in the monitoring and controlling of executive actions by creating an effective system of reporting and disclosures. Similarly, the CEOs and their executive

team can find it harder to win over more board members on the larger boards to exert their influence over actions, planning, and strategies of the firm, on the one hand, and accounting data and accounting policies and procedures, on the other hand. Similarly, more educated board members have, first, better knowledge and understanding to detect any financial data manipulations, and second, a better consciousness of any potential firm and/or personal reputational loss associated with any act of omission or commission related to the earnings management of the firms. Furthermore, the board independence of the firms helps to improve the quality of financial reporting. It can be argued that independent directors have the first and foremost responsibility to monitor and control managerial actions and financial reporting quality is an important reflection of such actions.

Interestingly, the median firm-specific experience of directors of the firms unfavorably affects the financial reporting quality. One can argue that with the increased firm-specific experience directors can find it relatively easy to exercise their discretion to use or not to use certain accounting policies and procedures to serve their vested interests even if such actions or even inactions compromise the financial reporting quality of the firms. This finding is in contrast with the core idea of the resource-dependence theory. Similarly, median multiple directorships (busyness) of firm executive directors cause an unfavorable impact on the financial reporting quality of the firms. Often, the incidence of multiple directorships of executive board members of the firms is motivated by the phenomenon of board interlocking and rent extraction from the firms. Similarly, multiple directorships of executive board members can be used as a tool to erode board independence. Based on the above reasoning, it is easy to understand that the busyness of the firm executive directors can unfavorably influence the financial reporting quality. In a similar vein, the median age of executive board members of firms can be termed as a proxy of managerial entrenchment targeted to serve the personal utility function of executive members and CEOs of the firms.

The current study is not free from limitations. The sample size is smaller and confined to the manufacturing firms alone. Similarly, more robustness tests are needed to enhance the quality of interpretations of the findings.

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