

Non-Financial Performance Measures in Executive Bonus Contracts and Firm Performance

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Abstract

This study investigates whether there is a relationship between the inclusion of non-financial performance measures (NFPM) in CEO bonus contracts and firm performance in the short-term perspective of one year. Data is hand collected from the preceding year's remuneration reports of 106 Nordic large cap firms listed on Nasdaq. From the cross-sectional data set, two multivariate linear regressions have been performed with two different proxies for firm performance. Although previous studies have found a positive relationship in the long run we did not find support for a positive relationship between the inclusion of NFPM in CEO bonus contracts and firm performance in the short-run. As a complementary qualitative analysis, we noted that ESG objectives are incorporated in only 35% of the executive bonus plans.

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1 Introduction

1.1 Theoretical Background

1.1.1 Principal-Agent Theory

An important theoretical concept underlying much of the literature on incentives in executive compensation is the Principal-Agent Theory. Fundamentally, this theory is based on the separation of ownership and control in organizations, where the agent (manager) is in control of the day-to-day decision-making, while the principal (shareholder/s) is the owner of the firm (Jensen and Meckling, 1976). If the interests between the principal and the agent were the same, then there would be no inherent problem with this division, but in many instances that is not the case. For example, it is assumed that the interest of the principal is to enhance the long-term economic value of the firm, while for the agent there could potentially be other factors motivating decision-making, such as short-term personal economic gains (Jensen and Meckling, 1976, Morck et al., 1988, Holmström, 1979). The agent might, for example, take on NPV negative projects since it benefits them. These projects could be in the form of overinvesting or engaging in NPV negative acquisitions (empire building) in order to motivate a higher salary. It could also include low work effort (shirking) or overconsuming corporate perks. In the literature on the Principal-Agent relationship, this is called moral hazard, referring to the situation where two or more persons share in risk-taking and where the actions of one person affect an outcome which in turn affects all members part of the relationship (Holmström, 1979). Holmström (1979) further argues that this issue arises since individual actions cannot be observed or completely monitored.

2 Hypothesis Development

2.1 Literature review

By implementing well-designed incentive programs for CEOs, there is an attempt by firms to mitigate the Principal-Agent problem (Jensen and Meckling, 1976). As stated in the previous section, at the core of the issue lies the discrepancy of interests between the principal (shareholders) and the agent (the CEO), where the shareholders in theory seek to maximize the long-term vitality and value of the company while the CEO may seek to reap short-term personal benefits (Bebchuk and Stole, 1993). In an effort to align the actions of the CEO with the interests of the shareholders, the CEO's compensation is contingent on reaching objective measures and targets. There are many benefits to using performance measurements to incentivise actions, including translating the overall business strategy into actions, promoting coordination between different executives in a firm, and by providing a communicative value to outsiders (Guay et al., 2019, Ittner et al., 1997, Bloomfield et al., 2021). The informativeness principle, a concept within agency theory, stipulates that any outcome measure that give information on what action the agent has taken should be included in the contract to align the interests between CEOs and shareholders (Banker and Datar, 1989, Holmström, 1979).

2.1.1 The Structure of Executive Compensation Plan

The CEO's annual remuneration is composed of a fixed and a variable component. The fixed component consists of the CEO's base salary, while the variable component can fluctuate depending on the outcome of pre-determined performance measures set by the board of directors. The variable component is further divided into a Short Term Incentive Plan (STIP) and Long Term Incentive Plan (LTIP). The STIP is limited to a shorter time period of one year while the LTIP is longer and extends over multiple years. Our research will focus exclusively on the STIP, also known as the bonus plan. The STIP can be fully based on financial performance measures (FPM) or also include non-financial performance measures (NFPM) (Aggarwal, 2008).

2.1.2 Financial Performance Measures

As noted by Aggarwal (2008), FPM are most commonly tied to accounting measures such as return on assets (ROA), return on equity (ROE) and economic value added (EVA). Even though using accounting targets as incentives is convenient as they clearly communicate if projects have been value-adding or value-destroying, there are issues associated with them. Firstly, they are so-called lagging measures of performance. By being backwards-looking in nature, they may lead to managers realizing the root cause of potential performance issues too late, when potential damage has already been done (Kaplan and Norton, 1996). Secondly, managers have the possibility to manipulate accounting measures by for instance shifting profits across periods or by changing discretionary accruals (Murphy, 1999). Finally, it may lead to managers maximizing financial results in the short-term, at the expense of long-term value creation and competitiveness (Bennett et al., 2017, Ittner et al., 1997).

2.1.3 Non-Financial Performance Measures

In contrast to FPM, NFPM are so-called leading measures which implies that they are forward-looking in nature and employed as predictors of future firm performance. Leading measures could, among other things, be linked to internal processes, ESG or customer satisfaction. For example, by excelling in terms of customer satisfaction, conditions are deemed favorable for future revenue. Thus, while FPM is valuable in order to assess the current state of the business, NFPM provides insights on future firm profitability (Marr, 2020).

Furthermore, Ibrahim and Lloyd (2011) found that there is less risk of accruals manipulation and earnings management when executive incentives are made up of a combination of NFPM and FPM. Feltham and Xie (1994) also concluded that one of the main issues with using financial performance measures as a contingency for the manager's reward is that there are always uncontrollable events influencing performance outcomes, which makes it difficult to determine what outcomes are caused by the actions of the manager. Thus, according to previous literature, NFPM are more consistent with agency theory, since they remove the noise associated with FPM which is beyond the managers' control (such as macroeconomic factors) and will accordingly, provide more accurate information about the manager's actions (Banker et al., 2000, Aggarwal, 2008, Murphy, 1999, Ittner et al., 1997, Banker and Datar, 1989).

In 1997, Ittner et al., found that 36% of the 114 companies in their sample included NFPM in the CEO's bonus plans. They also investigated the driving forces of implementing NFPM in executive bonus plans and found that innovations-oriented firms are more inclined to incorporate NFPM. They measured innovation as a combination of different factors, including R&D spending. In a more recent study conducted in 2020, Wittmen et al, found that NFPM is becoming increasingly common, as its inclusion in CEO bonus plan has increased from 55% in 2010 to 73% in 2020. In their study, they divided NFPM into three broad categories; business objectives, ESG outcomes and a residual category (for the performance measures lacking specific target objectives). The residual category represented 62% of the sample, thus although NFPM are becoming increasingly common within executive bonus plans, they often lack clearly defined performance measures in public reports. Although, on a more positive note, it is possible to assess whether or not ESG is included in CEO bonus contracts.

2.1.4 Nonfinancial Performance Measurements and Firm Performance

In 1998, Ittner and Larcker found that a specific NFPM, customer satisfaction, is a leading indicator of customer purchase behavior, which in turn leads to improved financial performance in the form of revenues, profit margins and return on sales. Thereafter, Banker et al., (2000) specifically studied the hotel industry and found a positive relationship between adopting non-financial performance measures (in this case, customer satisfaction) and firm performance. They also discovered that it only took six months for improvements in NFPM to yield improvements in firm performance. Similarly, Gan et al., (2020)'s research indicates that including NFPM in the CEO bonus plan increases the firm's long-term value. Banker and Mashruwala (2007) further validate the conclusion that NFPM has a positive impact on financial performance and that the effect is even stronger when moderated by the firm's competitive environment. Additionally, in 2006, Makri et al. studied the U.S. manufacturing industry and found that technologically intensive firms perform better when their CEO incentives are linked to a holistic set of financial results and innovation quality indicators. Although several studies have concluded that there is a positive relationship between incorporating NFPM in CEOs' bonus contracts and firm performance, the scope of research in this field is still limited. Moreover, there are concerns regarding the timeliness of the effect

previously found and emphasis is mostly placed on the long-term positive effect of NFPM. Thus, our decision to research the short-term effect of including NFPM in CEOs' bonus contracts on firm performance.

2.2 Research Purpose

As alluded to in previous paragraphs, there are several studies and articles claiming the benefits of using NFPM. More specifically, Banker (2000) found that NFPM can have a positive effect on firm performance even in the short-run, however, this study was limited to the hotel industry. We are keen to investigate if this finding could be generalized to other industries and other geographical settings than the U.S. Thus, our decision to study if there is a positive relationship between NFPM in CEOs bonus contracts and firm performance in the short-run for large cap companies in the Nordics.

Additionally, we conduct a smaller qualitative assessment of the inclusion of ESG-related metrics in CEOs' bonus plans. This assessment is of interest as the ISS's 2021 Global Benchmark Policy Survey (Global Benchmark Policy Survey, 2021) found that 81 percent of investors believe that both the STIP and the LTIP are appropriate for the inclusion of non-financial ESG-related performance metrics. Hence, there is a clear acceptance and interest from the side of investors for ESG inclusion in bonus programs and a need to investigate the current status quo.

Our research yields important implications for a range of stakeholders. Firstly, aligning the incentives of the shareholders and managing directors is a fundamental part of the work of the board of directors, and in particular the compensation committee, which is assigned with designing the incentive contract for the CEO. Secondly, it is also in the interest of investors and analysts to gain insight on how changes in the weights placed on non-financial- and financial performance measurement potentially affect firm performance. Thirdly, this research could potentially encourage policymakers to demand higher levels of disclosure from companies with regard to their CEO incentive programs.

Our Formal Research Question

Is there a relationship between the inclusion of NFPM in CEOs bonus contracts and firm performance in the short-run?

2.3 Hypothesis

H0:

There is a positive relationship between the inclusion of non-financial performance measures in CEO bonus contracts and firm performance in the short-run.

3 Empirical Methodology

3.1 Research Design

Our main objective is to compare the performance of firms that use both FPM and NFPM in their CEO bonus contracts with the performance of firms that have their CEO bonus solely contingent on FPM. Thus, our treatment group consists of firms having executive bonus contracts which includes NFPM and our control group are firms having executive bonus contracts without NFPM. Since the data on the relative weight of NFPM in CEO bonus contracts are most readily available for the most recent fiscal year, we performed a cross-sectional analysis of the relationship between NFPM and firm performance. With our data being cross-sectional, data at a specific point in time was analyzed, in our case over a one year period (2020-2021). To control for other factors which may explain differences in financial performance outcome, a set of firm-specific characteristics were accounted for, explained more in depth further down.

Our statistical analysis includes a descriptive statistic of our treatment and control group as well as of our sample on an aggregate level. Additionally, we include descriptive statistics of the distribution between industry classifications. This part is complemented with a qualitative assessment of the proportion of CEO bonus plans including ESG-related metrics.

Thereafter, the main analysis is conducted through two separate multivariable linear regression (MLR) with two different proxies for financial performance, ROE and ROA.

3.2 Dependent and Independent Variables

3.2.1 Dependent Variables

There are several ways to measure the performance of a firm, including accounting measures as well as market based measures. In our study, we used two different accounting-based measures indicative of firm performance. Firstly, we used return on equity (ROE) as our proxy for financial performance. This accounting measure, per definition, focuses specifically on the return shareholders receive and it is a commonly applied performance indicator for analysts and investors (Hagel, Brown et al., 2010). ROE is defined as *Net Income_t* divided by *Shareholders' Equity_t*. Secondly, we will use another common accounting measure as a

proxy for performance, return on assets (ROA). ROA is often viewed as a measure of operational efficiency, where a high percentage is indicative of how well a company can convert its invested capital into profits. ROA is computed by taking *Net Income_t* divided by *Total Assets_t*.

3.2.2 Main Independent Variable

NFPM - All measures that provide performance information in non-monetary terms qualify as NFPM. This independent variable takes the form of a dummy variable in our regression model. The variable will take on the value 1 if a firm has chosen to include NFPM in the CEO bonus contract for 2021 and, if not, the firm is assigned a 0. To obtain the data for our independent variable, we have hand-collected information from the 2021 remuneration report for each individual firm. Remuneration reports are retrospective in nature and disclose information on board and executive pay levels in relation to their compensation plans. This document can be found under the section "Investor Relations" of company websites and, more specifically, it is commonly attached to the Annual General Meeting's event information as stipulated by the Swedish Corporate Governance Board ("The Swedish Corporate Governance Board", n.d.). However, in some cases, remuneration reports have been more difficult to find and, in those cases, further research has been made by searching for the information in annual reports (where there usually is a section dedicated towards executive compensation).

3.2.3 Control Variables

Beyond our key independent variable, the inclusion of NFPM in the CEO bonus program, there are many other factors which have an impact on firm performance. In order to handle this, so-called issue of omitted variable bias, which may lead to distorted results we have included a set of control variables. Actions have also been taken to mitigate the issue of endogeneity by controlling for variables which indirectly affect our dependent variable by affecting a firm's propensity towards using NFPM. Thus, with our selection of control variables efforts have been made to isolate the effect between the independent and dependent variable.

On another related note, since we are studying firm performance during the covid-19 pandemic, there might be some concerns regarding how this will affect our statistical

outcomes. However, as we are assuming that the pandemic had roughly similar effects -in regards to performance- across industries as well as our study only covering one time period, we have made the choice not to control for this on an industry level.

Leverage

Leverage - Our chosen proxy for firm performance, ROE, can obscure some issues. For example, companies with a growing debt leverage can maintain a decent ROE even though operational profitability is eroding (Hagel, Brown et al., 2010). For this reason, we will include leverage as a control variable. We measure leverage as $Debt_t/Equity_t$. Leverage has the potential to increase return on investments however it also exposes companies to more risk (Hayes, 2022). Hence, we expect a nonlinear relationship between leverage and firm performance.

Firm Size

SIZE - We have also chosen to use firm size as a control variable. As larger firms have the ability to invest extensively in R&D, Govindarajan et al., (2019) found that they are better able to sustain their dominant positions, while smaller firms struggle to grow and become more profitable. Accordingly, we expect a positive correlation between firm size and firm performance. We measure the size of the firm as the $\log$ of *total assets_t*.

Firm Growth Opportunities

Potential Growth - Earlier research indicates that the growth opportunities of the firm are positively associated with the choice of the firm to include NFPM in the CEO bonus contract (Schiehll and Bellavance, 2009, Bushman et al., 1996). We measure firm growth opportunities using market-to-book during the previous year (2020). Additionally, Baker and Wurgler show in their 2002 study that a high market-to-book ratio is positively correlated with net equity issued and growth in assets. Intuitively, one can think of this ratio as the market premium of a firm. Consequently, a firm with a high market-to-book ratio is seen as being able to generate good returns for investors, and vice versa for a firm with a low ratio. Controlling for the market-to-book value also helps fill the gap between using an accounting-based measure for financial performance by capturing the effects from the decisions made by the CEO which is included in the market price but not in accounting measures (Schiehll and

Bellavance, 2009, Said et al., 2003, Bushman et al., 1996). We predict that a firm's market-to-book ratio is positively correlated with implementing NFPM and firm performance.

Firm Past Performance

ROA 2020 & ROE 2020 - Several studies have noted that a firm's past performance is indicative of its future performance (Said et al., 2003, Fama and French, 1996, Banker and Mashruwala, 2007), therefore we include the firm's lagged performance in the form of ROE_{t-1} and ROA_{t-1} to control for this correlation. Due to the income momentum on the margin, i.e. that the recurring factors which lead to either increases or decreases in income from t-1 to t tend to continue to create changes in income from t to t+1 we predict that there is a positive correlation between the firm's past and current performance (Banker and Mashruwala, 2007, Albrecht et al., 1977).

Innovation

Intangibles - As Ittner et al., (1997) discovered that innovations-oriented are more likely to implement NFPM, we have decided to control for this factor in our study as well. Their proxy for innovation was composed of multiple factors, including R&D expenses. Though, as many companies within our sample lacked information on R&D expenses, we opted for an alternative proxy for innovation; *Intangible Assets_t/Total Assets_t*. For this control variable, we assume that companies with a relatively higher level of intangible assets pursue a more innovative strategy. Moreover, based on previous empirical findings, we expect to find that firms in our sample that have a higher ratio of intangibles are more likely to enact NFPM.

Control Variable	Definition	Source
Size	$Ln(Total\ Assets_t)$	Nasdaq Large Cap
Growth Opportunities	$Share\ Price_{t-1} / Share\ Book\ Value_{t-1}$	S&P Capital IQ
Leverage	$Total\ Debt_t / Total\ Equity_t$	Nasdaq Large Cap
Firm Past Performance	$ROE_{t-1}\ and\ ROA_{t-1}$	Nasdaq Large Cap
Intangibles	$Intangible\ Assets_t / Total\ Assets_t$	Nasdaq Large Cap

4 Data

4.1 Data Collection

Our entire sample set is hand collected using Nasdaq's list of large cap firms in the Nordics. The reason for using this database is to contribute to the empirical literature by conducting research on firms that have not been extensively studied before within our chosen topic. As previously mentioned, much of the existing literature exploring the link between NFPM and financial performance focuses on US data, and by conducting our study we wish to broaden the research field. We have also chosen to focus on a specific region (the Nordics), since this could lead to a strengthened comparability between our firms. To categorize firms according to industry, Nasdaq uses the Industry Classification Benchmark (ICB), which is based on each company's principal activity. The classification consists of four tiers, (1) 11 different industries, (2) 20 supersectors, (3) 45 sectors and (4) 173 subsectors ((2021) ("Industry Classification Benchmark (ICB)," n.d).

The number of companies classified as Nordic large cap companies amounts to 254. Out of this sample, 57 companies are within the Financial industry. After excluding these due to their vastly different balance sheet structure, we were left with 197 companies. From this, 20 companies dropped out due not having a bonus plan set up for the CEO. Additionally, 25 companies dropped out due to lack of specifications regarding the weighting between the NFPM and FPM and finally 45 companies dropped out due to difficulties with finding the Remuneration Reports.

In our final cleaned sample, we end up with 106 companies. As stated, some companies from the initial data source have been removed due to lack of data on the split between FPM and NFPM in the remuneration report, others do not employ a bonus plan for the CEO. The attrition of data is not deemed a topic of concern as the fall out of data is not due to one overarching systematic pattern and the sample size remained large enough for the statistical analysis. For each firm, we have hand collected twelve data points in order to construct our dependent variables, our main independent variable and our control variables.

4.1.1 Regression Equation With ROE as a Measure of Performance

$$ROE = \beta_0 + \beta_1 NFPM + \beta_2 ROE_{2020} + \beta_3 SIZE + \beta_4 GROWTH_POTENTIAL + \beta_5 LEVERAGE + \beta_6 INTANGIBLES$$

4.1.2 Regression Equation With ROA as a Measure of Performance

$$ROA = \beta_0 + \beta_1 NFPM + \beta_2 ROA_{2020} + \beta_3 SIZE + \beta_4 GROWTH_POTENTIAL + \beta_5 LEVERAGE + \beta_5 INTANGIBLES$$

5 Results and Analysis

In this section, we examine the empirical results of our statistical analysis. First, we look at the descriptive statistics, then we follow up our analysis with two multivariable regression models, one for each proxy for firm performance, ROE and ROA, respectively.

5.1 Description of Data

Table I
Sample Selection & Attrition

<i>Original Sample</i>	Nordic large cap companies listed on Nasdaq	254
<i>Dropped due to:</i>	Financial Service Industry	-57
	No STIP	-20
	Lack of specifications	-25
	Remuneration Report could not be found	-45
<i>Cleaned Data:</i>		106

Table II
Industry Classifications

Industries	Nr. of companies
Real Estate	6
Basic Materials	8
Industrials	36
Consumer Goods	7
Consumer Services	14
Health care	20
Telecommunications	3
Utilities	2
Technology	8
Energy	2

Table III
Size of Treatment and Control Group

CEO bonus plan with NFPM	72
CEO bonus plan without NFPM	34

The final cleaned sample size consists of 106 companies. Within this sample, 72 companies have CEO bonus contracts including NFPM and the remaining 34 companies apply CEO bonus contracts solely based on FPM. Thus, approximately 70% of Nordic large Cap companies apply NFPM at the executive level, which is in line with the previously mentioned study conducted by Diligence Institute in 2020. Within our sample, ten different industries are represented. The industry labeled as Industrials is the most represented industry with 36 companies and Health Care is the second most represented with 20 companies. However, as the industries are unproportionally represented and some contain only a scarce amount of companies, we have decided not to conduct an additional segmented industry analysis and instead focus on the aggregate level of the data set.

Table IV
Descriptive Statistics of Full Sample

	<i>Min</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Max</i>
<i>ROE 2021</i>	-20.4	19.06	14.78	71.20
<i>ROE_2020</i>	-54.70	14.88	16.04	69.70
<i>ROA 2021</i>	-4.5	8.78	7.59	40.10
<i>ROA 2020</i>	-11.10	6.73	7.13	32.00
<i>SIZE</i>	6.63	10.39	1.41	14.24
<i>Potential Growth</i>	0.46	5.25	6.06	34.94
<i>Leverage</i>	0	0.48	0.55	4.10
<i>Intangibles</i>	0	0.33	0.25	0.92

The average level of leverage is 0.48, though the standard deviation is quite high (0.55). It is also noted that there is at least one company with no leverage and one company on the other

extreme with a leverage of 4.1. This difference could be explained by the fact that our sample covers many different industries and the optimal level of leverage differs from one industry to another as they are exposed to different business contexts and competitive environments. For example, a company in a less turbulent business environment may choose to have more debt and it would have also received permission from the bank to acquire more loans with the expectation of being able to repay in the future. While a company in a more turbulent business environment, may have a more uncertain future cash flow and accordingly, may not be able to take advantage of leverage to the same extent (Johansson and Runsten, 2014).

The average ROE in 2020 was 14.88 while the average ROE in 2021 was 19.06. This notable difference over only one year could partially be explained by the presence of one low outlier in 2020 which would decrease the aggregate level mean of the sample. The low extreme could also be contributing to the higher standard deviation seen in 2020 compared to 2021. The higher standard deviation in 2020 could in general be explained by the fact that the pandemic affected some industries more than others, such as the airline company in our sample which had a ROE of -21.6% in 2020. Although, it is noted that the standard deviation of ROA in 2020 and 2021 were roughly similar (7.59 and 7.12, respectively).

Table V
Proportion of Firms With and Without ESG-Related Metrics

CEO bonus plan with ESG	37
CEO bonus plan without ESG	69

As an additional qualitative assessment, we examined the proportion of firms that incorporate ESG related metrics and, based on our result, only 35% of firms involve ESG metrics in their CEOs bonus program.

Table VI**Descriptive Statistics of Treatment Group**

	<i>Min</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Max</i>
<i>ROE 2021</i>	-20.4	19.08	16.13	71.20
<i>ROE 2020</i>	-54.70	13.58	17.32	69.70
<i>ROA 2021</i>	-4.50	8.44	7.82	40.10
<i>ROA 2020</i>	-11.10	6.15	7.51	31.20
<i>SIZE</i>	6.63	10.63	1.38	14.24
<i>Potential Growth</i>	0.46	4.81	-	26.69
<i>Leverage</i>	0	0.55	0.63	4.10
<i>Intangibles</i>	0	0.31	0.25	0.92

Table VII**Descriptive Statistics of Control Group**

	<i>Min</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Max</i>
<i>ROE 2021</i>	3.9	19.01	11.63	62.00
<i>ROE_2020</i>	1.70	17.64	12.72	58.60
<i>ROA 2021</i>	1.60	9.52	6.16	32.90
<i>ROA 2020</i>	0.90	7.95	11.63	32.00
<i>SIZE</i>	7.09	9.86	1.32	13.15
<i>Potential Growth</i>	1.04	6.17	-	34.94
<i>Leverage</i>	0.00	0.33	0.26	0.90
<i>Intangibles</i>	0.03	0.38	0.24	0.92

Firstly, it is noted that companies with NFPM differ on the average level of leverage, potential growth, intangible assets and size. Thus, confirming our previous expectations that these variables are important to control for when studying firm performance. Simply based on averages, companies that implement NFPM at the executive level are slightly larger, have smaller potential growth and are less innovative. This last finding is surprising as it contradicts the previous empirical finding by Ittner and Larcker (1997) which suggested that companies that are more innovative are more likely to implement NFPM.

On average, the treatment and control group have almost identical ROE in 2021. However, when looking at our other proxy for firm performance, ROA, we observe a surprising difference where the control group has a slightly higher firm performance, on average. This piece of information contradicts our main hypothesis, though further investigation is needed

to draw a proper conclusion. Additionally, it is important to note that the extreme outlier which has previously been mentioned is a part of the treatment group and it is most likely negatively affecting the average ROA of the treatment group on an aggregate level.

5.2 Regression of ROE

Table VIII
Regression of ROE

<i>Coefficients</i>	<i>Estimates</i>	<i>Std. Error</i>	<i>T value</i>	<i>Pr(> t)</i>	
<i>NFPM</i>	2.37	2.21	1.07	0.29	
<i>ROE 2020</i>	0.53	0.08	6.75	1.13e-09	***
<i>SIZE</i>	1.55	0.84	1.84	0.07	.
<i>Potential Growth</i>	0.77	0.22	3.59	0.0005	***
<i>Leverage</i>	-0.50	1.90	-0.26	0.79	
<i>Intangibles</i>	-2.58	4.31	-0.60	0.55	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Multiple R-squared	0.5766
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As previously predicted, size, past performance and growth potential are all positively and significantly affecting the following year's performance (at a 10% significance level). The ratio of intangibles assets over total assets is negatively correlated, however the effect is not statistically significant. Leverage has a negative but non-significant effect on ROE. The fact that leverage does not appear as a statistically significant factor in a linear regression is not surprising. As previously noted, the level of leverage differs vastly within our sample which covers multiple industries. Also, when studying how leverage affects ROE there may be issues with endogeneity since, depending on the business environment, different levels of leverage may be deemed appropriate. Hence, leverage is difficult to generalize across multiple industries in a linear regression.

Our main variable of interest, the inclusion of NFPM in CEO bonus contracts, has a positive (2.37) however not significant effect on our dependent variable, ROE. The positive effect is in line with our hypothesis, however, as it is not statistically significant the obtained result cannot confirm our hypothesis. Regarding the explanatory power, the R-squared is approximately 0.58 which means that the independent variables explain approximately 58% of the variation in the dependent variable. This result indicates that there may be important variables missing in our model or simply that ROE is a noisy and difficult variable to predict. Nevertheless, the level of explanatory power of the model is deemed acceptable.

Multicollinearity exists when multiple variables in a model are highly correlated and results in less reliable statistical inferences. In order to screen for multicollinearity, we have conducted a VIF test as a robustness check. As the VIF result of each variable is clearly below ten (see Appendix), we can conclude that there are no issues with multicollinearity.

5.3 Regression of ROA

Table IX
Regression of ROA

<i>Coefficients</i>	<i>Estimates</i>	<i>Std. Error</i>	<i>T value</i>	<i>Pr(> t)</i>	
<i>NFPM</i>	0.55	1.10	0.50	0.61	
<i>ROA 2020</i>	0.64	0.10	6.35	7.11e-09	***
<i>SIZE</i>	0.39	0.42	0.93	0.35	
<i>Potential Growth</i>	0.29	0.12	2.40	0.0183	*
<i>Leverage</i>	-1.08	0.98	-1.10	0.28	
<i>Intangible ratio</i>	-0.87	2.20	-0.40	0.69	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Multiple R-squared	0.5967
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In order to enhance the validity of our result we have also conducted an additional MLR regression with another proxy for financial performance, ROA. The model is similar to the previous, though, in this second regression, firm performance is based on ROA 2021 instead of ROE 2021 and past performance is based on ROA 2020 instead of ROE 2020.

In line with our expectations, the results in this separate multivariable regression are similar to our previous regression. Past performance and potential growth are positively and significantly correlated with ROA on a 5% significance level. Also, same as in the previous model, the ratio of intangibles has a negative but not significant effect on ROA. Additionally, it is noted that firm size still has a positive effect, however, no longer significant at a 10% significance level. This is surprising as we expected larger firms to have an advantage over relatively smaller firms. However, as our sample is focused exclusively on large cap companies, there may be other relatively more important factors in explaining profitability differences within our sample. Furthermore, it is positively noted that R-squared is slightly higher, with a value of approximately 0.60. Thus, by using ROA instead of ROE more of the variance in the dependent variable is explained.

The VIF test has also been completed in this second MLR to check for potential issues with multicollinearity. As all variables scored below ten (see Appendix), no issues with multicollinearity have been detected.

As this study area has only been scarcely studied before, there are not many studies to compare our results with. Based on our result, the inclusion of NFPM has a positive effect, although not significant, we cannot confirm our hypothesis that there is a positive relationship between the inclusion of NFPM in CEO bonus contracts and firm performance in the short-run.

6 Discussion

As stated in Section 2.2, our study aims to explore how the incorporation of NFPM in executive remuneration reports affects firm performance. As illustrated in Section 5, both of our results were non-significant and accordingly, we found no support for our hypothesis that the inclusion of NFPM in CEO bonus contract would have a positive relationship with firm performance.

6.1 Data Collection and Attrition

Unlike many previous studies, we chose not only to focus on one industry but several ones collectively. This decision was made to ensure a large enough sample size in order to generate robust statistical inferences. Although, we can retrospectively observe that within our sample there is an overrepresentation of certain industries which may skew our results. Additionally, as the data on NFPM was hand collected it could be subject to errors. However, the process of hand collecting data was completed carefully and the numbers have been verified afterwards. Hence, actions have been taken to mitigate the risk of errors in the hand collected data.

6.2 Selection of Explanatory Variables

Our main independent variable, “NFPM”, is an aggregate term which includes a wide range of performance measures. This broad category of performance measures enabled us to find the information needed for most companies as well as being able to make comparisons across different industries. However, distinctions between the relative importance of individual NFPM on firm performance cannot be inferred from this study. During the hand collection of our data, we also noticed that many of the NFPM were only vaguely defined, for example labeled as “Individual measures”, which is in line with Wittmen et al.’s finding in 2020. As such, the level of public disclosure was found to still be low and a higher level of transparency would be needed for a more nuanced assessment of the specific NFPM metrics in future research.

Beyond our main independent variable, our study also includes five control variables. These were carefully selected based on what previous empirical studies have found to be important explanatory variables for firm performance. Though, as the level of explanatory power of our

regression model is only moderate, there may be issues with omitted variable bias, hence important factors may be missing in the model specifications which could lead to flawed results.

6.3 Selection of Proxies for Financial Performance

There are many alternatives of proxies for financial performance. We selected two common accounting measures, ROE and ROA. If we would have applied a different proxy for firm performance, such as stock market return, we may have obtained a different outcome. However, by having at least two proxies which yielded similar results, actions have been taken to increase the validity of our research outcome.

6.4 Our Result

In both of our linear regressions with two different proxies for financial performance, we obtained a positive yet non-significant result. Thus, we did not find support for our hypothesis that there is a positive relationship between the inclusion of NFPM and firm performance in the short-run. Hence, our result does not align with previous studies which have found a positive result between the incorporation of NFPM and firm performance.

However, an important factor to take into account is that our study focuses exclusively on a short-term perspective as it only covers a one year time period. Thus, our research does not explore what happens over an extended time period. Previous studies that have looked at the long-term perspective have allowed more time for the incorporation of the independent variable, NFPM, to have a more tangible effect on firm performance.

Another important factor to take into account is that 2021 was an unusual year as a result of the global pandemic. Although we assumed the effect to be approximately similar across all industries, there could be variations (with extreme outliers) due to the pandemic that we have not been properly controlled for in our model specifications.

Furthermore, the difference between companies that choose to incorporate NFPM and choose not to do it continues to remain an enigma. Accordingly, we see a need for a future qualitative study which examines the factors involved in designing incentive programs for

executives. This would help bring further understanding to the underlying reasons for why some companies choose to incorporate NFPM and why some do not.

6.5 Generalizability and Suggestions on Future Research

Numerous aspects can be discussed regarding the generalizability of our obtained results as well as suggestions on future research. Firstly, as we have studied large cap companies in the Nordics, our study has a specific focus on the Nordic region and the findings may not be applicable in other geographical settings. More research in other areas of the world is needed to explore how well our findings can be generalized outside the Nordics.

Secondly, our study focuses specifically on executive level remuneration, though it is important to highlight that incentive programs can be implemented on all levels of a company, including middle management level. And, one could argue that implementing NFPM that is specifically matched with a specific division, such as matching productivity for manufacturing, on a middle manager level may be more effective than applying it top-down through the CEO. As middle managers have more time devoted to a specific area of the firm, they could therefore be more knowledgeable and capable of realizing the intended change. Thus, it would be of interest for future research to study how effective the incorporation of NFPM is depending on the managerial level of the person assigned the NFPM.

Thirdly, our study focused on large cap firms. In SMEs firms, CEOs may potentially have more possibility to monitor and influence the actions taken within the firm. And consequently, the relationship between CEO incentive programs and firm programs may appear stronger in smaller firms than in our case. Hence, it could also be of interest for future research to conduct a similar study on smaller firms and see how the result may differ.

As suggested above, there are many more aspects still left to explore. Ultimately, we hope to encourage more research in this field as it could be a source of untapped potential on firm direction and profitability.

7 Conclusion

In this study, we sought to gain an understanding of the relationship between the inclusion of NFPM in executive bonus contracts and firm performance. Our process involved hand collecting data from large cap companies in the Nordics. From this data, we were able to create one sample with companies which included NFPM in their executive bonus contracts, and one sample with companies which only included FPM in their executive bonus contracts. Beyond descriptive statistics of our samples, we ran two multivariate linear regressions on ROA and ROE to test our hypothesis. From the statistical analysis, we saw that the effect of NFPM on firm performance was positive although not significant, making us unable to say anything conclusive about the relationship between NFPM and firm performance. As a complementary qualitative analysis, we noted that ESG-related objectives are currently only incorporated in a minority of executive bonus plans in Nordic large cap companies.

Although the result to our main question was not significant, we hope that this study sheds light and brings more attention towards a subject within Corporate Governance that has only been scarcely studied before. Also, as a majority of the reduction of our sample size is attributed to lack of transparency and availability of data, we hope to encourage policymakers to demand higher levels of disclosure on executive remuneration. Additionally, we believe more empirical data and knowledge within this field would benefit both those who design remuneration reports (among the board of directors) as well as private and institutional investors who seek to make informed investment decisions.

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9 Appendix

VIF TEST #1

<i>Variables</i>	<i>VIF</i>
<i>NFPM</i>	1.09
<i>ROE 2020</i>	1.62
<i>SIZE</i>	1.38
<i>Potential Growth</i>	1.73
<i>Leverage</i>	1.14
<i>Intangibles</i>	1.12

VIF TEST #2

<i>Variables</i>	<i>VIF</i>
<i>NFPM</i>	1.09
<i>ROA 2020</i>	2.20
<i>SIZE</i>	1.38
<i>Potential Growth</i>	2.13
<i>Leverage</i>	1.21
<i>Intangible ratio</i>	1.16