

Incentive Pay Schemes in Norway

- An empirical study of bonus schemes to CEOs in Norwegian unlisted firms

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Acknowledgment

The following master thesis marks the completion of our MSc degree in Economics and Business Administration, with concentrations in Finance & Strategic Management and International Business. The report is derived as a compulsory activity at Copenhagen Business School and awarded 30 ECTS credits.

The composition of this thesis has been demanding and at times frustrating, yet yielded comprehension and a sense of mastery, exceeding our expectations. The work has provided us with valuable experiences and knowledge within teamwork, field insights, academic research and application of practical software.

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Abstract

This thesis seeks to fill the void in research on executive compensation in Norwegian unlisted companies. Building on first-hand collected data from 501 CEOs, the empirics of this study are, to our knowledge, the most extensive on incentive pay design and prevalence in the Norwegian business environment. We draw upon *agency theory*, related literature and postulations from previously conducted research to examine the extent to which recommendations in key design elements are followed – and if identified determinants in existing studies can explain the practical use of incentive pay schemes in Norway.

We uncover how firms structure incentive pay packages through extensive descriptive analysis, and identify determinants driving prevalence by employing two binary logistic regressions. Recommendations are primarily disregarded, as absolute accounting-based metrics grossly outweigh relative ones, internal standards are favored over external, and alternative pay-to-performance relations are favored over the linear structure. The majority of CEOs co-design their own pay packages, breaking the rule of objectivity. The gross disregard suggests that principals are less concerned with myopic and self-interested CEOs, indicating a relationship built on trust and managerial stewardship. Moreover, 30% of CEOs are not rewarded performance-related pay, and evidence suggests that Norwegian managers are, to a larger extent than compared studies, intrinsically motivated.

We detect a significant positive relationship between incentive pay prevalence and a firm's complexity, and a negative relationship between CEO shareholding. Moreover, incentive pay is significantly more common in firms with ultimate foreign ownership. We do not find a significant relationship between ownership concentration and incentive pay prevalence, a well-documented relationship internationally. Neither do we find evidence that company leverage is inversely related to incentive pay, in contrast to a similar relationship found among Norwegian listed firms. Overall, the thesis has filled a void in research, to academics' and practitioners' advantage, and uncovered that incentive pay in Norwegian unlisted firms is widespread and idiosyncratic.

Keywords – CEO Compensation, Incentive Pay, Agency Theory, Unlisted Firms, Norway

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Chapter 1: Research Background

1.1 Motivation

Since its introduction in the 1990s, executive bonuses have been a highly debated and contentious topic in Norwegian media. Recent examples include a highly debated bonus pay-out in 2021 to the (now ex-) CEO of Norwegian Air Shuttle, Jacob Schram. After receiving a substantial bailout loan of more than NOK 3B from the Norwegian government - due to the pandemic's toll on the airline industry, Schram and CFO Geir Karlsen received a "restructuring bonus" of NOK 11M each (Nilsen, 2021). The pay-out was met with public- and partly governmental criticism and the Minister of Trade and Industry had to defend her policies that enable such bonus designs. This year, politicians themselves have had to defend their compensations. A new study found that salary levels among government officials have seen the most significant increase out of all sectors in Norway, at 67% since 1997 (Amundsen, 2021; Dorholt et al., 2022).

News reports like these highlight the importance of meticulousness when designing incentive schemes. However, as Core et al. (2008) argues, the media- and public's focus on how much executives are compensated has taken the focus away from the far more interesting questions; how- and why CEOs are compensated at these levels.

The purpose of incentive schemes is inherently based on *agency theory*. *Agents* (executives) are assumed to be rational economic beings seeking to maximize their utility, and whose interests are not necessarily aligned with those of *principals* (owners). Consequently, separation of ownership and control, and *information asymmetry* arise when owners hire executives to manage the company's daily operations. Increased monitoring and information sharing can be used to realign interests and close the information gap. However, the implementation of such controls is often expensive and inexpedient. Alternatively, incentive schemes can be designed and applied to economically motivate executives and incentivize company value creation.

Incentive schemes are as such used to mitigate a complex problem with an array of variables. Academia is therefore concerned with objectively examining how to optimally structure schemes, aiming to align interest between *agents* and *principals* and identify causal relationships between contract design, performance and motivation. However, the vast majority of empiric research on executive compensation is based on publically traded U.S. firms, and research on unlisted- and especially Norwegian unlisted firms, is minimal. This is a result of a prolonged period of transparency and reporting obligations in the U.S. relative to Norway and the rest of the world. Furthermore, while listed companies have been obligated to report proxy statements for decades, unlisted companies are, to this

day, not obligated to disclose such information. This is also reflected in media, which as exemplified initially, tend to focus on listed firms and government agencies, as opposed to private unlisted firms. The same focal overweight is also reflected in the Norwegian sphere, where only a few central researchers have investigated incentive schemes, almost exclusively in listed- and governmental firms. While the research contributes to literature within that regard, unlisted companies have been almost entirely neglected despite constituting 99% of Norwegian companies (Statistics Norway, 2022).

As such, practitioners from unlisted companies may draw inspiration from this research, but it should be questioned how contextually applicable the available literatures recommendations are, considering the many and significant differences between listed and unlisted companies. The applicability is expected to diverge further when accounting for economic, cultural and businesswise differences between the U.S. and Norway, which are plentiful.

These factors have sparked the authors' motivation to investigate how the incentive schemes of Norwegian executives of unlisted companies are structured. The thesis will further seek to uncover the extent to which recommendations from existing literature are followed, and identify drivers of incentive pay. The thesis's specific scope of the largely unexplored research area makes the authors confident that its findings will contribute, not only to academics and investors in the field, but could also enhance policymaker's comprehension in the construction of regulations. As Twain's (1884) Huckleberry Finn early points out, compensation systems are crucial to align interests between parties:

"Well, then, says I, what's the use you learning to do right, when it's troublesome to do right and ain't no trouble to do wrong, and the wages is just the same?"

- Huckleberry Finn

1.2 Research Question

With basis in the above motivation, the thesis seeks to answer the following research questions:

“How are incentive schemes structured in Norwegian unlisted companies, and to what extent are they in line with recommendations of principal-agent models?”

In addition, the thesis will seek to uncover answers to the following sub-questions to supplement the research question. The questions are linked to different chapters denoted by their numbers below:

- 3) What are the intended effects of incentive-based pay?
- 4/5) How should incentive schemes be optimally designed?
- 7) How are the non-owner managers of Norwegian unlisted companies compensated?
- 8) What are the drivers of CEO incentive pay of Norwegian unlisted companies?

1.3 Delimitations

With the aim of narrowing the scope of the study and reaching a precise conclusion, several delimitations have been made. This is to ensure an exhaustive answer to the above research question(s) that complies with the scope requirements. Additional assumptions and delimitations will be elaborated upon throughout the chapters where relevant.

First and foremost, it is necessary to clarify the terminology. The terms incentive pay schemes, bonus, variable- and performance pay/compensation/remuneration, will be used interchangeably. They all refer to the share of a CEO's total compensation that is variable and contingent on the achievement of goals and/or benchmarks, per their employment contract. Privately held-, private- and unlisted firms will also mutually refer to non-state-owned companies not traded on a public stock exchange.

Further, the study will focus on the prevalence and structures of incentive schemes, and potential relations to firm performance will not be examined. Nor will pay levels be investigated, as it is not central to the study's purpose. Furthermore, asking respondents directly about the size of their salary was deemed likely to yield few responses, despite guaranteed anonymity.

The scope is further narrowed to examine Norwegian companies that are unlisted and not owner-managed. Norwegian companies refer to all companies registered and operating within Norwegian boundaries, irrespective of ultimate foreign ownership. Neither Norwegian subsidiaries nor foreign parent companies should be listed on any stock exchange. Non-owner-managed effectively excludes CEOs with >50% shareholding to best highlight the *principal-agent problem*, which is assumed to be more

prevalent when there is a higher separation of ownership and control. Additional delimitations specific to the population are described in section 2.2.1.1.

It is acknowledged that the purpose of companies within the population may differ extensively. Therefore, it is necessary to define a universal motive of the bonus scheme, irrespective of company idiosyncrasies. The overarching purpose of incentive schemes is, within the context of this study, the alignment of interest between *agents* and *principals* and the long-term viability and profitability of the firm. These factors are built on underlying assumptions of neo-classical economics, described throughout chapter 3.

Following the same line of thought, discussion of performance measures and their effect will take basis in the reviewed literature, stemming primarily from neo-classicism. Despite the acknowledgment that “optimal” structures likely differ across markets, industries and firms, this is done to provide a general overview of incentive pay use in Norway. Relevant observations in which performance measures differ from the determined norm will be highlighted and briefly discussed.

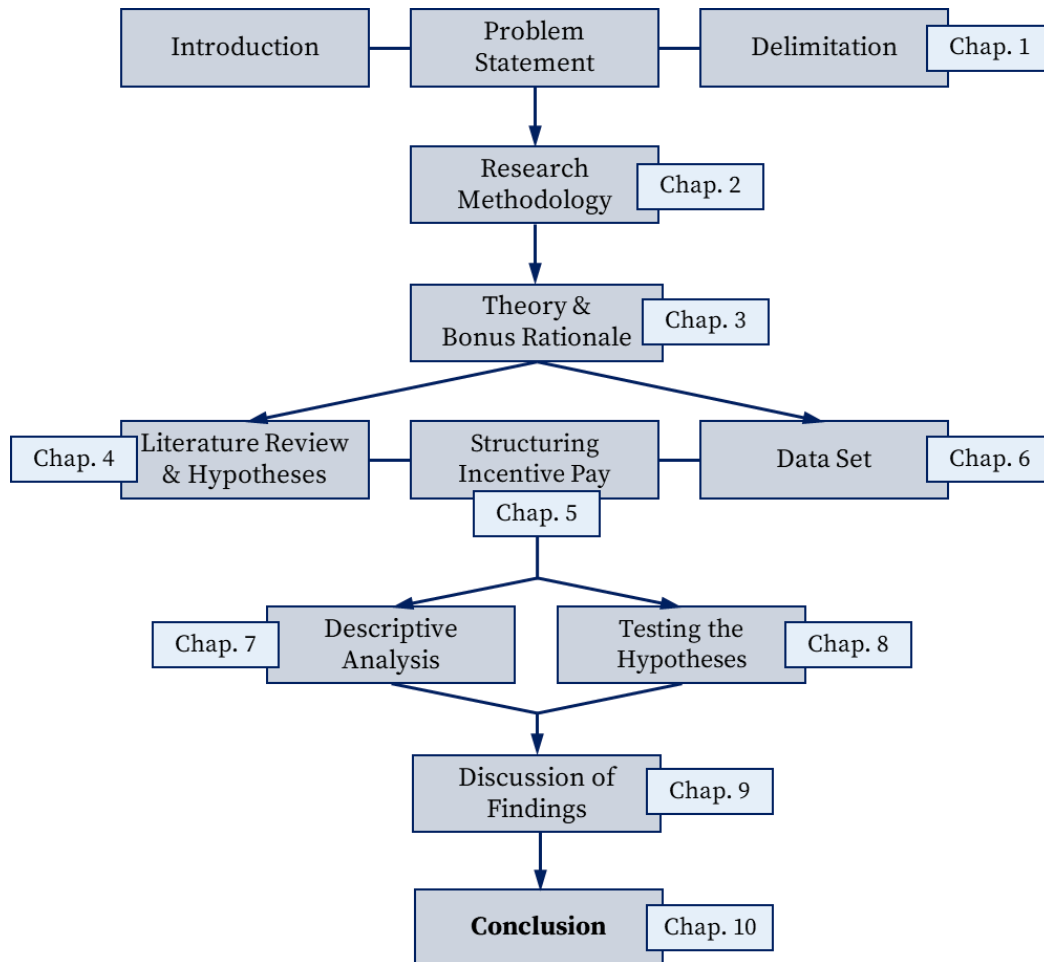
A necessary delimitation is the conceivable impacts of Covid-19. The pandemic heavily disrupted societies and the global economy on a massive scale, and the Norwegian business environment is no exception. Although Covid-19 virtually affected every aspect of business and overall tanked the economic state, there are vast differences in how individual companies were affected – where some performed poorly, others substantially outperformed historical results. Accordingly, due to the complexity of generalizing the impacts to explain effects on individual firm levels, they have been delimited from the study. Further, it is argued that a more pronounced examinable effect would be on pay levels, which in turn fall outside the study’s scope; prevalence and structures.

Finally, the thesis does not focus on taxes and their plausible effect on incentive scheme structures. Although various tax benefits may partly influence the choice of compensation components, the study has deemed its implications irrelevant. This is because the focus is on the practical use of incentive pay regarding interest alignment and the long-term success of the firm. As such, considerations of tax benefits as a trade-off would divert the focus away from the study’s central purpose.

1.4 Thesis Structure

To uncover the field of study and answer the research question(s), the thesis will follow the structure below.

Figure 1: Thesis Outline [Source: Own Contribution]



Chapter 1 – Introduction

Initially, the authors' motivation for the thesis and its relevance are presented. Furthermore, the research question and supplemental sub-questions are described, laying the basis for the thesis structure. Finally, the terminology is accounted for, and necessary delimitations are introduced to define the thesis's scope.

Chapter 2 – Research Methodology

Presents the methodological and theoretical considerations that form the framework for the analyses.

Chapter 3 – Theoretical Rationale & Effects of Incentive Compensation

From a theoretical point of view, the bonus scheme's eligibility is presented, mainly based on concepts derived from *agency theory*. Alternative perspectives on *principal-agent relationships* are also provided. Lastly, common bonus components, regulations and recommendations from practice are reviewed.

Chapter 4 – Literature Review

The empirical background on incentive compensation is accounted for, along with relevant geographical considerations and relevance in unlisted firms. Furthermore, literature advocating for and against different determinant drivers of incentive pay is discussed. These arguments contribute to the formulation of hypotheses tested in chapter 8.

Chapter 5 – Structuring Incentive Pay

The key design elements constituting incentive pay packages are presented and extensively discussed. Identified recommendations are actively applied for comparisons to findings in chapter 7, with the aim of answering the research question.

Chapter 6 – Data Set

An overview is presented for survey design and primary data collection. Considerations regarding validity are discussed, along with justification and methodology of additional collected data.

Chapter 7 – Descriptive Analysis of Respondent's Incentive pay

The thesis's first analysis presents the data obtained from 501 CEOs and investigates trends and patterns in key design elements. Assessments are made on an ongoing basis as to whether findings coincide with the literature's recommendations, and findings are compared to relevant studies.

Chapter 8 – Drivers of Incentive Pay Prevalence

Statistical considerations regarding model choice and variables are presented, and the hypotheses are tested.

Chapter 9 – Discussion

The findings from both the descriptive- and regression analyses are discussed. Recommendations from reviewed literature and alternative research within the field lay the foundation for the discussion. Finally, the chosen approach and delimitations are reflected upon, and focal areas for future studies are suggested.

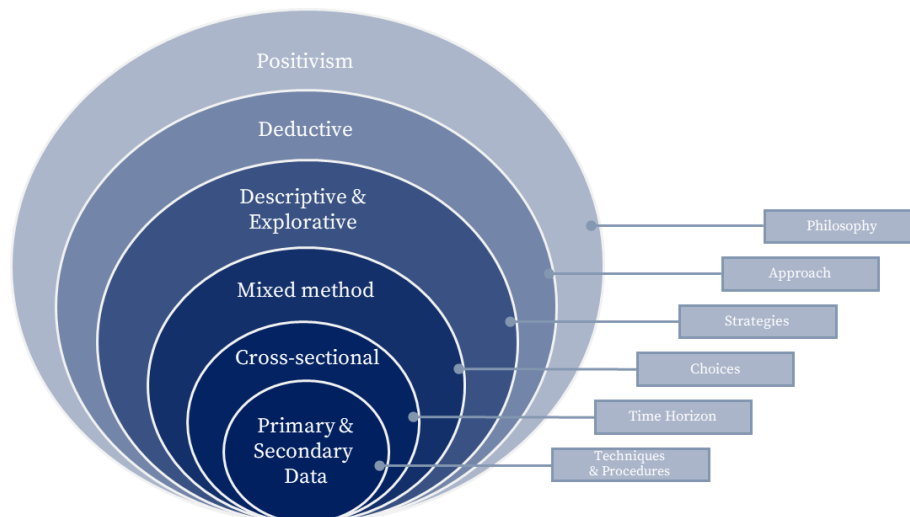
Chapter 10 – Conclusion

An overall conclusion is composed in the wake of the thesis's ongoing sub-conclusions. Here, the research questions and guiding sub-questions are answered definitively.

Chapter 2: Research Methodology

This chapter covers the methodological- and data collection considerations conducted in this study. The section's structure follows Saunders et al.'s (2016) *Research Onion*. The framework consists of six layers of elements of scientific research, which collectively constitute a complete methodological approach. The model is included below, with the relevant aspects incorporated.

Figure 2: Research Onion [Source: Own contribution; Saunders et al., 2016]



2.1 Research Philosophy

To understand the philosophy, ontology, and working methods that enable the analysis, it is necessary to consider which scientific theoretical perspectives the study works within. This thesis is concerned with observations on the Norwegian corporate environment and quantitative data, and does accordingly exist within the positivistic paradigm (Saunders et al., 2016). Ontology can be described as the perception of reality on which assumptions of truth can be made, and positivism is distinguished by its realistic ontology. This suggests that only one tangible reality can be comprehended, defined, and analyzed. This further facilitates interpretation and prediction in a causal structure, i.e., causal inferences rely on associations like "X and Y are correlated" (Park et al., 2020). Objectivist epistemology is presupposed within the positivistic paradigm, meaning that knowledge ought to be developed objectively, without respondents' subjective feelings or values influencing its development (Ibid). Despite this, the thesis does, to some degree, include respondents' subjective assessments and opinions in section 7.3. This is done to provide a holistic picture of the incentive schemes used in Norwegian unlisted companies.

Positivism is arguably the most common research approach within business- and economic research, as it depends on quantifiable data that can be used for statistical analysis (Crowther & Lancaster, 2008).

The scientific paradigm emphasizes that deductive observations should try to prove theories in context, as a scientific theory can only be considered valid when verified. Studies conducted on executive compensation, in general, are plentiful, yet limited research has been done within the context of Norwegian unlisted companies. As such, the research approach of this thesis is deductive as we aim to test whether findings from previous research in other markets apply to Norway as well. The primary research approach does therefore follow a hypothetic-deductive approach and will accordingly follow the five sequential stages, as proposed by Robson (2002):

- i) Deductively formulating a hypothesis based on the available literature, i.e., a testable claim investigating the link between two or more variables,
- ii) the hypothesis, which proposes a relationship between two specific concepts or variables, should be expressed in operational terms
- iii) testing the formulated hypothesis,
- iv) analyzing the result of the tests, which will usually either confirm the theory or stipulate the need for its modification.
- v) If called for, suggest further research and/or modification of the theory.

The overarching research approach highlights scientific methodology, quantitative data collecting, explaining correlations between variables, using controls to assure data validity and reliability, and selecting samples of adequate size to generalize results (Saunders et al., 2009). The chosen methodical approach is further inspired by Gadamer (2004) and his works on modern hermeneutics. The method seeks the formation of knowledge on the basis that prejudices and preconceptions in what is studied must be identified and rejected. It is further argued that formulating hypotheses and subsequently testing them may lead to findings subject to further analysis and contribute to systematic formation of knowledge. By scouring the literature on incentive pay practices and structures, and then formulating hypotheses for testing (cf. chapter 8), the thesis utilize elements from the modern hermeneutic method to either reject or accept preconceptions within the research (cf. chapter 4).

Furthermore, Saunders et al. (2016) distinguish between three general forms of study designs, namely *exploratory*, *explanatory* and *descriptive* designs. This thesis deemed a combination of descriptive and explanatory research designs necessary. Firstly, established theory and research are presented and

accounted for, and secondly, collected data is applied to uncover whether postulations hold within the researched population.

The thesis further applies a transformative mixed method. These procedures are described as those in which a theoretical lens is used as an overall perspective, in a design that includes both quantitative and qualitative data (Creswell, 2009). The thesis's primary means of data collection is an e-mail distributed survey, in which a mix of quantitative and qualitative data is gathered. While the questionnaire primarily aims to obtain quantifiable data, some questions request qualitative data to shed light on other important factors for using incentive pay. By applying this method, the explanatory ability of the data may not be limited to *how* but may also explain *why* the observed variables are interrelated (Ibid).

Saunders et al. (2016) further distinguish between studies based on the time horizon. *Cross-sectional* studies uncover a "snapshot" of the general prevalence of a phenomenon in a population by examining a topic at a specific point in time. *Longitudinal* studies investigate the development of phenomena by examining a topic, either over a specified period, or at multiple points in time (Ibid). It is generally argued that longitudinal studies may offer greater credibility around causal relationships. Observing phenomena over time may enable researchers to exert a greater extent of control over the variables being researched (Adams & Schvaneveldt, 1991; Rindfleisch et al., 2008). However, a cross-sectional approach had to be chosen due to the inherent time constraints and the absence of prior contextual studies on the population. Potentially, the thesis's findings may serve as a benchmark and assist further longitudinal research within the academic domain.

2.2 Empirical Data Collection

An extensive amount of primary and secondary data has been collected to answer the research question. To ensure validity and reliability, several methodological considerations and approaches are inevitable, especially concerning the collection and processing of empirical data. Firstly, the data collection method relating to the population and subsequent sample will be reviewed. The methodical considerations of the design of the questionnaire will also be discussed. Lastly, the methodology of collecting secondary data, in the form of theory and previous studies on incentive pay, will be reviewed.

2.2.1 Primary Data

The reviewed firsthand data stems from a survey that provides a cross-section of a population, where the sample reflects the entire population's key characteristics. Although an appropriate sampling technique enables the generalization of results to the target population, it can never achieve perfect explanatory conditions. It will always be subject to a *margin of error* (Omair, 2014). To determine if valid

inferences can be formed based on the characteristics of the sample and to improve the thesis's overall scientific quality, the target population will be defined (Young et al., 2005).

2.2.1.1 Population Definition

Per the delimitation cf. section 1.3, it is fundamental that this thesis devotes itself to Norwegian companies that are not publically traded. Since Norway has no official standards on company size classification, the population will proxy the EU commission's definition and the Danish Business Authority requirement for accounting class C as threshold criteria. The latter has been deemed an adequate proxy as Norway is one of Denmark's largest local markets, and from a business and cultural standpoint, the countries are highly similar (Danish Trade Council, 2022). It is necessary to define the size criteria of companies constituting the population and also distinguish the relevant subgroups for further analyses. The thresholds are based on annual average employees combined with annual turnover OR annual balance sheet total. Financial figures are all based on companies' most recent available data.

Figure 3: Population Size Classification [Source: Own contribution]

Company Size	Employees	Net Sales	Total Assets
	and	← or →	
Medium	≥ 40	≥ EUR 8 million	≥ EUR 8 million
Big Medium	≥ 120	≥ EUR 30 million	≥ EUR 25 million
Large	≥ 250	≥ EUR 50 million	≥ EUR 43 million

The class ranges are deemed of utmost relevance as they make up a significant fraction of Norwegian companies' value creation and hence the national economy. Furthermore, medium-sized companies have recently demonstrated the strongest economic growth and innovation initiatives, composing $\frac{2}{3}$ of new employment in the private sector (Redaksjonen, 2021). In addition, the statements and accounts of these companies are considered more reliable and accessible than companies that are not subject to audit obligations. Prior research also suggests that firms within the medium-large range are more inclined to employ external CEOs and yield a higher response rate in surveys than smaller firms (Plenborg et al., 2010).

A further premise for this thesis is that a large part of privately held firms employs external CEOs, thus separating ownership and control. A maximum threshold *separation ratio*, defining the CEO's ultimate

ownership, of $\leq 50\%$ is set to identify external CEOs. This criteria rate is justified and motivated by *agency problems* discussed in section 3.1, and is supported by Chapelle (2003) and DeAngelo (1990), who define control as majority shareholding where the effect of separation and control problems are deemed to materialize. Although the *separation ratio* is based on the notion that higher CEO ownership would, to a large extent, converge the party's interest, the exact cut-off point is highly debated. While a too low limit could exclude respondents of significance to the study, an excessive cut-off point could lead to less relevant results and thus analyses. The levels of CEO corporate control will be subject to further analysis, cf. 7.2.

Funds, private equity-, state-owned-, non-profit organizations, municipal supply companies and companies run by private wealth management advisory firms, are excluded from the population. This delimitation follows Edmans et al.'s (2017) conclusions that operations of such companies are distinctive, and utilize and design incentive pay on a different basis than the population we seek to uncover. Including such heterogeneous companies may thus harm the thesis's validity in drawing generalizable conclusions. Furthermore, in addition to targeting parent groups and independent companies, the population also includes non-consolidating subsidiaries. Still, a criterion is that the CEO has no family relations with the owners. This delimitation finds justification in that executive compensation in family firms is a comprehensive field of research, which often illuminate *principal-principal* relationships (Block, 2011; Gomez-Mejia et al., 2003).

2.2.1.2 Population Dataset

In order to generate a dataset from the above standing population, a multitude of professional services and software was applied. Both CBS librarians, field academics and other student-friendly corporations have been of crucial advisory guidance and provided us with elementary data access. The databases Valu8, ORBIS and Proff Forvalt have been utilized for data collection, while Excel and Python Selenium have served as tools for sorting the criteria. The population specificity made the lead-list process complex, requiring several databases and sequential computing rounds.

Valu8 (2021) is a leading platform that provides comprehensive data sets on private Nordic companies, including detailed company information, financials, and individual ownership. The platform enabled us to *Boolean* search the company size classification on total assets and turnover, which resulted in over 19 thousand companies. The companies with < 40 employees were manually removed from the dataset, where some companies revealed no available data on the employee search parameter. These companies' registration numbers were thus cross-checked against ORBIS, which led to a total of 4.049 companies.

As neither Valu8 nor ORBIS provides sufficient insight into companies' ultimate ownership, Proff Forvalt was applied to the criterion of CEOs' ownership. This service allows us to see a company's shareholder register, indirect ownership and physical owners. However, the database has no viable solutions for large-scale search and download of datasets, which inspired the use of Python Selenium. After coding and web-scraping the respective CEO's potential ownership, companies with majority shareholding CEOs were removed from the dataset, resulting in 3.649 companies.

Furthermore, the platforms have no parameter function to sort out CEOs with family relations to company owners. Manual data cleaning in Excel was thus required to classify the companies as family- vs. not family-owned. For instance, thorough coded functions were applied to locate duplicate names in company elements. For instance, the company "Solstad Shipping AS" has a CEO named "Lars Peder Solstad." Some assumptions like name and address familiarities were thus used as proxies to identify family-driven companies. Additional manual searches and screening for the other criteria have also been applied in various forms. For instance, NACE codes were used to identify municipal utility companies, and searches for state departments were applied to locate state-owned companies. Overall, 3.012 companies were deemed compliant with the set criteria and delimitations, and hence constitute the thesis's population.

An extensive amount of diligent work was put forward to extract CEO and company e-mails, as it is the thesis's sole means for distributing the questionnaire. Unfortunately, the mentioned databases are deficient in such information, why Python was applied. Six typical variations of usernames based on the CEO names in combination with mail-server and domain were simulated and subsequently tested using a *simple mail transfer protocol* (SMTP). This simulation enabled us to validate and verify 70% of the e-mails of the CEOs in the dataset. The rest of the population's e-mails were collected manually, where the company's administration contact served as an alternative when the CEO's e-mail could not be found.

2.2.1.3 Sample Selection

The extensive qualification process of defining the population and sample collection has been resource-intensive work. However, unlike a *random sample*, the method amplifies the probability that the questionnaire will reach out to qualified respondents representative of the population, within the limits of *random error*. The time-consuming sample selection enhances the thesis's external validity, which can also justify a smaller sample size (Shuttleworth, 2009; Young et al., 2005). Thus, the respondent sample will, with extreme likelihood, be included in the defined population, even *ex-ante* the distribution of the questionnaire.

Determining the adequate sample size to achieve a satisfactory response rate is a contentious topic of discussion, as low rates may undermine the value and accuracy of organizational research (Bartlett et al., 2001). Although there is no consensus on a lower acceptance rate quantile, most studies fluctuate within the 20-80% response rate bracket. This highlights the importance of assessing *non-response bias* and omitted variables (Young et al., 2005).

Furthermore, Young et al. (2005) suggest that a minimum of 200-300 respondents is a critical threshold for management research, but argue that prior studies on familiar populations may serve as a benchmark on what to expect in response rates. In a study on incentive pay in unlisted Danish firms, Plenborg et al. (2007) retrieved a response rate from CEOs of 22%, amounting to 123 respondents. Another study on Norway's Top 500 claimed a response rate of 48%, with 221 respondents (Loe & Lindahl, 2016). Considering our reached-out-to population of 3,012 companies, and benchmark response rates, the thesis is confident in obtaining the minimal threshold suggested by Young et al. (2005).

2.2.1.4 Survey

As a form of data collection, surveys have undergone criticism due to reliability concerns (Mahmoudian et al., 2018). Surveys are also the most common approach to collecting large data sets as they allow researchers to reach large groups of potential respondents in a short matter of time (Dillman, 2000). As the survey constitutes the thesis's primary means of data collection, focus on design, choice of phrasing, formulation and distribution have been imperative to ensure a high level of reliability. The following sections will elaborate on these considerations.

2.2.1.5 Survey Design and Contents

As a means to construct, design and distribute the survey, the CBS licensed XM Qualtrics survey software was chosen. Via the license, Qualtrics offers a pre-set CBS layout with an embedded logo on each page, which was deemed to significantly influence the survey's credibility. The survey's introduction included a short "thank you" for the willingness to participate in the study, a notice of the questionnaire's approximate duration, respondents' complete anonymity and data confidentiality, and the thesis's contextual definition of "bonus." Although a definition of bonus might seem trivial when distributing a survey to CEOs, it was deemed appropriate as a means of *response error* mitigation, which occurs if respondents make guesses because they do not fully understand the questions or their contextual relevance (Young et al., 2005).

In terms of question design, the vast majority of questions were of closed-ended character, meaning the respondents are given a finite number of alternatives to choose from. Closed-ended questions are favorable regarding ease of processing the data, and as argued by Diamond (2000), superior to open-ended questions in terms of likely response. However, most questions did allow for the text entry option; *other*, to mitigate *response error* from forced fitting and exclusion of relevant information. Since incentive pay within the thesis's scope is relatively unexplored, the *other*-option was deemed especially relevant. The questionnaire thus follows a semi-structured approach, as a degree of openness is present throughout its entirety.

Furthermore, the questionnaire is dynamic and targeted, meaning logical criteria were used to make the process as frictionless as possible, thereby increasing the response rate. Certain questions were only displayed depending on the respondent's previous answer. Thus they can, without knowing it, skip several questions. This ensures that the respondents only provide information relevant to their situation and incentive pay package. As a result, none of the respondents have been exposed to the entire questionnaire, which explains why only certain questions have the same number of responses.

The question types vary, and each is adapted to fit the context and theoretical relevance. Some questions are mutually exclusive and allow only one answer, as is appropriate when alternatives contradict each other. Other questions allow multiple answers. For example, when asked which accounting-based performance measures are included in the bonus scheme, a respondent might choose multiple measures. Some responses call for open-ended follow-up questions that are inexpedient to explain quantitatively. For example, if a respondent answers that their performance is 100% subjectively evaluated, the respondent is asked to elaborate why.

2.2.1.6 Questions and their Intended Purpose

Following the introduction, the survey starts with questions on respondent characteristics such as position and ownership for quality assurance. Further, the questionnaire becomes increasingly technical and related to details of the respondents' bonus scheme. Respondents are drawn in as the survey appears easy to comprehend, minimizing the likelihood of incomplete responses. The questionnaire's components are further categorized in blocks, dependent on their theoretical application. Moreover, certain blocks feature descriptive texts with essential terminology for the respondents' comprehension. The complete questionnaire is presented in Appendix 1.

Block 1: Respondent characteristics

This block features general questions about respondents' background and current situation, including their highest level of education, age, ownership and tenure at their current company and position.

Block 2: Assurance of target audience

Block 2 contains only one question about the respondents' job description to ensure that they are, in fact, the CEO or C-suite of the company. Despite the time-consuming identification of CEOs, an extra assurance was deemed appropriate considering the population size and time lag between the identification of CEOs and distribution of the survey. Respondents outside the C-suite are automatically re-directed to the end of the questionnaire.

Block 3: Incentive-pay in general

This block aims to collect data on the various components included in the individual schemes and filter out those who do not receive incentive pay. Incentivized CEOs are included further in the survey and are presented with questions on the relative size of their bonus to base salary and the weighting of objective vs. subjective evaluation. Those who do not receive bonus are asked an open-ended question about why, before being re-directed to the end of the survey. By collecting responses on characteristics before exclusion, the survey allows for analysis of potential relationships between characteristics and the absence of incentive schemes.

Block 4: Performance measures in general

Block 4 starts by defining the three categories of performance measures - namely accounting-based, non-financial and market-based - are distinguished between and defined. Subsequently, respondents are asked what measures they are evaluated on, presented in a three-by-two matrix table with the different categories, and corresponding *yes* and *no* alternatives. The matrix question further included a validation requirement. Seeing how a respondent would have already confirmed that they do receive bonus, selecting *no* on all three performance measures is illogical. Accordingly, in the scenario that *no* is selected for all three categories, the respondent would be presented an error message explaining why the answer is invalid and that "non-financial" covers all measures not included in the other two alternatives.

Block 5: Weighting of performance measures

Block 5 contains several questions based on the combination of answers in block 4. If only one of the three categories was chosen, respondents are redirected to the corresponding block. If two or more measures were selected, respondents are asked to enter the relative weighting of said measures

Block 6: Accounting-based performance measures

Here, questions about the utilized accounting-based performance measures are presented, in addition to the evaluation period and performance standard.

Block 7: Non-financial performance measures

Follows the same design as block 6.

Block 8: Market-based performance measures

Questions on the evaluation period and performance standard follow the same structure as blocks 6 and 7. However, as the stock price is not readily observable in unlisted companies, questions about how the company's market value (share price) is calculated and who performs the valuation are presented.

Block 9: Performance structure

This block aims to uncover how the individual schemes' pay-to-performance relation. Moreover, a question on whether or not the CEO and/or other employees are unionized is presented. This is deemed relevant for the scope of the study, considering that approximately half of Norway's labor force are members of labor unions. Moreover, as the primary function of labor unions in Norway is to negotiate remuneration rights on behalf of employees, it is relevant to examine if causal relationships can be identified between the presence of union membership and the performance structure of bonus schemes.

Block 10: End of survey

Before the absolute end of the survey, the respondents are given the opportunity to enter their preferred e-mail address if they wish to receive the survey result and/or thesis.

2.2.1.7 Distribution of the Survey

Prior to the final distribution of the survey, a pilot study was conducted. The questionnaire was distributed to two people with C-level management experience in Norwegian companies, a communication consultant and a former lecturer on corporate governance. It was also distributed to 6 co-students from various programs with minor knowledge about CEO pay. As such, the pilot study was conducted with a small sample whose experience and knowledge range from expert to amateur. This provided perspectives on practical and cultural appropriateness, as well as assurance that the terminology and concepts were comprehensible. Feedback from the sample suggests a high level of internal validity.

Succeeding the pilot study, an e-mail was composed and distributed with the questionnaire. Qualtrics features a built-in e-mail distribution function that enables personalization. By utilizing this feature, each of the 3.012 recipients received personalized e-mails where they were addressed by name and company, which Muñoz-Leiva et al. (2010) emphasize is significantly correlated to response rates. The

e-mail further included information about the authors and the motivation behind the study, a notice of anonymity and data confidentiality, and the approximate duration of the questionnaire. Finally, the authors' contact information was included in case recipients had questions. An opt-out link was provided, allowing respondents to opt-out of the survey and future e-mails.

2.2.2 Secondary Data

This section will revise the secondary data collected and applied in the thesis. Secondary data deemed relevant generally comprises existing theory within neo-classical economics, components in incentive pay packages, and previously conducted research on incentive pay use and prevalence.

2.2.2.1 Theory and Literature

The thesis aims to examine whether the existing theory on incentive pay holds under market conditions in Norwegian unlisted companies. Consequently, the research question calls for the collection of *documentary secondary data*, i.e., books, journals and relevant magazine articles (Saunders et al., 2016). Studies deemed relevant concern compensation structures and incentive pay, which in turn are primarily built on fundamental theories of neo-classical economics, assessed in chapter 3. Theoretical assumptions are particularly inspired by the research of Eisenhardt (1989), Jensen & Meckling (1976) and Holmström (1979), all of whom are considered central researchers within the field. Further, Edmans et al. (2017), Groysberg et al. (2021) and Murphy's (2012) studies on executive compensation are scrutinized.

Subsequently, in chapter 4, a literature review is undertaken. Examining studies related to the one being conducted serves several purposes. Firstly, it connects the thesis to the broader, ongoing conversation in the literature, filling in voids and building on previous research (Marshall & Rossmann, 2016). Moreover, it serves as a framework for determining the study's relevance and a baseline for comparing the outcomes to other findings (Creswell, 2009). As there is a general lack of relevant research in Norway, foreign research and especially Nordic, has been applied to a large extent.

Literature has been collected following a systematic approach. First, relevant databases were identified and evaluated based on their credibility and acceptance in the research environment. The primarily used databases include Elsevier, JSTOR and SAGE, accessed through CBS Libsearch and Google Scholar. The credibility of each study was further assessed by checking the number of citations and whether the reference is repeatedly used in similar studies. The adapted databases feature *Boolean operators*, enabling more narrow searches to confine the search within the parameters we wish to examine

(McKeever et al., 2015). A complete overview of the thesis's research design, with sources covered, selected keywords, databases, and period span, will be introduced in the upcoming Figure 5.

Moreover, as the pool of Norwegian researchers within the specified area is relatively small, we identified and reached out to a few key researchers, including Ivar Bragelien and Trond Randøy from the Norwegian School of Economics and the University of Agder. Moreover, as the Nordic, especially Danish business environments, share many similarities, the research from i.a. Ken Bechmann and Thomas Plenborg has been closely reviewed.

2.3 Validity and Reliability

To ensure the study's overall quality and whether it is relatable to previous research, having a clear research design and a consistent methodic approach to collection- and analysis of data is of utmost importance (Edmonds & Kennedy, 2017; Saunders et al., 2016). With this intention, assurance of the data's *internal-* and *external validity* and *reliability* finds its relevance. Evaluating the appropriateness and adequacy of both data and utilized analytical techniques are essential to the overall quality of research.

2.3.1 Internal Validity

Internal validity tests whether variation in the dependent variable is linked to variation in the independent variables (Young et al., 2005). That is to say, it tests the extent to which the survey measures what it intends to and produces serviceable variables. Thus, assurance of internal validity is imperative when testing theoretical assumptions in practice. Moreover, Assael & Keon (1982) find that *non-sampling error*, i.e., errors caused by non-response and factors independent of the sampling process, is consistently the most significant contributor to overall survey error. *Non-sampling error* can further stem from two sources: non-response error, which arises when target respondents fail to answer the survey, and response error, which occurs if targeted respondents answer incorrectly. Both forms of error affect whether inferences drawn from the survey are meaningful to the hypotheses being tested (Groves, 2005). Poor survey- and question design jeopardize the study's internal validity by systematically manipulating responses, and random errors are magnified if respondents haste through the survey or guess because they don't comprehend the question (Young et al., 2005). Consequently, in alignment with Diamond's (2000) anchoring elements for internal validity, the survey has focused on design, content and distribution to mitigate both potential sources of *non-sampling error*. Moreover, the feedback from the pretests showed no sign of ambiguity, suggesting proficient survey design and comprehensibility of questions, implying a high level of internal validity.

2.3.2 External Validity

Edmonds & Kennedy (2017) describe external validity as the extent to which outcomes of the conducted study can be generalized to the entire population. Accordingly, the data collection has placed great emphasis on qualifying a representative sample of the target population, subject to multiple controls. This ensures that the study's explanatory ability is limited only to those companies that live up to the predetermined listed criteria. Earlier studies in the Norwegian sphere have examined broader, less specified samples such as Norway's top 500 and firms listed on Oslo Stock Exchange (Loe & Lindahl, 2016; Randøy & Nielsen, 2002). Ensuring generalizability of findings within these samples are intuitively less complex than in this thesis's far narrower scope. Therefore, by implementing the chosen criteria, the statistical noise in the dataset is reduced to ensure low *sampling error* and a high level of external validity. The diligent assessment of companies' criteria-fulfillment and the survey's dynamic and out-sorting character, ensure credibility that the sample is representative of the population.

2.3.3 Reliability

In line with the predispositions of the positivist paradigm, reliability is a measure of an instrument's consistency. It is thus a test of the degree to which a research instrument consistently produces the same findings when employed in the same scenario (Heale & Twycross, 2015). To ensure a high level of reliability, observations must be made with an objective and unbiased approach, and the research method and data collection process must be described thoroughly.

Given the web-based distribution, there is an inherent non-zero probability that the survey was answered by someone other than the CEO. However, the great efforts in sourcing correct e-mails indicate a high likelihood of reaching the intended recipient. In most cases where gatekeepers were reached, it was confirmed that the e-mail was accurately forwarded. The time-choice of distribution was also considered, as CEOs with busy agendas could lead to hasty responses and thus *response errors*. The survey questions in Appendix 1, are of meaning-neutral nature, where respondents are not swayed towards a particular attitude on incentive pay. Overall, the reliability is considered to an adequate degree where subsequent research will be able to replicate our study and obtain similar results.

Chapter 3: Theoretical Rationale & Effects of Incentive Compensation

The following section aims to establish the theoretical foundation for this thesis and the rationale and theoretical assumptions of the intended effects of incentive pay contracts in practice. The academic realm has elucidated the phenomenon of executive pay levels and structures from 16 theories, classified

into a value-, symbolic- and agency approach (Otten, 2007). This thesis will mainly focus on the latter, where *agency theory* is the most prevalent theory to describe how incentive pay schemes should be structured. However, endorsing that this theory does not supply an arsenal of tools for all *agency problems* and corporate governance perspectives, the thesis will also explore *stewardship theory* from the symbolic approach (Nielsen & Bilberg, 2018). This will allow for a more thorough and well-rounded interpretation of empirical findings, taking into account a variety of theoretical concepts.

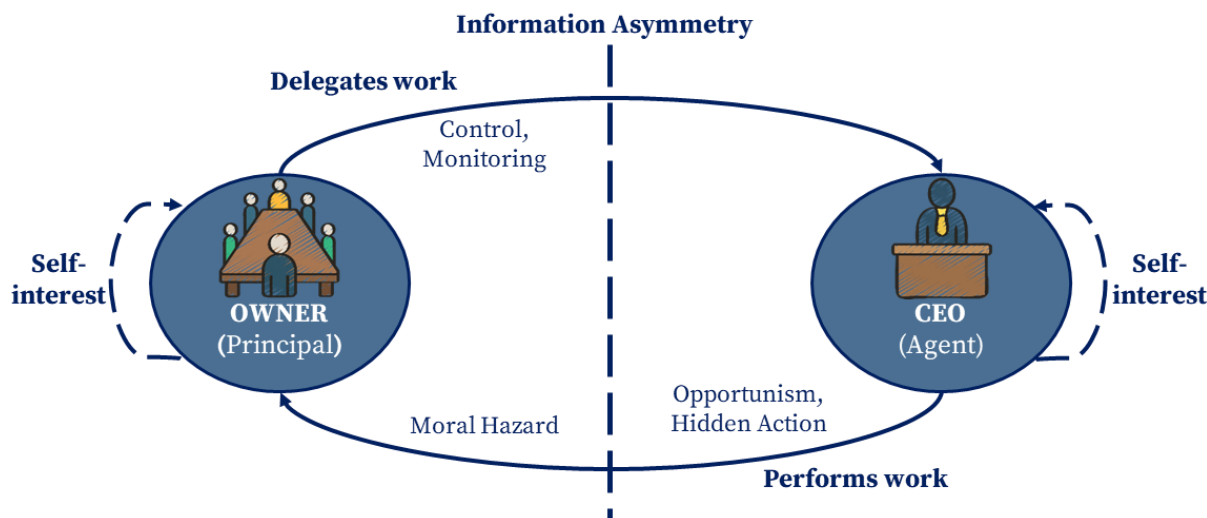
Firstly, the section will elaborate upon concepts within *agency theory*, its underlying assumptions and the addressed problems that raise the theory's foundation. Secondly, as the theory justifies, incentive compensation as a solution to the issues will be discussed. To generate deeper comprehension beyond the theory's assumptions, incentive contracts will be a subject to critique. This will also include *stewardship theory* as an alternative perspective on the *principal-agent relationship*. Lastly, it will discuss various components frequently found in incentive compensation before briefly stating some country-specific legislation and design recommendations from committees and proxy advisory firms.

3.1 Agency Theory

Agency theory is concerned with potential conflicts of interest arising when two or more parties engage in an *agency relationship*. It is a central theory in the field of corporate governance, which dates back to Berle & Means's (1932) study on the separation of ownership and control. The study sparked a wave of literature on *agency theory*, among the most influential being studies by Jensen & Meckling (1976), Mitnick (1973), Fama & Jensen (1983) and Ross (1973). Jensen & Meckling (1976) contributed to the development of the theory by describing an *agency relationship* as a contract between one or more owners (*principals*) who hires a CEO (*agent*) to perform a service on their behalf. CEOs are granted decision-making authority and are hired to manage the firm's day-to-day operations. Inherently CEOs are employed to protect owners' interests, but under the assumption that both parties are rational economic beings seeking to maximize their utility, a potential conflict of interest arises. This is known as the *agency problem*.

Thomsen & Conyon (2012) further distinguishes between three types of *agency problems*: *Type 1*: between owners and managers, *Type 2*: between majority- and minority owners and *Type 3*: between owners and firm stakeholders. The thesis is mainly concerned with the *Type 1 agency problem*, as the aim is to explore the payment structures of CEOs. Eisenhardt (1989) suggests that the problem stems from two factors, namely: i) a misalignment of interest between *principal* and *agent*, and ii) the fact that monitoring of the *agent's* behavior is either costly or problematic. The model on the following page illustrates the *agency problem* built on an array of assumptions from neo-classical economics, which will be examined further in the following sections.

Figure 4: Type 1 Principal-Agent Problem [Source: Own contribution]



3.1.1 Self-interest and Utility Maximization

Central to *agency theory* is the assumption, stemming from theories of *bounded rationality* and *opportunism* (Williamson, 1975), that people are rational and will always use self-interest to make choices that will grant them the greatest personal pay-off. Accordingly, in an *agency relationship*, the risk that CEOs may not always act in the owners' best interests is always present (Jensen & Meckling, 1976). Thus, an *agency problem* arises, and consequently, so does the need for *principals* to implement policies that mitigate the sources of problems described by Eisenhardt (1989). The issue concerning complications of direct monitoring can be mitigated by implementing a board of directors (BoDs), supervisors, auditors, *et cetera*. Further, the problem of interest misalignment can be mitigated by – rather intuitively – an alignment of interest. There exist an array of remedies, including incentive pay schemes that seek to limit the CEO's inclination toward opportunistic behavior (Tosi & Gomez-Mejia, 1994; Williamson, 1975).

3.1.2 Risk Preferences

A further assumption is a split between the parties' predispositions and appetite toward risk, which expresses the individual's preference to take on risk to achieve higher financial gain. CEOs are expected to be risk-averse in decision-making since their employment and future wealth are intimately linked to the respective company. On the other hand, the owners are regarded to be risk-neutral, as they can diversify their risk over several firms and asset classes (Wright et al., 2001). Hence, they are more risk-seeking and aspire the employed CEO to indulge in risk-bearing projects if they are reflected in higher returns. By utilizing incentive contracts, a portion of the risk is transferred to the CEO, for which they will demand additional compensation. When determining an optimal incentive contract, the principal

must therefore weigh the system costs (*risk compensation*) against the deviation costs (*moral hazard*) (Hoff et al., 2021).

3.1.3 Asymmetric Information

Agency theory further assumes that the relationship between *principal* and *agent* is characterized by *information asymmetry*, which can be described as one party within a relationship having more or better information than the other (Thomsen & Conyon, 2012). An example of this could be a CEO having more accurate information about their behavior than the owner does. As is the problem with any case of transactional economics, the issue of uncertainty is whether the CEO might knowingly or unknowingly withhold this information if it provides them personal benefit (Shapiro, 2005; Williamson, 1975). These factors lay the basis for two distinct *information asymmetry problems*: *adverse selection* and *moral hazard* (Eisenhardt, 1989).

Adverse selection relates to the potential misrepresentation of abilities by the *agent* in a selection process. As the recruitment team cannot completely verify the CEO's capabilities, and the CEO is aware of this, they can withhold information to increase their chances of entering a contract. This poses a problem *ex-ante* of the contractual agreement (Eisenhardt, 1989).

Contrarily, *moral hazard* refers to a potential problem *ex-post* of the contractual agreement. It is concerned with the CEO's behavior and actions that the *principals* cannot observe after the contract has been entered into (Ibid). Examples of *moral hazards* are plentiful and include everything from excessive risk-taking and misuse of company perks, to a general lack of effort. Their common denominator is that they are all instances in which the CEO diverges from what has been contractually agreed upon to maximize their personal benefit at the expense of those of the owners' (Holmström, 1979). In this scenario, Shapiro (2005) argues that the principal must strive to bridge the informational asymmetries by implementing information systems, monitoring and *risk compensation*.

3.1.4 Agency Costs

Findings from empirical research suggest that bridging the informational asymmetries and aligning the interests between owner and CEO can be achieved through monitoring and incentivizing their behavior (Fama & Jensen, 1983; Jensen & Meckling, 1976). However, ensuring that the CEO will make optimal decisions from the owner's perspective is generally impossible without incurring costs for both parties. Jensen & Meckling (1976) refer to the total cost of these implementations as *agency costs* and further define them as the sum of three underlying costs: i) *monitoring costs*, ii) *bonding costs* and iii) *residual loss*.

The owners incur *monitoring costs* by implementing systems such as a board of directors, auditors, *et cetera* to measure, observe and control the CEO's behavior. Owners can further control the behavior of the CEO by limiting their decision-making authority. The CEO incurs *bonding costs* on themselves to build trust with the owner or increase transparency of their decision-making. Examples can include contractually agreeing to stay with the company in the event of a takeover, potentially foregoing other employment opportunities and hence showing the owner that they are devoted to the company. Finally, *residual loss* is defined as the dollar-equivalent of depletion in welfare endured by owners, as a cause of the divergence of interests between parties inherent to the *agency relationship* (Jensen & Meckling, 1976).

The owner's ability to directly observe CEO behavior affects how high the *agency costs* are (Holmström, 1979). Considering the inevitability of *asymmetric information* in any relationship and that the remedies described in this section may be prohibitively costly, the implementation of incentive pay finds its relevance (Eisenhardt, 1989).

3.2 Incentive Compensation as a Solution

As introduced, both leaders and academics have long struggled to optimize *agency relationships* by incorporating incentive mechanisms. Murphy (1986) empirically justifies that to conjoin the parties' interests, the CEO's personal financial interest should be tied to the company's value creation. Such an alignment may be constructed through an incentive pay contract. The core purpose of incentive contracts is to attract, retain and encourage managers to protect the owners' interests (Kaplan & Atkinson, 2013). A prerequisite for such a covenant is that the manager is rewarded correspondingly with value creation for the owners, materializing through the fulfillment of one or more specific goals. With this reasoning, incentive pay is most often included as a variable supplement to the ordinary base salary, where its size is dependent on forepassed performance within predetermined measures, over a specific period.

Incentive pay may have both direct and indirect effects (Laux, 2010). A direct effect typically occurs when the CEO alters their behavior due to an external reward. Potentially, the CEO will choose to work harder and make better decisions as results are positively correlated to the compensation. The direct motivational effect is debated to be strongest with individual incentive schemes, and decreases with participants sharing the pot (Bragelien, 2005). Group-based reward structures, however, have limited direct effect. In various cases, this is a cause of *free-rider problems* and a lack of understanding of causality between individual effort and compensation levels. Such collective schemes may still provide indirect motivational benefits, affecting norms and values, which may influence individualistic behavior (Hoff et al., 2021). A committee of Nordic Corporate Governance (2018) defines incentive pay as:

“...any form of variable remuneration, which includes, inter alia, stock-based remuneration, bonus schemes, performance contracts and similar schemes where the financial remuneration is not known in advance.”

An objective of incentive pay is that the financial interest in attaining the set of goals should have a productivity-boosting impact on the CEO's effort. Hence, the incentive contract may serve as a robust management tool to steer the CEO's attention to desired focal areas that reflect the owners' goal and view on value creation (Vonen & Thoresen, 2015).

Since greater wealth is more likely to be materialized through improved performance and increased effort, incentivized pay is synonymous with *risky compensation*. This can affect the types of employees drawn to- and maintained in the company, causing a *sorting effect* (Lazear, 2000). Incentive pay schemes may thus recruit and retain competent managers who are comfortable with the notion that their future remuneration is unknown and reflects a willingness to take risks. Conversely, less qualified participants would find the CEO position less appealing if they sense that the requirements for goal achievements are farfetched, and will hence pursue opportunities with less risky reward systems. Therefore, most qualified individuals will actively seek out companies with performance-based pay, and theory justifies that such schemes can effectively alleviate *adverse selection problems* (Prendergast, 1999).

3.3 Critique of Incentive Compensation

Despite the above theoretical argumentation and rationale, that incentive schemes may encourage CEOs to contribute more closely to the company's value creation, academics have also questioned whether such initiatives are beneficial. The following sub-section will illuminate central arguments against incentive pays core concepts, in the context of Norwegian businesses. In this regard, alternative viewpoints from *stewardship theory* are deemed particularly relevant.

Academia is dubious to what degree a CEO requires external financial incentives. Kohn (1993) grounds that incentive schemes only work as a temporary injunction and that it fails to provide permanent changes in attitudes and behaviors. Incentives are thus a form of extrinsic motivation that does not shape an individual's underlying mindset determining their actions. Furthermore, it is argued that incentive pay can have penalizing effects when individuals do not receive what is expected and can cause an undesirable sense of being controlled. Reward programs may also encourage individualistic mentalities, resulting in a less collaborative environment and internal intrigue. Following this, Brennan (1994) argues that humans are not necessarily self-centric utility-maximizers, but also socially rational individuals seeking virtue. It is further advocated that people in authoritarian roles are more likely to have genuine altruistic motives (Jensen, 1994) and that intrinsic value outweighs egocentric goals

(Brennan, 1994). Hence, it is argued that monetary rewards might not sufficiently motivate all CEOs and eradicate all *agency problems* (Aguinis et al., 2013).

The degree to which incentive schemes' motivational effect positively correlates with the firm's value creation, known as the pay-to-performance relation, is a joint academic topic of discussion within organizational literature. This relationship is commonly examined as to how changes in CEO salary may explain changes in financial results, and thus shareholders' wealth (de Franco et al., 2013). In critique, multiple meta-analyses and cross-disciplinary reviews disclose that compensation scholars have been unable to document a consistent relationship between CEO pay and company performance (Cooper et al., 2009; Devers et al., 2016; Tosi et al., 2000). Hence, mixed empirical findings do not lay the premise that incentive schemes invariably lead to value creation.

Cable & Vermeulen (2016) argue that performance-contingent remuneration only works for routine duties but is detrimental to innovative and creative tasks. Such capabilities are considered cornerstones of a CEO's ability to operate in a volatile and changing environment. It is further emphasized that extrinsic motivation crowds out intrinsic motivation, as is the case when financial incentives are implemented. Since intrinsic task motivation is imperative to innovation and creativity, exceedingly variable incentives will diminish the intrinsic motivation required by CEOs to perform ideally.

Critics also highlight that all *pay-performance* relations are subject to gaming, where CEOs leverage metrics to their advantage without profiting the owners. Various studies have found that rewarding CEOs with stock options raises the risk of product safety issues, shareholder litigations and earnings manipulation (Cable & Vermeulen, 2016). Lastly, the plausibility of unethical behavior is particularly strong when individuals come close to accomplishing the set goal, instead of generating honest value (Schweitzer et al., 2017).

3.3.1 Stewardship Theory

Ever since the conceptualization of *agency theory* in the early 1970s (Mitnick, 1973; Ross, 1973), it has held a central role in both the literature- and practice of organizational theory and strategic management. However, in more recent times, academics have questioned the underlying assumptions within *agency theory* and propose *stewardship theory* as an alternative perspective (Davis et al., 1997; Donaldson & Davis, 1991). While the opportunistic behavior assumption is central to *agency theory*, Barney (1990) critiques this widely adopted assumption, arguing that it grossly oversimplifies the motivational structures of human decision-making.

Donaldson & Davis (1991) support this notion, and assume no conflict of interest between *principal* and *agent*. Their findings suggest that owners may benefit from empowering CEOs rather than by implementing mechanisms to monitor their behavior, or otherwise limit their decision-making authority. Davis et al. (1997) amplify the theory's perspective by depicting agents as motivated by intrinsic factors such as self-realization, collectivism and loyalty to one's organization, rather than solely by extrinsic factors such as financial reward or punishment. In *stewardship theory*, the terminology replaces *agent* with *steward* to distinguish between extrinsically or intrinsically motivated CEOs, respectively. It is further argued that its predispositions of psychological and situational factors that influence individuals' approach to relationships as either *agents* or *stewards* (Ibid).

Stewardship theory further suggests that *stewards* will gain higher utility from acting in the interest of the organization, than they would by acting in their self-interest. Davis et al. (1997) further suggest that the corporate governance mechanisms advocated for in *agency theory* are needless and may even be counterproductive to the creation of shareholder value. They find that substantial monitoring and performance-contingent pay can erode the *steward's* intrinsic motivation, undermine their sense of collectivism and curtail their pro-organizational behavior. Correspondingly, *stewardship theory* argues that it's in the owner's best interest to empower and trust their CEO, as this will provide them with the optimal structure to perform and create value (Davis et al., 1997).

3.4 Types of Incentive Compensation Components

The purpose of the following section is to set forth the salary components that are most commonly included in incentive pay contracts. Groysberg et al. (2021) argue that to be included as a variable proportion of total salary, components claimed to have one or more incentivizing effects should be considered. The various components are further classified according to whether they are short- or long-term in nature, i.e., whether the remuneration is paid out in the year its awarded or deferred for a later period. Finally, the salary components are classified in whether they are paid in cash or equity (Ibid). Prior to description of the various components, some remarks regarding delimitations find their relevance. The scope of this thesis is limited to compensation contingent on performance measures. Accordingly, a CEO's direct investment independent of targets is not considered a part of the incentive scheme. Although it is acknowledged that ownership, intuitively, has incentivizing effects, it is not considered to be a performance-contingent form of pay, seeing how gains and potential dividends are paid to all shareholders on a *pro-rata* basis.

3.4.1 Base Salary

While short- and long-term incentives make up the variable portion of total compensation, base salary constitutes the packages' foundation as a risk-free component. It is paid out in cash and is contractually pre-determined based on the CEO's abilities, experience and the hiring firm's desire to attract and retain proficient management (Groysberg et al., 2021). Moreover, base salary is not deemed to create incentive effects as it does not require the CEO to work harder than the contract's minimum requirement (Jensen & Meckling, 1976). It should be noted that critics (Barney, 1990; Davis et al., 1997) conflict with this perspective and argue that as incentives to perform stem from intrinsic motivation and additional financial rewards are thus deemed irrelevant to performance outcomes. Despite opposing views on the matter, this thesis bases its assumptions on *agency theory*, in which base salary is not considered to create incentive effects. Beyond fixed cash benefits, base salary can include pension schemes, insurance and other perquisites (Murphy, 2012).

3.4.2 Cash Bonus

Cash bonuses are a variable component tied to measurable goals that, upon achievement, are paid at the end of an evaluation period, i.e., a financial year (Kaplan & Atkinson, 2013). An advantage is that the bonus amount is typically linked to one or more *performance standards*, where development and projected effort toward the standard are easily and continuously observable. Furthermore, CEOs are able to monitor the bonus's nominal cash value, as opposed to equity-based remuneration, constituting cash bonuses as having strong incentive effects (Murphy, 2012). In critique, Edmans et al. (2017) argue that cash bonuses provide CEOs with incentives to concentrate on short-term accounting returns, effectively limiting long-term value creation. It is further argued that bonus schemes can be gamed by counterproductively transferring revenues and expenses across reporting periods, known as *earnings management*.

3.4.3 Retention Bonus

Retention is, alongside attraction and interest alignment, a standard consideration in designing incentive contracts (Edmans et al., 2017). However, Plenborg et al. (2007) remark that awards granted for retention are not related to performance, nor a variable component of total compensation. Hence, some academics do not acknowledge it as a bonus but rather a fixed sum awarded periodically if the CEO stays at the company. However, studies have found that they have incentivizing effects, and are especially utilized when owners need to retain management in crucial periods, e.g., before a sale or merger (Jacobs, 2000).

3.4.4 Equity-based Remuneration

Equity-based pay includes all forms of compensation whose nominal value is determined by the company's share value, namely stocks and options (Lee, 2021). Per *agency theory*, equity-based pay converges owners' and CEOs' interests by increasing the latter's ownership stake. Moreover, Edmans et al. (2017) deem equity-based pay as creating sustained, long-term incentives as a vesting period, typically of three years, succeeds the grant date. Additionally, pay-out policies can be implemented to maximize retention, e.g., by back-end weighting the pay-out over an additional period subsequent to vesting, i.e., 10% in year three, 20% in year four and so on (Groysberg et al., 2021). As such, owners can implement equity-based incentive plans with vesting-and retention periods to ensure CEOs will maximize shareholder value. Furthermore, the use of equity-based remuneration is less intuitive in private companies, as share valuation methods vary, and fluctuations are not observable to the same extent as in publicly traded companies.

3.4.4.1 Stock-remuneration

Restricted Stock Units (RSUs) are a form of non-cash compensation. Equal to other shareholders, the shares awarded offer capital gains, dividends and voting rights (McConaughy & Mishra, 1996). The stocks are issued through vesting- and distribution plan starting after the respective performance- or tenure milestones are met. An alternative to RSUs is phantom stocks, which essentially are deferred cash payments contingent on the company's share price. In practice, a CEO is awarded a certain number of phantom shares, which upon receipt is paid out in cash valued at a 1:1 ratio to the underlying stock. A CEO receiving phantom stocks is not awarded ownership or voting rights (Kaplan & Atkinson, 2013).

3.4.4.2 Stock Options

Options give the CEO the right, but not the obligation to purchase a certain number of shares at a future date, at a rate established at the grant date (Kaplan & Atkinson, 2013). Options are deemed to have strong incentive effects, as maximizing the company's share value will, *ceteris paribus*, increase the value of the options. However, as the CEO does not own the underlying stock, there is no downside loss and unlimited upside potential. This gives the CEO incentive to create long-term value, but could also be detrimental as they may be motivated to take on excessive risk in pursuit of a higher payoff (Ibid). Another disadvantage is that a company's stock price is partially contingent on external factors outside the CEO's control. Groysberg et al. (2021) deem this an inherent flaw, as stock options will have no incentive effect if, for example, the vesting period coincides with a bear market and the options become deeply *out of the money*. In this scenario, the CEO will not be motivated to perform above what is required due to the improbability of attaining financial gain.

3.5 Regularities and Institutional Recommendations

The following section will elaborate upon relevant legislation that governs incentive schemes for Norwegian businesses. The purpose is to determine any limitations on the *principal's* ability to design optimal arrangements. In addition, recommendations and codes of practice from The Norwegian Corporate Governance Board (NCGB) and proxy advisors will be discussed.

3.5.1 Legislation

Although the majority of legislation on executive pay stems from the Norwegian Public Limited Liability Companies Act, which regards listed companies on Oslo Stock Exchange, limited companies of significant size are encouraged to follow the act where applicable. This includes the defined size classes, cf. section 2.2.1.1, which constitute this thesis (Lovdata, 2021).

The acts § 6-16a (2) states that the board shall prepare guidelines on the determination of salaries and other remuneration to the general manager, other senior persons, employees of the board and corporate assembly. Furthermore, the board must ensure that the guidelines are comprehensible and contribute to the company's value creation in alignment with its risk profile, business strategy, long-term interests and financial sustainability, cf. § 6-16a (3). The guidelines shall be considered and approved at the general meeting, in the event of significant change and at least every four years cf. § 6-16a (4).

§ 6-16b stipulate that listed companies shall prepare a remuneration policy, including detailed rules for reports on salaries and other remuneration to board members and executives, which must be approved at the general meeting. In contrast, unlisted firms are not required to publish remuneration reports, and the transparency for such financial reporting is thus low.

3.5.2 Institutional Recommendations

The Norwegian Corporate Governance Board (NCGB) is an elected committee consisting of eight institutional members that continuously publish recommendations for the Norwegian code of practice for corporate governance. The publication's 12th chapter is devoted to management remuneration and lists several guidance points to secure governed pay policies (NCGB, 2021).

In addition to the above-discussed legislation, they emphasize that schemes must contribute to congregating interests between *agents* and *principals*, and thus serve as a solution to the *agency problem*. Incentive schemes should be anchored in measurable conditions that executives may influence. Transparency for remuneration is promoted, as it may highlight how a company selects its criteria to

protect shareholder value (Ibid). For designing compensation packages, the NCGB (2021) lists several recommendations that companies should comply with:

- i) It should not contribute to short-term dispositions that could be detrimental to the organization.
- ii) If externalities heavily influence the stock price, boards should implement incentive components linked to target figures that executives may ably influence.
- iii) Issuing options to executives should be done with caution.
- iv) Potential option agreements should be tied to direct ownership in underlying stocks to enhance symmetric interest.
- v) The board should execute simulations of the model's effect on potential outcomes.
- vi) To cope with the risk of adverse financial outcomes, the vesting-, grant- and exercise dates for performance-based remuneration should be spread over time.
- vii) The company should be able to fully or partially reclaim performance-based remuneration awarded on an erroneous basis or misleading information from the agent.

Other proxy advisors have also published their counselling in alignment with the committee's motive of reducing *PA problems*. More recently, the common denominator is that companies are preferred to incorporate ESG metrics as incentivized goals for executives, although they are not financially measurable (ISS, 2021a). EY (2021) finds that $\frac{2}{3}$ of Fortune 100 absorb such metrics into today's CEO compensation. Moreover, there is increasing pressure from shareholders and stakeholders to include ESG metrics, which is likely to materialize in smaller firms as well. Furthermore, the Covid-19 pandemic has reinforced ISS's (2021b) recommendation to apply performance metrics that acknowledge externalities, as such turmoil compose challenges related to incentive schemes. Such performance metrics entail comparison to peers and market relativity and will be further discussed in section 5.2.2, on external standards.

3.6 Sub-Conclusion

The above chapter has presented *agency theory* and highlighted potential conflicts of interest between owners and CEOs in an *agency relationship*. Under the assumption that both parties are rational, seek to maximize their utility, and have different predispositions toward risk, there is uncertainty among owners as to whether CEOs will behave in a manner that protects their interests. Moreover, *asymmetrical information* makes it complex and costly for owners to monitor the CEO's behavior and lays the basis for two distinct problems: *adverse selection* and *moral hazard*. Implementing monitoring mechanisms may prove prohibitively costly, and the implementation of incentive pay becomes a valuable substitute.

Incentive pay schemes contribute to interest alignment between owners and CEOs by making a portion of their total compensation contingent on the firm's value creation. Rewarding the CEO upon achievement of performance measures serves as a solid management tool to steer the CEO's attention towards desired areas. Moreover, optimal incentive schemes should attract, retain and encourage managers to protect the owners' interests and thus mitigate the problems of *adverse selection* and *moral hazard*.

Literature preceding the conceptualization of *agency theory* has highlighted criticism on several of its underlying assumptions. Notably, *stewardship theory* offers a sharply contrasting view, assuming no conflict of interest between owners and CEOs, arguing that agency theorists oversimplify motivational structures of human decision-making. Moreover, academics fail to reveal a consistent relationship between the use of incentive pay and the protection of shareholders' interests. Some cases even find that such schemes may be detrimental to value creation. Additional criticisms argue that the appropriateness of incentive pay schemes is dependent on whether CEOs are motivated by extrinsic- or intrinsic factors.

Subsequently, common forms of incentive pay components are presented. Beyond base salary, variable components include cash bonuses and equity-based remuneration, including RSUs, phantom stocks and stock options. Cash bonuses are deemed to provide CEOs with short-term incentives, while equity-based components provide incentive to perform in the long run.

Relevant legislation and codes of practice from the NCGB and proxy firms were further reviewed. Privately held firms are not directly bound by any legislation, but are encouraged and partly deemed relevant for the thesis's population. §6-16a dictates that variable remuneration schemes must align with company characteristics, while §6-16b antithetically stipulates that unlisted companies are not required to submit remuneration reports. However, such transparency could induce share- and stakeholder trust.

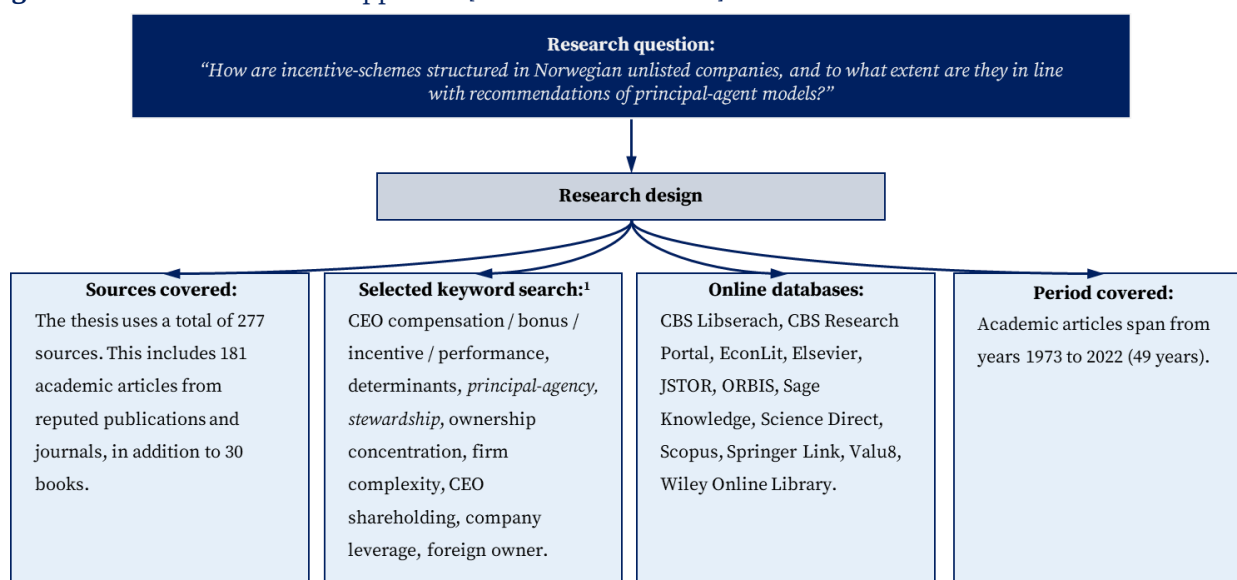
The NCGB put forward guidelines and recommendations in the design of compensation packages. Overall, incentive schemes must contribute to *agency problem* solutions and be anchored in measurable conditions that CEOs can influence. Proxy firms also promote the trend to incorporate ESG metrics, which is likely to become more entrenched in smaller firms as well.

Chapter 4: Literature Review

This chapter aims to uncover the empirical background of incentive pay research and consider geographical considerations and their relevance in privately held firms. Moreover, previous studies on determinants driving incentive pay prevalence lay the foundation for formulating hypotheses. These will later be tested in chapter 8, followed by a discussion of the findings and the extent to which the prevalence of incentive pay in Norwegian unlisted companies can be explained by drivers prescribed in the literature.

As mentioned in section 2.2.2, extensive secondary data has been collected to acquire a broad view of the academic field. Initially, past academic courses and assignments were revisited for idea generation, as well as researching available master theses from CBS and the Norwegian School of Economics. As the research- and geographical area were decided on, scouring of several databases ensued. The utilized databases were located through CBS' library database list, and thus considered credible. Exploratory searches on Google Scholar have also found relevant Nordic literature from various Scandinavian universities and institutions. In addition to the mentioned *Boolean operators* across selected keywords in section 2.2.2.1, *backward- and forward citation search* was used to a large extent. The former is a reference search method that entails finding a publication relevant to the topic, then scouring the references list to identify other useful articles. While this method looks back in time, *forward citation search* entails locating a publication, then investigating additional works that have referenced it, effectively observing potential development in the academic field. An outline of the research approach is presented.

Figure 5: Outline of Research Approach [Source: own contribution]



¹ Keywords has been explored across both English and Scandinavian languages.

4.1 Empirical Background

Prior to the 1970s, perspectives and theories on remuneration were scarce in the corporate governance literature (James, 2014). A fundamental study is that of Jensen & Meckling (1976), which integrated elements from agency theory to address the separation of ownership and control in an owner-manager relationship. The research sparked the academic debate, and following the surge in executive compensation in the U.S. during the 1970s, several economists and academics proposed theoretical perspectives on the likely determinants influencing executive compensation. During this period compensation levels grew dramatically, pay became more dispersed across managers and firms, and salaries became increasingly tied to firm performance via the use of equity incentives (Frydman & Jenter, 2010). However, the growing academic field offered no concise explanation of what caused the sudden surge in pay. Still, a consensus has yet to be reached regarding the determinants, as most evidence from studies has been disproved by others, and there is a general prevalence of opposing theories and perspectives.

Bonus schemes entered the Norwegian business environment when the largest listed companies started implementing them in the 1990s (Bragelien, 2018). Given the relatively late entry, research on executive compensation within the Norwegian context was virtually nonexistent prior to 1996 and remains scarce. However, a few researchers and business- and politically involved people have, since the turn of the millennium, contributed to uncovering how incentive pay packages are structured in Norwegian listed companies. In 2006, a paragraph was added to the Norwegian Public Limited Liability Companies Act, constituting increased transparency of executive remuneration in implementation and reporting, cf. section 3.5.1. Prior to this, researchers were largely constrained to data on general wage- and income developments, as reported by the Norwegian Technical Calculation Committee for Wage Settlements, Statistics Norway or through surveys and small samples (Norwegian Government, 2014; Pedersen, 2006).

Post 2006, as transparency increased, more in-depth studies on bonus structures in listed companies were published, yet there are virtually no extensive studies on unlisted companies. Therefore, the literature review addressed a multitude of international studies, where cross-references from Barth et al. (2008), Bragelien (2005) and Firth et al. (1996), as well as Danish proxies (Plenborg et al., 2007, 2010), were used to identify relevant foreign literature. Overall, the vast majority of research on executive pay has focused on U.S. firms, where detailed disclosure of executive pay has been compulsory since the 1930s (Edmans et al., 2017). Moreover, almost all studies are devoted to listed firms, as private firms are not required to disclose pay (Ibid.).

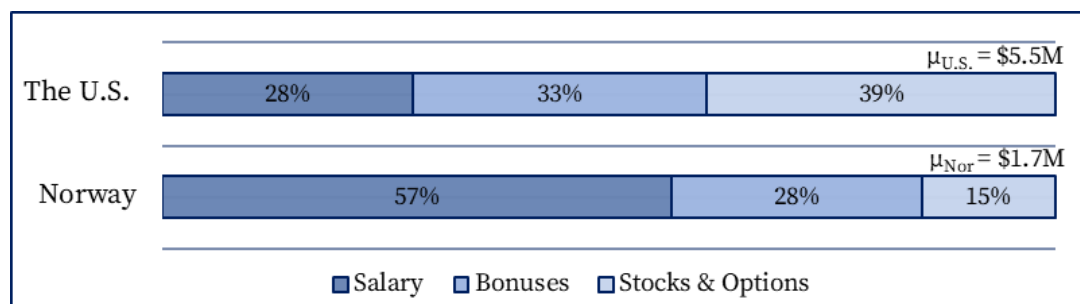
Consequently, a lot of the reviewed literature is international studies examining listed firms focusing on pay levels and pay-to-performance relations, rather than the design and prevalence. As such, it is

acknowledged that the available literature might not be fitting to fully explain the conditions we seek to uncover. The most comparable studies identified are those of Plenborg et al. (2007 and 2010), which examine the technical aspects- and structures of implementing bonus schemes in Danish unlisted companies.

4.2 Geographical Considerations

Since the most fundamental literature is based on data derived from the U.S. market, the global generalizability can be questioned (Gomez-Mejia & Wiseman, 2007; Lubatkin, 2007; Tosi & Greckhamer, 2004). Historically, other countries have at most required disclosure of aggregated compensation of the total C-suite combined, and only in the form of cash, excluding other components (Edmans et al., 2017). When several European countries, including Norway, mandated disclosure of top executive pay in 2006, Fernandes et al. (2013) found that, after adjusting for size, performance and industry, U.S. CEOs made, on average, 26% more than their foreign peers. Among the sample of European countries, Norway had the third-lowest variable pay levels, with the second-lowest level of absolute pay, alongside Sweden. In comparison, U.S. CEOs made 3.2 times what their Norwegian counterparts made, and the variable share constituted 72% of their total compensation, compared to 43%. From this data, it can be gathered that the total compensation of American CEOs is notably more risky and that incentive pay packages are structured fundamentally differently.

Graph 1: Pay Mix Norway vs. The U.S. [Source: Own contribution; Fernandes et al., 2013]



4.3 The Relevance of Incentive pay in Privately Held Firms

With no requirements for disclosing pay information in privately held firms, there is a void in the research, and very little is known about their incentive pay structures (Edmans et al., 2017; PwC Norway, 2021). With *agency theory* as an underlying assumption, several scholars have deemed privately held firms irrelevant research objects.

The prevailing rationale is that conflicts of interest do not arise to the same extent because they are typically owner-managed or have dominant ownership concentration (Fama & Jensen, 1998; Murphy, 2012). Presumably, determinants and structure will be less relevant if it is decided by the CEOs themselves. However, several scholars have criticized this view, arguing that privately held firms are highly heterogeneous and the notion that they are owner-lead and have concentrated ownership structures is a gross overgeneralization (Habbershon et al., 2003; Michiels et al., 2012; Westhead & Howorth, 2007). In stark contrast, surveys from the U.S. and Norway have found that incentive pay is indeed actively used in the majority of privately held firms (Chrisman et al., 2007; Loe & Lindahl, 2016; Schulze et al., 2001). Furthermore, because private companies are not subject to the same regulatory demands as public companies, Bebchuk & Fried (2003) find that the CEO compensation plans are often less complex in structure, and performance is evaluated on different measures.

Berzins & Bøhren (2009) find that privately held firms constitute over 99% of all companies in Norway, have four times higher revenues, employ four times as many people, and have double the assets of their listed counterparts. Considering the vast overrepresentation of privately held firms in the economy, it must be assumed that firms rival in competitive markets. In return, a study from Cuñat & Guadalupe (2005), based on a mix of listed and unlisted UK companies, found that incentive pay sensitivity increases with higher levels of market competition.

4.4 Determinants of Incentive-Pay

In the following sections, drivers of incentive pay are examined, and hypotheses are formulated. The purpose is to assess and predict whether the determinants, as postulated in the literature, also apply to Norwegian unlisted companies under the selected delimitation criteria. The hypotheses are subsequently tested in chapter 8. Executive compensation and corporate governance is a broad field, and as decades of research have uncovered, there exists a multitude of possible determinants for how it might be structured. As such, it is acknowledged that there exist far more determinants than those the analysis will try to predict. Due to the thesis's inherent time- and capacity constraints, a few of those deemed most interesting and relevant to the study's scope, are examined.

4.4.1 Ownership Concentration

From an ownership control perspective, large shareholders tend to have the opportunity and desire to take on an active role in monitoring CEOs, thus overseeing the separation of decision making and residual risk-bearing (Fama & Jensen, 1998). Large owners naturally carry a greater risk if the company underperforms, and are also more exposed to idiosyncratic firm- and default risk (Huddart, 1993). Therefore, it is implicit that many blockholders in less dispersed companies have incentive to actively

engage their influence in the company, to safeguard self-interest and optimize value creation. Blockholders, therefore, have an essential role in long-term governance and may form the mechanism for how incentive schemes are designed (Edmans & Holderness, 2016). Although the literature on concentrated- *versus* dispersed ownership is a common topic within corporate governance, little empirical research has been performed on ownership concentration's influence on incentive pay in private firms.

Nordic companies are characterized to have a high level of ownership concentration. For instance, 65% and 23% of Norwegian listed companies have at least a single shareholder at the 20% and 50% control levels, respectively (Lekvall et al., 2014). Privately held firms tend to have a higher concentration, where approx. 80% of all unlisted Norwegian companies have a larger owner with more than 50% shareholding. However, it is noted that this estimate includes all companies regardless of size, where a declining trend between ownership concentration and firm size is observed (Grimsby et al., 2017). In comparison, the U.S., on average, reveals a lower ownership concentration, yet a higher prevalence of incentive pay, cf. Graph 1 (de La Cruz et al., 2019). This leads to the interesting segregation in literature, which is relatively split concerning how larger owners influence the CEO compensation contracts.

One branch of the literature emphasizes that high ownership concentration through, i.e., institutional investors, is positively correlated- and a complimentary control mechanism to incentive pay contracts. It is suggested that investor monitoring and incentive compensation occur simultaneously and endogenously, and that the coexistence stems from a necessary interaction (Hartzell & Starks, 2003). Large owners will, in other words, control the CEO's behavior indirectly by designing effective incentive contracts (Jiang et al., 2009). In alignment, international studies from Murphy et al. (2013) across 14 countries reveal that CEO compensation has a higher degree of equity-based pay when ownership is more concentrated.

Another school of thought contends that high levels of ownership concentration substitute or lower the necessity for incentive pay as a control mechanism. Ke et al. (2005) argue that large shareholders have a motive to proactively monitor management decisions, which may reduce the significance and effectiveness of incentive contracts. Large equity investors are often represented on the board and may take an active role in communicating their preferences on corporate governance (Fama & Jensen, 1983). This prediction finds support from numerous studies. Both Cole & Mehran (2016) and Core et al. (1999) establish a negative relationship between concentrated ownership and incentive pay for the European and the U.S. market, respectively. However, (Plenborg et al., 2010) test this relationship in the Danish private market, but does not find support for this assertion.

Compared to public firms, privately-held firms have a higher degree of ownership concentration and are more likely to be characterized by an owner controlling the majority of shares (Cole & Mehran, 2016). In alignment with our population's *separation ratio* of 50%, some large owner(s) has handed the CEO the rudder of control. This separation of ownership and control thus motivates our hypothesis, that larger owners are inclined to implement incentive schemes to regulate the CEO's actions.

H1

The level of ownership concentration is **positively** correlated with the use of incentive compensation.

4.4.2 Firm Complexity

The prevalence of *agency problems* is deemed to increasingly materialize with a company's complexity, as a bigger pool of resources influences the CEO's decision-making (Jensen & Meckling, 1976). This complicates owners' ability of direct monitoring and troubles the trade-off between effort and cost. In addition, it obstructs the traceability between CEO decisions and firm outcomes. Adapting *agency theory's* view on incentive pay to mitigate such problems, a positive correlation between CEO incentives and firm complexity is expected (Andreas et al., 2010). The rapid rate of technical innovations, globalization and specialization, have made complexity one of the top business challenges in the 21st century (Queen & Fasipe, 2015) and justify the determinant's relevance for this thesis.

In business research, firm size, incurred risk, investment opportunities and product- and geographical diversification are common explanatory variables of firm complexity (Bryan et al., 2005; Linn & Park, 2005). Considering the available data on the population, this thesis applies firm size, in terms of *employees*, *net sales* and *total assets*, as proxies for complexity.

Regardless of the proxy, all reviewed literature finds that the proportion of CEO's variable compensation increases with company complexity (Bryan et al., 2005; Linn & Park, 2005; Palmon et al., 2006). In addition, a longitudinal study on Norway's 500 largest companies supports this notion, with a positive relationship between the number of employees and the use of incentive pay. Bechmann & Nielsen (2012) also find a rising trend of equity-based pay through market capitalization in Danish private companies, which suggests that incentives are more present in larger firms. This thesis expects no significant difference from prior research on a positive correlation. A connection between firm complexity and the use of incentive pay is thus expected to apply in Norwegian private companies.

H2

Firm complexity is **positively** correlated with the use of incentive compensation.

4.4.3 CEO Shareholding

A common organizational perception in literature is that equity ownership can be used as a managerial tool to align interests, and may serve as an indicator of information symmetry. The idea of shareholding may thus mitigate the actual need for incentive pay, as a CEO would be awarded rights to capital gains and potential dividends (Boller & Morton, 2019). Researchers are also conclusive that the combination of participative management and ownership yields substantial corporate gains (NCEO, 2018). Furthermore, numerous studies from Core et al. (1999), Lin & Lin (2014) and Walker (2019) investigate the association between shareholding and incentive pay, finding a significant negative relationship.

The *agency*-related reasoning suggests that shareholding may offset other forms of compensation. Both Lin & Lin (2014) and Walker (2019) argue that by directly uniforming the party's interest, less monetary compensation is required to motivate CEOs. It is thus proclaimed that shareholding has a substitution effect. In other words, a substantial amount of shareholding would reduce the risk of *moral hazard* and *agency costs*, as the improved alignment of interest would reduce the necessity for monitoring (Jensen & Meckling, 1976).

Nevertheless, the threshold for when shareholding suppresses the need for other incentives is highly debatable and could be subject to industry-, company-, and individual-specific conditions. In addition to Randøy & Nielsen's (2002) findings on a robust negative relation between CEO shareholding and levels of incentive pay in Norwegian public firms, CEOs, on average, had an 11,8% stake in the underlying firm. Similarly, Plenborg et al.'s (2007) study on Danish private firms also reveals a high prevalence of incentive schemes, despite that the CEOs held 11,6% of shares. This may imply that bonus schemes may generate incentives beyond what ownership may manifest.

In the evaluation of shareholding's impact on interest alignment, the CEO's time horizon may be of substantial matter. The CEO *horizon problem*, often proxied by the CEO age, explains the notion that shorter career horizons may lead to *risk-averse* actions that are detrimental to the firm (Cho & Kim, 2017). Studies find that senior CEOs are enticed to pursue initiatives that pay off pre-retirement, and junior CEOs are also inclined to focus on short-term goals in order to improve their managerial reputation (Ryan & Wiggins, 2001). It is thus suggested that stock-based remuneration should be offered to all CEOs with myopic motives to offset short-term horizon risk (Ibid). Yet, such motives may potentially diminish equity's effect on long-term interest and be highlighted in the descriptive analysis.

Although equity-based pay may not always encourage long-term value creation for shareholders, managerial ownership is more typical within Nordic countries (Lekvall et al., 2014). Thus, it will be of relevance to examine its impact on incentive pay in a Norwegian setting. The following hypothesis will

hence see if Norwegian companies follow the suggested academic notion, that higher CEO shareholding will reduce the *agency problem* based on the conjunction of interests, and thus offset the need for supplemental compensation.

H3

CEO shareholding is **negatively** correlated with the use of incentive compensation.

4.4.4 Company Leverage

Jensen (1986) argues that capital structure and the use of debt is a central controlling function of corporate governance and develops the *debt control hypothesis*. Inherently, managers have an incentive to expand the company's size, even beyond what is fiscally sustainable and consistent with profit-maximization, due to accompanying increase in managerial power, perks, remuneration and prestige. Therefore, debt can curtail the *agency cost of free cash flows*, by reducing the cash available for spending at the CEO's discretion. Accordingly, it is suggested that debt in the hands of shareholders has the ability to curb managerial decision-making that would be detrimental to shareholder value and is, therefore an effective way to align interests (Agrawal & Knoeber, 1996).

Further, Cole & Mehran (2016) build on the findings of Jensen & Meckling (1976) and Amihud & Lev (1981), and examine the significance of leverage as a corporate governance function in privately held firms. In this setting, especially if the ownership concentration is high and the CEO owns the majority of shares, that debt has an even more critical role in guiding the manager's actions. This rationale is built on the notion from previous studies, that CEOs will make decisions that increase job security and decrease the probability of default. It is assumed that CEO compensation in such firms is largely a channel for distribution of residual cash flows, and as such, the CEO will adjust their salary accordingly. If residual cash flows are low, their pay will be lower and retained in the company to service debt or reduce the cost of financial distress (Murphy, 2012).

Andreas et al. (2010) investigate this relationship and find a significant negative result between CEO pay level and leverage. Randøy & Nielsen (2002) apply the debt-to-equity ratio as a control variable in their analysis of CEO compensation in Norwegian and Swedish listed firms, but do not formulate a hypothesis investigating the relationship. Ulfstein & Haugland (2019) examine director compensation levels in a mix of listed- and unlisted Norwegian firms and find a negative relation to firm leverage. Findings from previous studies, in combination with the research vacuum on executive compensation in Norwegian private firms, motivate the authors to investigate the relationship between financial leverage and CEO compensation through the following hypothesis.

4.4.5 Foreign Owner

Due to the country-concentrated research, the literature on foreign ownership in relation to incentive pay is relatively discrete, and the utilized search approach mainly resulted in studies on U.S ownership of non-U.S. firms. Randøy & Nielsen (2002) and Berzins et al. (2008) are among the few academics to examine the effects of foreign ownership on firm performance and executive compensation in Norway. Their motivation for examining the relationship stems primarily from two factors.

First, Berzins et al. (2008) build a rationale based on the assumption that direct ownership from persons, as opposed to institutional investors, offers greater monitoring. In that line of thought, it is hypothesized that the informational asymmetry is greater for foreign owners, relative to domestic investors. Further, it is suggested that foreign investors primarily invest overseas to realize diversification benefits, rather than improve corporate governance. Hence, a positive relationship between foreign ownership and the use of incentive pay is expected to align interests despite the physical- and cultural distance or offset reduced monitoring quality.

(Oxelheim et al., 2001) and Randøy & Nielsen (2002) are motivated to test the relationship between foreign board membership and CEO pay levels, based on the observation that Norwegian CEOs are among the lowest-paid executives in economically developed countries. Thus it is suggested that foreign board members might be able to influence the approval of increased CEO compensation, and a significant relationship is found. This thesis is concerned with testing of relationships between foreign ownership and the application of incentive pay. Randøy & Nielsen (2002) find that foreign board members are accustomed to higher salaries and a higher share of total compensation being variable. Thus it is expected that foreign owners would also be more accustomed to the mere use of incentive schemes, than Norwegian owners. A significant relationship is further expected because, apart from Denmark and Sweden, foreign owners of Norwegian companies are mainly from the U.S. and UK (Statistics Norway, 2019). In turn, CEO compensations in these nations are among the highest in the world (Szmigiera, 2017).

Moreover, only 2% of Norwegian companies are foreign-owned, but these companies, in turn, employ approximately 13% of the workforce (Statistics Norway, 2019). As such the topic is deemed relevant, and the relationship between foreign ownership and the application of incentive pay will be tested.

4.5 Sub-Conclusion

This chapter has uncovered relevant conditions- and drivers prescribed in literature, for the application of incentive pay. The systematic review from numerous databases in multiple languages revealed comprehensive literature on incentive contracts in public firms. Yet, limited research has been performed on private companies, with a large void in the Nordic markets. The performed literature review catalyzes a set of hypotheses with determinants deemed relevant and interesting for Norwegian privately held firms.

The review has assessed empirical findings ranging from the early days of incentive pay literature in 1976 until 2021, spanning a research period of 45 years. The vast majority of theories and fundamental studies were developed during the surge in U.S. CEO Pay during the 70s, while research on Norwegian observations appeared in line with the introduction of bonus schemes in the mid-1990s. Data on executive compensation for public firms further improved *ex-post* 2006 due to legislation on reporting and transparency. The relatively late entry of incentive pay, transparency and corresponding research has left the Nordics with a laggard- and significantly smaller research pool. Therefore, the review has considered several Nordic studies as they are deemed more culturally comparable to Norway than U.S. studies.

It is evident that both levels- and structuring of executive compensation fluctuate across geographical areas, which again questions the literature's generalizability. The late and time-inconsistent disclosure of proxy statements with individualistic compensation information has further complicated comparisons and country-specific results. In addition, research on private firms is especially limited, as they are not governed by mandatory compensation reporting. Moreover, Norway yields one of the lowest compensation levels and the portion of variable pay among its European and American peers, thus compensation packages are considerably less risky.

The review has further highlighted the relevance of incentive pay in private firms in order to justify the thesis's scope. Due to the opacity of compensation data in private firms, the few existing studies are based on either general wage conditions reported by governmental entities or surveys of smaller samples. Incentive pay was for a long time deemed academically irrelevant in private firms, on the notion that *agency problems* are non-existent as they are typically owner-managed. The review

highlighted contradictory findings, and relevant determinants have been identified, discussed, and served as the basis for hypotheses formulation.

The chapter succeedingly presents five hypotheses. The purpose is to test whether the determinants of executive pay, as stipulated in the literature, apply to Norwegian companies. The thesis acknowledges that the pool of determinants is immense and that the hypotheses largely stem from circumstances discovered in the literature on public and foreign firms. The hypotheses form the basis for the analysis in chapter 8, and are summarized below.

Table 1: Overview of Hypotheses [Source: Own contribution]

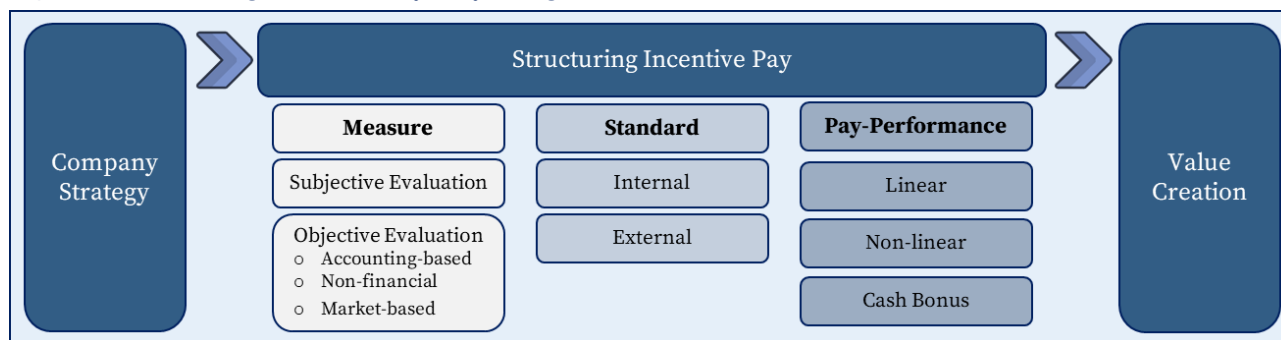
Hypothesis	Determinant	Predicted Relationship	Supporting Literature
1	Ownership Concentration	Positive	Jiang et al. (2009), Murphy et al (2013), Cole & Mehran (2016)
2	Firm Complexity	Positive	Andreas et al (2010), Bryan et al. (2005), Linn & Park (2005), Palmon et al. (2006), Loe & Lindahl (2016), Bechmann & Nielsen (2012)
3	CEO Shareholding	Negative	Core et al. (1999), Lin & Lin (2014), Walker (2019), Ryan & Wiggins (2001)
4	Company Leverage	Negative	Jensen (1986), Agrawal & Knoeber (1996), Cole & Mehran (2016), Andreas (2010), Murphy (2012), Ulfstein & Haugland (2019)
5	Foreign Owner	Positive	Randøy & Nielsen (2002), Berzins et al (2008), Oxelheim et al (2001)

Chapter 5: Structuring Incentive Pay

As the previous chapter established the theoretical foundation for incentive pay and how it applies in practice, the following chapter will describe the general theory and key concepts within the structuring of bonus contracts. The chapter aims to provide a deeper understanding of the subject field and set the basis for the questionnaire design and subsequent analyses.

Overall, the structuring of bonus schemes may be decomposed into three key design elements (Murphy, 2000): The choice of- i) *Performance measure*, ii) *Performance standard* and iii) *Pay-to-Performance relationship*. Hence, the principal faces several choices around the underlying design elements and in the transition from company strategy to value creation, as illustrated in the figure on the following page.

Figure 6: Structuring Incentive Pay: Key Design Elements [Source: Own contribution]



The chapter will elaborate upon- and analyze the design elements to determine what specific considerations the *principal* should undertake when designing bonus schemes. Furthermore, the choice of elements could entail both benefits and disadvantages for owners, and partly CEOs, which will be discussed. However, it is acknowledged that optimal composed schemes do not exist in practice, as there will always exist a variety of in every scheme (Petersen et al., 2017). Thus, the thesis does not intend to assess the quality of incentive schemes, but merely to uncover their compositions. Moreover, “targets” is used throughout the section and can contextually refer to either *performance measures*- or *standards*.

5.1 Performance Measure

In the choice of performance measure, the *principal* will determine what (which) objective(s) the *agent* should be measured up against. The measure should influence the CEO to make justifiable decisions aligned with the owner’s set of interests, as it may trigger a form of reward (Holmström, 1979). The choice of measure is thus critical as owners, commonly said, will acquire what they measure. According to neo-classical economics, CEOs will maximize their utility, and the performance goal is a measure of this. The measure should be directly susceptible to CEOs' actions to have an interest aligning effect (Merchant, 2006).

It is essential that the owners define performance measures that are highly correlated with their perspective on enterprise value and are informative about the CEO’s actions. If the metrics do not coincide and correlate with the company’s purpose, there is a risk of suboptimal decision-making that could be detrimental. Such outcomes may not be intentional, but merely a consequence of discrepancy or misunderstanding about the definition of value (Baker, 1992). Furthermore, the *principal* should choose a mix of measures that, to a large extent, secure long-term value creation in line with the company’s respective strategy and life cycle (Petersen et al., 2017).

Overall, the *principal* has three considerations in the scope of performance measures; the choice of number of measures, type of measures, and relative weighting. In practice, these choices would often be decided simultaneously, but will in the following sections be discussed separately.

5.1.1 Number of Performance Measures

An excessive amount of various measures could make an incentive scheme unmanageable for the *agent*, which could lead to a narrow focus on a set of measures. Attention is likely to be drawn to metrics with greater returns that are more easily obtainable, with less regard to the *principal's* interests.

On the contrary, too few- and simple measures could reduce the likelihood of interest alignment. The use of a single performance measure is at most justified if it is perfectly *congruent* and *noiseless* (Sen & Raghu, 2013). An inaccessible measure close to complete congruence is the stock for listed companies. This measure is, however, subject to a great deal of *noise*, which distorts trends and thus overall performance. A CEO is likely to demand additional compensation in cases where the salary is greatly affected by exogenous factors, as the risk linked to future compensation increases (Holmström, 1979).

Furthermore, findings from Gibbs et al. (2009) disclose that companies combine multiple measures to rebalance multitask incentives and offset shortcomings in available measures. Nevertheless, an excessively complex bonus scheme will challenge the *agent* on how to best obtain the objectives, which in turn might exacerbate the *agency problem*. However, multiple measures will reduce the overall cost of the incentive contract, as the *noise* is diversified over several targets (Feltham & Xie, 1994).

5.1.2 Types of Performance Measures

As suggested by Figure 6, performance measures may generally be classified as subjective and objective metrics. While the subjective measures are based on the owner's or BoD's individual performance assessment after the evaluation period, the objective measures are evaluated on predefined and unbiased measures (Woods, 2012).

The subjective approach is frequently employed when it is difficult to objectively quantify the CEO's contribution to value creation. Subjectivity is often the case for companies with complex- operating activities and environments, which challenge the traceability of value creation to an incentive contract (Nisar, 2006). Such measures could be utilized independently or in combination with objective measures. However, it may be troublesome to verify subjective assessments, compared to objective measures that are more observable and easier to validate. The measure is more prone to biases, which may lead to performance review errors and thus conflicts between the *principal* and *agent* (Kawaguchi

et al., 2016). Nonetheless, subjective measures have impactful value in firms that seek to reward human capital investment, encourage long-term behavior, simplify complexity in performance metrics, and support organizational transformation (Nisar, 2006).

On the other hand, objective performance measures are directly determined by the outcome of the objective and are typically based on numeric and factual standards. However, the degree of impartiality may be questioned as no measurement captures a CEO's performance without any form of *noise* (Woods, 2012). Yet, these measures are the most commonly utilized in practice and illuminated in literature (Singh et al., 2016). The following sub-sections will hence focus on the categories within objective performance measures; the *accounting-based*-, *non-financial*- and *market-based* metrics.

5.1.2.1 Accounting-based Measures

The accounting-based measures indicate a company's economic health and viability, which is highly reliant on the generation of future cash flows (Petersen et al., 2017). This is ultimately a responsibility in the hands of the CEO, and managerial decisions will therefore be reflected in companies' financial performance. Accounting-based performance metrics have historically been the most applied measure in incentive compensation contracts (Core, 2020).

Accounting-based measures are typically derived from existing items in a company's financial statements. Compared to non-financial- and market-based measures for unlisted companies, the metrics are often mandatory and pre-existing, making them relatively undemanding- and cost-effective to adopt. These accounting items are typically subject to a double-checking system; an internal control of reporting to owners, and the external control by a certified auditor, prior to publishing the report. Both of these control mechanisms increase the measure's credibility (Chen et al., 2017).

These measures have been criticized in literature, since they are typically based on periodic measurements of a year or less, which presumably only motivates focus on short-term performance (Venanzi, 2012). Thus, measures are thus subject to *horizon problems* (Dechow & Sloan, 1991). This may cause incentives to strategize *earnings management*, as the measure does not take revenue in future periods into account. For instance, R&D expenditures may in the current or nearby periods have a negative impact on net profits, but yield significant gains in future periods.

The *horizon problem* and more myopic CEOs may thus take managerial actions that boost short-term profits at the expense of long-term value creation (Bloomfield et al., 2021). However, owners and boards tend to incorporate measures that exclude particular expenditures – a practice known as *cost shielding*. Such *cost shielding* may motivate CEOs to seize growth opportunities and deter underinvestment. Even

though such bonus metrics may encourage better stewardship of assets, it can have detrimental consequences if CEOs feel that they are not responsible for the costs of investment decisions (Ibid). The risk of influence and manipulation of financial figures in relation to any announced criteria for bonus allocation potentially reduces the objectivity of accounting-based performance measures (Plenborg et al., 2007). Accounting-based performance measures may further be distinguished into two categories; the *absolute* and *relative* measures. The most frequently applied metrics will be briefly discussed in the following sections.

Absolute Performance Measures

Absolute measures typically rely on a company's financial reports and are observable in absolute terms. These generic metrics may be applied across companies, and classical measures against *revenue*, *EBIT* and *Net Profit* have the highest prevalence in practice. In addition to the above discussion on accounting-based measures, the absolute metrics integrate output from the entire organization into a logical and transparent performance measure (Petersen et al., 2017).

Nevertheless, unlike the *DCF*-model, the metrics do not account for investments in working capital and fixed assets and do not incorporate the costs of generating earnings. Eliminating these will accordingly generate short-term results, in opposition to the *principal's* interest. Furthermore, these accounting profits do not incorporate risk, change in risk or the cost of equity (Merchant, 2006). Therefore, two companies may have similar income levels, but be fundamentally different in terms of risk. Failure to account for the cost of equity thus disrupts the comparison of absolute measures in firms with different capital structures (Ibid).

Revenue is an appropriate measure in cases where owners aim to focus on top-line growth or wish to penetrate new markets. The metric is not affected according to whether costs are expensed or capitalized (Barton et al., 2011). However, the measure is prone to *noise* from changes in reporting, reclassifications and *channel stuffing*; overrunning a distribution channel beyond its sales capacity (Petersen et al., 2017). Nor does *revenue* sufficiently account for costs, invested capital or risk. For instance, an increase in revenue will naturally materialize in the event of an acquisition, although the value is not necessarily created in the short-term for the owner (Edmans et al., 2017).

The *EBIT* measure reflects the performance of a firm's core operations, regardless of tax and cost of capital. Compared to *EBITDA*, this metric is not affected by expensing vs. capitalizing development costs, to the same extent. However, it does not incorporate financial activities. Thus, a CEO may escalate debt leverage to invest in current assets with positive returns, to enhance self-interest from financial expenses not captured by *EBIT*.

Studies from Altaf (2016) and Kyriazis & Anastassis (2007) find that *Net Result* as a performance measure has the greatest explanatory power for improved market value. Besides *dirty surplus activities*, the measure includes all revenues and expenses regardless of how they are recognized. As a result, the *principal* cannot acquire growth free of charge without the risk of underperforming in relation to the performance measure. A potential challenge could be *principals'* rigidity to keep the capital structure constant, limiting *agents'* ability to optimize *Net Results*.

Relative Performance Measures

Relative measures are typically financial ratios deduced from a company's financial statements, such as *ROE* (return on invested capital), *ROIC* (return on invested capital) and *EVA* (economic value added). Although other commonplace return ratios may be derived from, e.g., the *DuPont* model, Simons's (2016) findings uncover that the majority of companies with the best-ranked reputations and top executives utilize these measures. It is assumed that the reader has comprehensive knowledge of general accounting theory, why Appendix 4-6 explains the technicalities of the following relative performance measures.

ROIC defines a company's profitability of operations, regardless of how it is financed. Compared to absolute measures, this metric is advantageously more self-correcting for changes in accounting measures (Petersen et al., 2017). For instance, while an extension of the asset depreciation period from previous investments will lead to greater *EBIT*, it will also be reflected by an increase in invested capital. Thus, *ROIC* considers investments through invested capital, allowing CEO's decisions to be evaluated in a relative context.

Moreover, *ROIC* is a one-period measurement and does not mitigate the aforementioned *horizon problem* (Bloomfield et al., 2021). Thus, this may evoke unethical behavior such as *big bathing*, in which a company undergoes amortization of assets or recognises vast restructuring costs, in order to artificially improve profitability and *ROIC* in subsequent periods. Literature finds that companies are more prone to such behavior upon replacement of CEOs, who may lay the responsibility of impairment on prior management and take credit for recovering performance (Jordan & Clark, 2015). Furthermore, *ROIC* does not sufficiently account for firm risk, as it ignores the cost of capital. *ROIC* should therefore be seen in relation to the *WACC*, to justify potential value creation.

As a performance measure, *ROE* possesses many of the same properties as *ROIC*. Yet, the measure creates an incentive to optimize capital structure without considering the increased risk of financial distress (Petersen et al., 2017). Moreover, *ROE* considers investments made via equity rather than invested capital, and hence focuses more on the owners' return, compared to *ROIC*.

EVA aims to express a company's true profit and is deemed superior to other accounting-based measures as it incorporates the company's risk profile through the *WACC* (Petersen et al., 2017).

$$EVA = Invested\ capital \cdot (ROIC - WACC) = NOPAT \cdot (ROIC - WACC) \quad \text{Formula 1}$$

By including *ROIC*, this performance measure considers not only earnings, but also investment and cost of capital. The premise for economic value creation is accordingly that *ROIC* exceeds *WACC*, where all capital contributors are compensated with their required return. Theoretically, *EVA* is credited as the optimal performance measure, as it correlates most with value creation and fluctuations in stock prices (Adjaoud et al., 2007; Petersen et al., 2017). Bennett et al. (1994) also empirically claim that the metric explains changes in shareholders' value nearly 50% better than its accounting-based competitors.

A key challenge in applying *EVA* is determining the individual elements of *WACC*, where, e.g., the market value for equity is continuously unknown for unlisted companies (Havesteen, 2016). The performance measure is thus prone to biases stemming from incorrect calculations in unlisted firms (Petersen et al., 2017).

5.1.2.2 Non-financial Measures

Non-financial performance measures (NFPM) is a common term used to describe performance indicators of non-financial character that are not included in the external accounts. Such measures may have an indirect impact on financial statements in the medium term, e.g., measures on customer satisfaction. Other measures, such as ESG-metrics, could have an indirect effect in the long term (Ittner et al., 1997). NFPMs are founded on the premise that intangible assets and resources, beyond those measured by market forces or accounting posts, contribute to a company's value generation. Moreover, NFPMs can virtually be infinite, depending on the resources, processes, or KPIs the individual firm wants to measure and improve upon. Commonly used examples are illustrated in the following figure

Figure 7: Non-financial Performance Measures [Source: Own contribution]



Kopecka (2015) argues that NFPMs possess the ability to effectively promote a long-term perspective on value creation. Hence, it is suggested that they are appropriate to implement as a supplemental measure to mitigate the *horizon problem* (Bloomfield et al., 2021). NFPMs further serve as so-called *lead indicators* (Banker et al., 2000), as they indicate a firm's future economic performance. While a CEO might actively seek to improve the NFPMs during an evaluation period, the implications of those improvements may not be reflected in the financial statements of the same period, but rather in the long-term. For instance, several Norwegian companies have committed to the International Energy Agency's Net Zero by 2050 goal (IEA, 2022). Yearly carbon emission reduction's financial implications might be minimal, but progressively important towards the goal, and significant upon achievement.

Moreover, including NFPMs in the form of strategic goals might generally be a way to motivate and illustrate the long-term vision of value, thus mitigating the *horizon problem*. Kaplan & Norton (1992) argues that the implementation of NFPMs in combination with financial ones helps managers simplify the overall view of the business and its vision, and improve communication, consequently reducing *agency problems*. This argumentation is further supported by Cho et al. (2019) and Gan et al. (2020), who find that using non-financial- in addition to financial performance measures in equity-based pay schemes contributes to align managers' interest to firms' long-term value creation.

Notable downsides of NFPMs include the complexity of quantifying them, relative to the financial performance measures. For instance, satisfaction surveys are based on subjective judgments that may or may not accurately represent the *agent's* efforts. Furthermore, there may be differences regarding how the various measures should be calculated and evaluated, resulting in biases in the preparation. Since NFPMs typically are company heterogeneous, there are few available standard techniques for measuring. The process of ensuring such measurements' reliability and legitimacy is often time- and resource-consuming. The potential costs of NFPMs might thus outweigh the benefits of including them in the bonus scheme.

5.1.2.3 Market-based Measures

In publically traded firms, the basis for market-based performance measures is the company share price, observable in the regulated market. For unlisted companies, the market price for their shares must be established through a valuation of the company. The share price can then be used as a performance measure, where the CEO's bonus is linked directly to the company's market value (Petersen et al., 2017).

Market-based performance measures are of a more long-term nature than accounting-based, in regard to valuation, as several estimates must be made about future earnings. Since the future earnings have yet to be realized, their estimation may be based on incorrect assumptions (Merchant, 2006). Moreover, it can be challenging to isolate the CEO's impact on company value due to its susceptibility to exogenous factors (Plenborg et al., 2007). The ambiguity as to what external factors ultimately influence the share price might also disincentive the CEO if they are uncertain about how to affect the share price and accompanying bonus payout.

In the absence of a regulated marketplace, the share price must be evaluated by outside advisors or internally within the corporation. There are, however, several problems accompanying this solution. Firstly, valuations are inherently subject to error as they take future earnings into consideration to calculate current value. Secondly, noise might be introduced to the valuation due to scarce company-specific value data, e.g., the market value of a company's debt. Third, if the *agent* has any influential power in the valuation, there is an objectivity problem, as they inherently have an incentive to raise the company's market value. Finally, and perhaps most prominent, is the inexpediency and costs of resource allocation accompanying valuations. As a result of these challenges, the application of market-based measures has been largely neglected in the private context, where the literature has conveyed its focality toward public firms.

5.1.3 Weighting of Performance Measures

Several academics support the notion that firms benefit from using multiple performance measures (Feltham & Xie, 1994; Gibbs et al., 2009; Kaplan & Norton, 1992). However, once performance measures are chosen, it is of further importance to evaluate how they should be weighted. Measures can either be weighted equally, incentivizing the CEO to approach each measure with the same amount of effort, or differently, implying that some measures are more important than others.

Weighting largely depends on the measures available. Bushman & Indjejikian (1993) recommends putting the most weight on the measure(s), which creates the highest congruence with the *principals'* goals for the company. However, the *principal* should be aware of how the weighting of one measure will affect the *agents'* incentive to focus on the remaining measures. If one or more measures are exceedingly outweighed, the CEO might neglect, or even negatively influence the other "less important" ones.

5.2 Performance Standards

The second element *principals* must determine in the design of incentive contracts, is the standard the *agent's* performance is relatively evaluated against. The standards and measures are thus utilized to determine the desired or expected performance required to trigger a bonus payout. Theory distinguishes between *internal* and *external* standards (Murphy, 2000), which will be reviewed below.

5.2.1 Internal Standards

Internally defined standards refer to measures that are benchmarked on an in-company basis and are directly affected by management activities in the current or prior year(s). Such guidelines are commonplace and could be classified into the following sub-standards (Murphy, 2000):

- i. Budget
- ii. Prior-Year(s)
- iii. Discretionary
- iv. Timeless
- v. Cost of Capital

It seems trivial to apply budgets as performance standards, as they are actively used by companies in daily- and strategic operations. To benchmark the absolute metrics outlined in section 5.1.2.1 will therefore entail minimal effort and does not require the development of new targets. However, the standard could be highly susceptible to external market powers and could simplify or trouble the feasibility of target achievement. Furthermore, if the CEO is involved in planning, the budget may be vulnerable to *sandbagging*, a strategy where expectations are deliberately understated to facilitate a greater perception of performance (Milano, 2021). Findings from Murphy (2000) also suggest that the prevalence of *earnings management* is more potent in firms that employ internal- rather than external standards.

The prior-year standard uses the CEOs' previous years' performance as a baseline and examines how the measure has developed relatively. The standard share several drawbacks with the budget-based standards. Manipulation of earnings could, for instance, ease the CEO's effort to obtain a bonus payout in the next period, as the preceding period's performance is artificially poor. Unusual positive performance outcomes in the current period could thus be penalized in the next period (Murphy, 2000).

Discretionary performance standards are based on flexible measures subjectively set by the *principal* or the BoD, and may be continuously adjusted in relation to current firm performance or budgets (Murphy, 2000). Therefore, they may mitigate some of the flaws of budget-based standards, such as being modified to impactful movements in the market economy. Furthermore, they can be highly specific and consist

of both financial and non-financial metrics. Literature suggests that the bonus attributes or time of announcement should be unknown to the *agent* in advance and should further supplement other metrics (Dierynck & van Pelt, 2021).

Timeless standards are more stable over time, where performance is measured relative to fixed standards (Murphy, 2000). This could, for instance, be that the CEO should generate a ROE of >12%, and the standard can also be modified to increase each year incrementally. Although timeless standards are more robust in terms of manipulation, biases still occur when the standard is set. An excessively static goal may lack a link to the outside world and industry cycle and is therefore not necessarily accurate for performance over multiple periods.

Overall, objectivity is a common challenge when drafting internal standards, particularly if the *agent* is involved in selecting them. This is described in *managerial power theory*, where considerable CEO power could camouflage rent extraction and create suboptimal incentive contracts detrimental to shareholder value (Bebchuk et al., 2002). Thus, managerial power plays a significant role in the choice of performance standards and should be considered when designing incentive contracts in general (Dierynck & van Pelt, 2021; Murphy, 2012).

5.2.2 External Standards

In a world of symmetric and perfect information, internal performance standards would be sufficient to capture all company- and market-specific information. The recent financial crisis triggered by the outbreak of the Covid-19 pandemic illustrated that this is not the case. To offset the lack of information, external standards may be introduced in the design of incentive schemes. The external standards are defined by their relation to exogenous variables (Holmström, 1982).

If exogenous factors influence performance measures, it is logical to compare the CEO's performance relative to their peer group, as they would also be affected by these factors (Edmans et al., 2017). When defining the peer group, the *principal* should strive to select companies with similar operational characteristics, markets, growth potential, cash flows and risks (Damodaran, 2012). By comparing performance to commonplace measures within the peer group, the *systematic risk* is eliminated. As a result, owners are not required to offer a risk premium for macroeconomic influences, which justifies a size reduction in incentive compensation (Murphy & Jensen, 2011). A CEO can thus obtain bonus rewards despite negative reported results, as long as their performance is superior to that of peers. However, Penman (2012) stresses that no businesses are exactly alike and that idiosyncratic differences will always materialize.

Empirical studies find that companies who use external standards reduce the risk and incentive of *earnings management* (Cheng & Warfield, 2005; Murphy, 2000). This is because the *agent* is unable to predict and game peer group's performance. In addition, these standards are superior to the alternative of manual corrections for externalities in the bonus scheme, which the *principal* deems outside the agent's control. Such corrections are more prone to subjective conclusions leading to ambiguity and conflicts between the parties. The prevalence of external standards among firms also increases with industry rivalry, and is frequently applied as an evaluation tool in assessing managerial turnover (DeFond & Park, 1999).

Although external performance standards seem superior to the internal, they may also entail a set of drawbacks. Determining appropriate peers is of fundamental value, and identifying companies with the same mentioned characteristics can be a time- and resource-consuming process. Alternatively, adjustments must be made for the individual competitors' performance, such as differences in accounting standards. This will however, diminish the standard's properties of objectivity and simplicity. As for the internal standards, it is essential that the *agent* is not involved in the peer group selection process. This eliminates the potential of selection bias, in which the CEO is enticed to choose peers who perform poorly (Larcker et al., 2021). Some research also suggest that multi-industry companies such as conglomerates, should not apply external standards since their diversification reduces their unsystematic risk, and hence comparability.

Despite the lack of unequivocal evidence that bonus schemes hedging for externalities are more effective than internal performance standards, the majority of literature seems to favor external standards. However, the mentioned disadvantages may contribute to its lower prevalence. For instance, Murphy (2000) finds that out of 177 listed firms in the U.S., only 11% predominantly rely on external standards.

5.3 Pay-to-performance relation

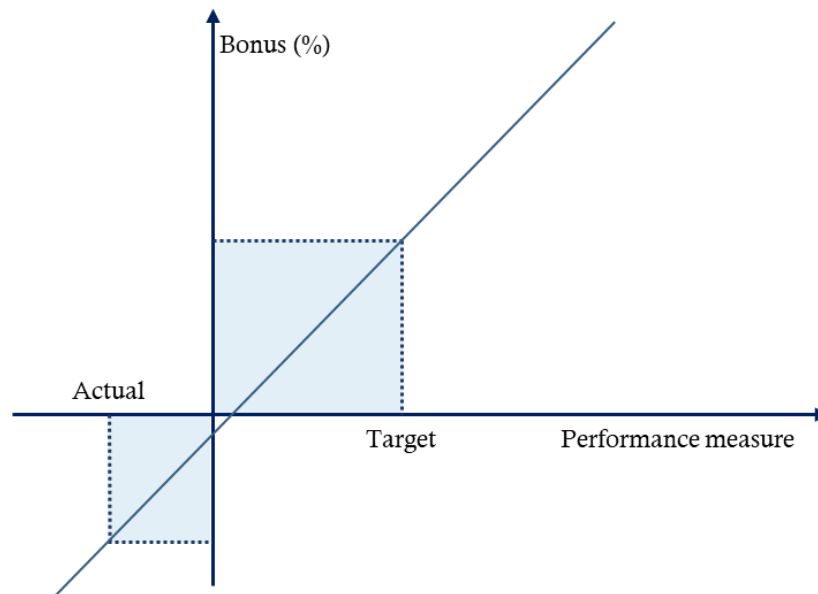
The pay-to-performance relation is the third and final component in incentive pay structuring. Pay-to-performance is, rather intuitively, the relation between the CEO's performance and their possible bonus payout. The literature mainly distinguishes between three types of pay-to-performance structures, *linear*, *non-linear* and *fixed remuneration* (Petersen et al., 2017).

5.3.1 Linear Performance Structure

As the name would suggest, a linear pay-to-performance structure implies a linear relationship between the CEO's performance and their possible achievable payout. There is neither a cap nor floor to the

potential compensation, and it is hence perfectly correlated to the CEO's performance, with basis in the respective performance measure. In the case of underperformance, the CEO will achieve a negative bonus, meaning they will have to refund the company, i.e., by waiving a portion of their base salary (Petersen et al., 2017). According to Holmström & Milgrom (1987), the linear structure is optimal for aligning the interest between *agent* and *principal*.

Graph 2: Linear Pay-to-performance Structure [Source: Own contribution; Petersen et al. (2017)]



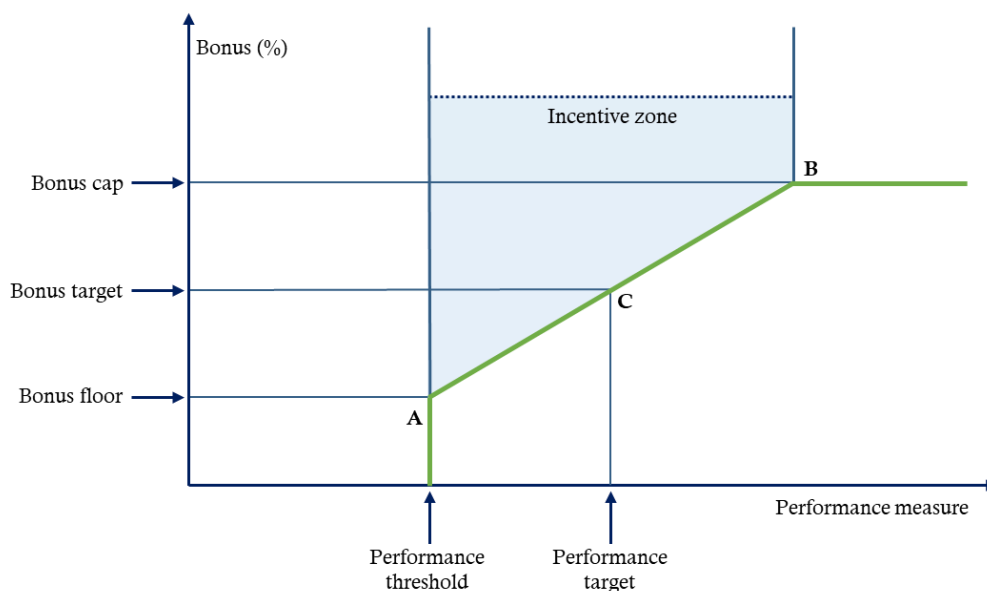
The linear pay-to-performance structure is further supported by the OECD (2010), as risk symmetry was recommended in the wake of the 2008 financial crisis, which was exacerbated by compensation plans without caps, leading to CEOs taking on excessive risk. Conversely, a linear structure can cause excessive, and possibly inexpedient outcomes in both directions. A possible adverse effect of having no floor in the bonus structure is that CEOs may become risk-averse to avoid repaying the firm. Excessive risk aversion can be detrimental to long-term value creation, as risk is necessary to cultivate competitive advantages. The opposite is true in the case of over-performance. CEOs can become overly risk-taking to achieve the highest possible bonus payout. Additionally, the CEO might become excessively focused on the respective performance measure with no cap and neglect or deprioritize other value-creating activities.

5.3.2 Non-linear Performance Structure

Excessive and inexpedient outcomes in payouts can be curtailed by implementing a floor and cap on the possible achievable bonus. The *principal* can determine a threshold value that must be achieved to trigger a bonus payout, marked *A* in the following figure. Beyond this point, the payout can maximally

reach point *B*, at which point the CEO will receive no additional compensation for improvement in the underlying measure. Point *B* is typically determined as a percentage share of the target performance, marked *C*.

Graph 3: Non-linear pay-to-performance Structure [Source: Own contribution; Petersen et al. (2017)]



Following this structure, the CEO will technically only have an incentive to perform in the *incentive zone*, between points *A* and *B*. A possible negative effect of this structure is *earnings management*. Healy (1985) argues that CEOs might be incentivized to manipulate income allocations so that their chances of obtaining a higher bonus in the future increase. Additionally, they might game cost allocations if they have given up reaching the threshold value at point *A*. This further supports the recommendation from the OECD that linear pay-to-performance structures are superior in terms of interest alignment and healthy risk management.

It is further acknowledged that there exist variations of the abovementioned pay-to-performance relations, regardless of floors and caps, and with different degrees of elasticities and convexity. For example, a pay-to-performance relation can have a floor but no cap or be s-shaped, limiting the extremities of excessive negative and positive performance.

5.3.3 Fixed Payout

A fixed payout structure entails a payout that could be in several forms, awarded upon achievement of a set performance target. This can be exemplified by either a lump sum payout or shares, being awarded to the CEO in the event of achievement of a pre-determined value of *EBITDA* or an ESG target. Hence, it is impossible to achieve a lower- or higher payout regardless of performance levels beyond- or below

the target. Fixed payout structures are also sensitive to *earnings management*, as accounting posts can be manipulated to reach the target.

5.3.4 Bonus Bank and Stretch Targets

Besides linear-, non-linear- and fixed payout structures, bonus payouts can also come in the form of stretch targets and bonus banks (Stewart, 1991). The stretch target method involves assigning CEOs complex goals, divided into sub-goals, awarding them a substantial bonus if they reach them and no bonus if they do not (Locke, 2004). Stretch targets ensure that the CEO has a sub-goal to work toward at all times, with a higher payout granted as the goals are met. As the CEO is incentivized to reach the next possible target, this reduces the motivation to make income adjustments and perform *earnings management*. Stretch targets are often used in conjunction with large-scale strategic goals, e.g., the Net Zero by 2050 goal or other non-financial performance measures.

As an alternative to stretch targets, Petersen et al. (2017), suggest the *principal* can employ a bonus bank structure. Bonus banks accumulate the bonus over a certain number of periods, e.g., years, with payouts occurring at predefined intervals. Accordingly, negative bonuses for a year may be leveled off. This fosters long-term value development, mitigating both *horizon problems* and *earnings management*. The *principal* must examine whether the bonus bank must have an initial amount in order to offset any negative bonuses in the first year. Additionally, a decision must be made regarding how the bonus bank should be handled in the event of a CEO's resignation and subsequent replacement.

5.4 Sub-conclusion

This chapter has uncovered theoretical perspectives- and the literature's recommendations on designing incentive pay structures, laying the basis for the descriptive analysis. The chapter is subdivided into the three design elements constituting bonus structures, the choice of *performance measures*, *performance standards* and *the pay-to-performance relation*.

Performance measures reflect how the CEO performs while also guiding the CEO towards the direction of what principals deem most important in value creation and where they should allocate their focus to work more effectively. As a result, principals must choose performance measures that are significantly associated with the company's value, as they, commonly said, acquire what they measure. They should also be easily observable and provide information regarding the CEO's actions. Performance can further be assessed both subjectively and objectively. Objective performance measure is an assessment based on predetermined and objective performance targets, whereas subjective performance measurement is the *principals'* opinion of the CEO's overall performance after the evaluation period.

There are further three categories within the objective performance measures, *accounting-based*-, *non-financial* and *market-based* performance measures. *Accounting-based* metrics directly indicate the company's economic performance, which is in large part a product of the CEO's decision-making. *NFPMs* often concern the company's substantial strategic goals, deemed likely to foster long-term value, such as ESG goals or market shares. As such, they are also commonly referred to as *lead indicators*. Finally, *market-based* performance measures concern the company's market value and share price. As unlisted companies' shares are not publically traded on a central exchange, the valuation methods can vary, and the measure is generally more complex, susceptible to bias and resource-intensive.

Another design element is the choice of performance standard, which is the standard by which performance measures are evaluated against. Performance standards are further distinguished as either internal or external, where the internal standards serve as a target for the underlying performance measure, commonly based on the respective company's budgets or past performance. Conversely, external standards use comparable peers within the same industry or market as benchmarks for how performance should be evaluated. The literature mainly recommends the use of external standards, as they are less prone to opportunism.

The third and final key component in the bonus-scheme design is the choice of pay-to-performance relation. This component determines the possible achievable size of a bonus payout, in relation to the CEO's performance. Commonly used pay-to-performance structures include *linear*-, *non-linear* and *fixed payout structures*. The literature recommends the former as the optimal structure for aligning the interest between owner and CEO, i.e., mitigation of *the agency problem*. This structure has no upper limit, and the CEO accordingly always has an incentive to perform. Additionally, the structure has no floor, so the CEO will, in the case of underperformance, be obligated to repay the *principal*. *Non-linear* performance structures have a cap and/or floor, and hence there exists a threshold value for which the CEO has to perform to be awarded a payout. Other structures include *fixed payout*, in which the CEO is awarded a pre-determined award in the event of achievement of a pre-defined target. Moreover, *stretch targets* and *bonus banks* are payout structures that foster long-term value creation.

It is important to note that there is no "one-size-fits-all" bonus scheme solution, as all firms have idiosyncratic characteristics. As such, bonus schemes can be designed with any combination of the discussed components. However, as recommended by Petersen et al. (2017), *principals* should strive to ensure that bonus schemes are designed to promote congruence of interests, be simple, controllable and consider potential noise in accounting measures to best reflect true performance.

Chapter 6: Data Set

The purpose of the following chapter is to briefly explain- and create an overview of the collected data, which lay the foundation for the subsequent analyses. Responses will be described, significance tested and findings will be compared to the expected outcome in section 2.2.1.3. Finally, the methodology for collecting additional data will be justified and explained. The full dataset for the sample will be appended in Excel Appendix 7.

6.1 Questionnaire

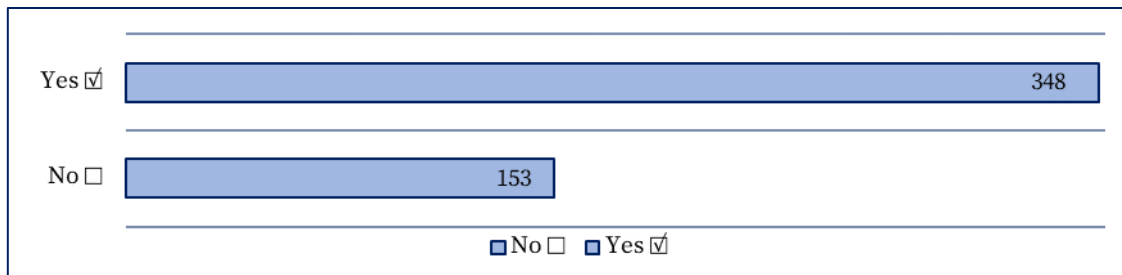
The population section 2.2.1.1 addressed numerous criteria for companies deemed relevant for the population, where 3.012 companies and respective CEOs were identified. The extensive qualification process has reduced the risk of *random error*, where the respondent sample will, with extreme likelihood, be included in the defined population.

On Tuesday, **March 15th, at 10:30 a.m.**, the questionnaire was e-mailed to the identified CEOs, together with an informative and personalized letter. Both date and time are, according to 14 studies, deemed the most prevalent time of distribution in *B2B* correspondences (Ellering, 2018) and resolved in 294 responses on the same day. A reminder was put forward to non-respondents a week after, which predominantly can increase the response rate from more reluctant initial recipients, but also provoke *sampling bias* (Muñoz-Leiva et al., 2010; Tam et al., 2011).

The survey was closed on March 28th, where 577 responses were obtained, with a completion rate of 87%. Incomplete answers have been removed from the dataset to increase the thesis's reliability. In addition, one respondent was not a part of the executive suite, and thus not relevant to this thesis. We were hence left with a total sample of **501** full-fledged respondents.

As discussed in the methodology chapter, the questionnaire has a dynamic structure, meaning only questions of relevance will be issued to the respective CEO. Thus, not all questions were answered by the entire sample. The number of respondents for each question will be made known throughout the analyses. The prevalence of companies with and without incentive pay schemes for CEOs is distributed as presented on the following page.

Graph 4: Incentive Pay Prevalence in Sample [Source: Own contribution]



The sample size of 501 respondents shows that 348 CEOs are covered by an incentive pay scheme, accounting for 69,5%. Yet it is desirable to investigate whether the population size is statistically significant to describe the actual characteristics of the population by applying the following formula.

$$\text{Sample size} = \frac{\frac{z^2 \cdot p(1-p)}{e^2}}{\frac{z^2 \cdot p(1-p)}{e^2 \cdot N}} = \frac{\frac{1.96^2 \cdot 95\% \cdot (1-95\%)}{5\%^2}}{1 + \frac{1.96^2 \cdot 95\% \cdot (1-95\%)}{5\%^2 \cdot 3.012}} = 341$$

Formula 2

Where,

- *Z-score* is the number of standard deviations from the mean for the selected confidence interval *p*. The confidence interval is set to be 95%, indicating a *z*-score of 1.96.
- *e* denotes the selected *margin of error* of the sample, which describe how many percentage points the response results may differ from the actual population. This is set to be 5%.
- *N* is the population size.

The given threshold *sample size* of 341 is significantly smaller than the obtained sample of 501. The number of incentive-paid CEOs in the sample, which the majority of the analyses will rely on, is also above the significance limit. Furthermore, the given numbers indicate a response rate of 17%. Although this rate is beneath the benchmark studies discussed in section 2.2.1.3, it is still above Young et al.'s (2005) critical threshold of 200-300 respondents for management research. In terms of size, the sample is also the greatest among the benchmark studies. The excessive sample selection also limits the exposure to *random error*, which can justify the given response rate (Shuttleworth, 2009).

The high number of respondents can partly be explained by the individual option to receive the thesis and survey result, *ultimo May*. 275 respondents have exercised this option, which could indicate that companies would like inspiration for future incentive schemes. If such, this implies the lack of knowledge within the field and that companies find it challenging to design impactful schemes.

6.2 Assumptions, Adjustments & Limitations

To build a robust foundation for the following analyses, it has been necessary to draft some subjective assessments in the form of assumptions and adjustments to offset certain shortcomings in the dataset. Such subjective assessments may induce biases, compromising the result's validity. However, this section seeks to make the necessary implicit assumptions and adjustments explicit, to comprehend their potential impact on results (Kern, 2019).

6.2.1 Non-CEO Respondents

The thesis aspires to exclusively uncover incentive pay for firms' top executive. The table below shows that the dataset to a large extent meets this criterion, with a CEO frequency of 97%. Still, the dataset consists of a few deviations.

Table 2: Distribution of Respondents' Current Positions [Source: Own contribution]

Position	<i>n</i>	%
CEO	485	97%
CFO (Chief Financial Officer)	6	1,2%
CMD (Country Managing Director)	3	0,6%
COO (Chief Operations Officer)	3	0,6%
CCO (Chief Commercial Officer)	3	0,6%
CTO (Chief Technology Officer)	1	0,2%

Additional due diligence on the non-CEOs was applied to uncover the upstanding positions and their relevance to the thesis. Six CFOs were identified with an external CEO that is not the majority shareholder. It is assumed that the C-suite is composed of the owner to control their area of expertise. They are hence part of a team that works in the owners' interest, and there are comparable *agency problems* in the CFO-owner relationship. CMDs are the top manager in the Norwegian subsidiary of a foreign-owned company, and are hence in charge of the entity's daily operations. They are thus equivalent to the CEO in the scope of this paper.

The few COO, CCO and CTO were contacted directly by e-mail to identify whether their responses could adequately reflect the CEO's compensation structure. Regardless of whether their pay package is incentivized or not, all respondents reported that the design of the pay packages is the same for the entire management. As this thesis does not indulge in the magnitude of salaries, these responses are deemed relevant to reflect the desired population. The non-CEOs make up a minor fraction of the entire data set (3%), and are not considered to introduce *bias* in the research. All respondents will henceforth be referred to as CEOs.

6.3 N/A-Response Questions

The respondent characteristic questions of Block 1 was voluntary. This opportunity was intended to increase the response rate among those who did not want to disclose personal information. However, very few CEOs chose to withhold such information, with the question of ownership share yielding the most non-applicable responses, accounting for 5% of the total. However, it is desirable to obtain withheld data as more observations will add greater explanatory power to the regressions in chapter 8. For the ownership share, the prerequisite knowledge derived from the register Proff Forvalt with the use of Python Selenium was applied. For other characteristics such as age and tenure; LinkedIn, company websites and articles have eliminated missing data.

6.4 Additional Data Condensation

To achieve the highest possible response rate, the questionnaire has exclusively focused on non-public data, which can only be acquired through the primary collection. As mentioned in section 2.2.1.2, several databases have been applied to gather company-specific information critical to the population and the forthcoming descriptive- and regression analyses. This includes, but is not limited to, directors and board names, organization numbers, NACE codes, size criteria, ownership structure and numerous financial figures.

All companies within the Norwegian sphere are subject to comply with the register of industry codes, based on the statistical classification of economic activities in the European Community; NACE. The code aims to depict a company's main activity, and this integrated classification allows for homogenous comparisons and analyses across the observations. However, these NACE codes are unsuitably extensive, where the respective dataset has 181 unique NACE activity descriptions. The number of codes has been condensed by consolidating the lines of businesses into more universal industries to make it more fitting for analyses. The manual re-classification aspires to follow the Global Industry Classification (GICS) system and do so according to the EU Commission's (2019) guidelines for conversion. The following sector classifications listed below will be applied.

- | | | |
|-----------------------|-----------------------------|--------------------------------|
| 1) Construction | 5) Financials & Real Estate | 9) Materials |
| 2) Consumer Goods | 6) Health Care | 10) Professional Services |
| 3) Consumer Services | 7) Industrials | 11) Telecom Services |
| 4) Energy & Utilities | 8) IT | 12) Transportation & Logistics |

Appendix 8 contains a description of the various industry classifications. It is noted that the number of energy & utility companies is affected by the delimitation of municipal supply companies, cf. section 2.2.1.1.

Chapter 7: Descriptive Analysis of Respondent's Incentive pay

To the authors' knowledge, this thesis is the most extensive survey-based empirical study on bonus schemes in Norwegian unlisted companies, measured by the number of respondents. The empirical findings include the responses of 501 CEOs of Norwegian unlisted companies and the design of their incentive schemes. The results will be presented, discussed and compared to the empirics from the reviewed literature- and theory chapters. Accordingly, this section can be seen as an academic extension of the existing literature, where the findings hopefully will contribute to the expansion of knowledge within the field of executive remuneration in unlisted firms.

As extensively discussed in the literature review, this thesis is rather unique in its scope, and there are no directly comparable studies. As such, the findings in this chapter will be compared to non-perfect proxies, including those of Plenborg et al. (2007, 2010), whose studies highlight executive compensation in privately held Danish firms, and Loe & Lindahl (2016), whose scope is on the use of incentives to employees in general, in Norwegian listed and unlisted firms. Additional reviewed literature will be referred to where appropriate.

To test for potential *non-response bias*, statistical tests comparing the characteristics of respondents to non-respondents will be performed. Further, the chapter will examine the firm-and respondent characteristics and distinguish between those who do- and do not receive incentive pay. Consecutively, the results for the incentivized CEOs will be presented following the sequential structure of the questionnaire. The design of individual bonus schemes, assessment basis, standards and incorporated performance measures and their relative weighting will be analyzed. Finally, the pay-to-performance relation will be examined. Beyond assessing the extent to which recommendations from literature are followed, the chapter will summarize the findings and re-assess whether they indicate if the expected outcomes of regression analyses hold true.

7.1 Non-response Bias

Before diving into the analysis, this section will determine whether the dataset is representative of the population and if non-respondents systematically differ from the sample. The generalization of results is thus not only contingent on an adequate response rate, but also on *non-response bias* (Diamond, 2000).

To examine the two groups for shared characteristics, bias will be tested for *Total Assets* and *Size Class* through a t-test and a chi-square test, respectively. While the first tests for a difference in means and the latter tests for independence within categorical variables, they both aim to determine whether the distributions in the two datasets are similar. A significant p-value ensures inequality of the distributions, thus prone to *non-response bias* (McHugh, 2013). It is noted that the t-test employs the assumption of normality. Table 5 reveals that the sample's balances have a right-skewed distribution, why the natural logarithm has been applied. The preliminary calculations are illustrated in Appendix 9 and 10.

Table 3: Test of Non-response bias: Total Assets & Size Class [Source: Own contribution]

Variable	P-Value	Interpretation
Total Assets (LN)	0,3889	Equal distribution
Size Class	0,8643	Equal distribution

The above p-values reveal no significant differences between the distributions for the two variables, where none of the H_0 hypotheses are rejected at a 5% significance level. Interesting findings also deem that the actual frequency for the size class is exceptionally similar and captures the population's expected frequency. However, it would be interesting to test the mentioned industry categories for non-response biases, which was deemed inexpedient due to the time-consuming manual re-classification, cf. section 6.4.

7.2 Firm- and Respondent Characteristic

The following chapter will examine the sample's firm and respondent characteristics to provide insight into the sizes, industries, and the typical CEO. The findings will be compared to existing research and the extent to which they follow the literature's recommendations. Additionally, patterns will be sought to be recognized to give an indication of likely regression analysis outcomes.

Table 4 shows respondents' distribution of company sizes and their respective prevalence of incentive pay. Medium- and Big Medium firms constitute 94,8% of all companies in Norway (Statistics Norway, 2022). This distribution is recognized in the dataset, where Medium and Big Medium account for 82% of the sample.

Table 4: Company Size Distribution and Incentive Pay Prevalence [Source: Own Contribution]

Company Size	<i>n</i>	%	Incentive Pay	%
Medium	306	61%	210	69%
Big Medium	107	21%	70	65%
Large	88	18%	68	77%
Total	501	100%	348	69,5%

It is shown that 69,5% have a contractual bonus scheme as part of their total compensation, confirming widespread application. In comparison, Loe & Lindahl (2016) find that 76% of top executives receive incentive pay. It must be acknowledged that the study examines bonus scheme's prevalence among Norway's 500 largest companies, a group in which listed and unlisted firms alike are represented. The slightly higher prevalence among this sample thus supports Edmans et al. (2017)'s findings that bonus schemes are generally less common in unlisted firms. Moreover, the results are consistent with Bryan et al. (2005) and Bechmann & Nielsen (2012), who find that incentive pay prevalence in general increases with firm complexity. The table illustrates a rising trend, where incentive pay is used by 69% of medium companies, with 75% prevalence in large companies. It is further uncovered that prevalence is 86% in those with ultimate foreign owners, compared to 61% in domestically owned. The trends could indicate that the forthcoming hypotheses predicting positive correlations between prevalence and firm complexity (H_2) and foreign ownership (H_5), are valid.

Table 5 provides a more nuanced perspective of the sample distribution, as it presents descriptive statistics on size criteria. Financial values are listed as Euros in millions. As observable, the distribution is characterized by high standard deviations, indicating a dispersed sample. This is further reflected by the min and max values. Moreover, the distribution is positively skewed, as the means (115, 82, 237), are greater than the medians (14, 24, 92). This indicates that most values are clustered towards the left tail of the distribution, i.e., the companies that are smaller in size. Therefore, it should be noted that outliers somewhat distort the perception of the sample.

Table 5: Descriptive Statistics of Size Criterion [Source: Own Contribution]

MEUR	<i>n</i>	Mean	Median	Min	Max	Std.
Total Assets	501	115	14	2,3	12.208	676
Net Sales	501	82	24	0,013	4.299	264
Employees	501	237	92	40	7.153	599

Respondents' industry distribution and corresponding prevalence of incentive pay are presented in Table 6. The results uncover that the industrial sector is predominantly represented, constituting 24%

of the sample. This is consistent with 2019 statistics, finding that industry accounts for 19,5% of employment by sector in Norway (O'Neill, 2022). Furthermore, Energy & Utilities (2%) and Health Care (3%) are underrepresented. Most of the companies within these sectors are either state-owned, listed or otherwise defined by criteria excluding them from the population.

Table 6: Industry Distribution and Incentive Pay Prevalence [Source: Own Contribution]

Industry	<i>n</i>	% of sample	Incentive Pay	%
Construction	48	10%	33	69%
Consumer Goods	62	12%	48	77%
Consumer Services	30	6%	17	57%
Energy & Utilities	12	2%	12	100%
Financials & Real Estate	25	5%	22	88%
Health Care	14	3%	4	29%
Industrials	121	24%	80	66%
IT	34	7%	27	79%
Materials	17	3%	13	76%
Professional Services	100	20%	70	70%
Telecommunication Services	18	4%	8	44%
Transportation & Logistics	20	4%	14	70%
Total	501	100%	348	69,5%

With the exception of Telecommunications Services (44%) and Health Care (29%), incentive pay is awarded to over half of CEOs from all sectors. The sectors in which bonus schemes are most prevalent, are energy & utilities (100%) and finance & real estate (88%). The findings are consistent with those of Loe & Lindahl (2016), who also uncover that incentive pay in Norway is most prevalent in these sectors, although at lower levels. The 100% prevalence rate in energy & utilities is especially interesting. As the sector represents the majority of Norwegian exports and value creation, it is correspondingly highly competitive. It can be argued that the prevalence hence reflects patterns recognized by Cuñat & Guadalupe (2005), who find that incentive pay increases with market competition. Edmans et al. (2017) find and recommend incentive pay in sectors with higher sensitivity to exogenous factors, which holds true in the data set. The finance & real estate sector is especially affected by volatility-inducing factors such as interest rates, demographical changes, and legislation. The energy & utilities sector is also relatively volatile as commodity prices can fluctuate due to everything from political conflicts and trade embargos, to natural disasters and climate change. The literature also recommends that firms in highly competitive sectors should primarily rely on external standards (DeFond & Park, 1999). Whether this recommendation is followed will be examined further in sections 7.5.1 and 7.6.1, on performance standards.

To acquire an indication of ownership concentration, data on firms' largest shareholder is presented in Table 7. The average stake of the largest shareholder is 67,8%, highly similar to the findings of Berzins & Bøhren (2009), whose study of Norwegian firms find an average largest ownership stake of 70%. In comparison, they find that the corresponding average is 25% in listed firms, confirming the assumption that higher levels of ownership concentration characterize unlisted firms. Interestingly, considering the time gap between studies, respondents' results uncover that the largest owner's average share has been virtually unchanged over the past 13 years. The ownership structure as a whole is not that stagnant. While Berzins & Bøhren (2009) find that 60% of unlisted companies have a majority owner, a more recent study by Grimsby et al. (2017) finds a corresponding value of 80%. The results are consistent with the most recent study, indicated by a median of 70% and a mode of 100%. The variable of ownership concentration, in relation to incentive pay prevalence will be further tested in chapter 8.

Table 7: Descriptive Statistics of Ownership Concentration [Source: Own Contribution]

Ownership Concentration	<i>n</i>	Mean	Median	Mode	Min	Max	Std.
Largest Owner	501	67,8%	70%	100%	0,7%	100%	30,3%

As illustrated in Table 8, the average CEO is 52 years old and has served their firm for 13 years, 7 of which as CEO. In comparison, Plenborg et al. (2007) find similar results, where the average age, tenure and CEO-tenure is 49, 11 and 6 years, respectively. Their standard deviations are also highly alike, indicating similar CEO- characteristics and distributions in Norway and Denmark. It should also be noted that the findings are almost identical despite a 15-year gap between the studies, suggesting that CEO characteristics have remained largely unchanged in the past decade and a half.

Table 8: Descriptive Statistics of CEO Age and Tenure [Source: Own Contribution]

Respondent Characteristic	<i>n</i>	Mean	Median	Min	Max	Std.
Age	501	52	53	26	75	8
Year of Employment	501	13	10	0,2	55	10
Years in Current Position	501	7	5	0,1	40	6

Based on the number of respondents with company-tenure longer than CEO-tenure, it is uncovered that 54% of owners recruit CEOs internally. Further, there is no significant difference between the prevalence of incentive pay amongst internally- versus externally recruited CEOs. This is slightly unexpected, as studies have suggested that incentive pay is more common amongst externally recruited CEOs, as owners may pay an external CEO a premium as incentive to switch firms. Edmans et al. (2017) expect higher levels of CEO pay for externally recruited CEOs, but similarly, find inconsistencies in their model, which find that the majority of U.S. CEOs are promoted, and not externally recruited.

Simultaneously, the prevalence and levels of CEO pay are higher in the U.S. than in any other market, indicating a divergence between theory and practice.

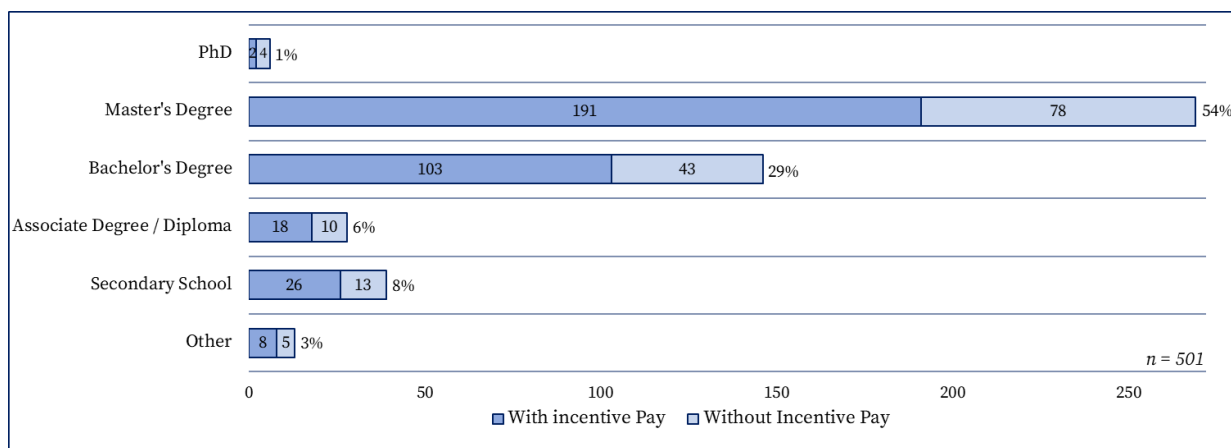
Table 9 shows groups of CEOs differentiated by whether or not they have ownership, and/or receive incentive pay. Out of the entire sample, 33% are shareholders, and the average CEO holds a 4,2% ownership stake. For shareholding CEOs, the average is 13%, which is only slightly higher than the results of Plenborg et al. (2007), who find an 11,6% average for the same group. The overall prevalence of shareholding CEOs is also highly similar to Plenborg et al.'s (2007) result of 35%. As observed, no maximum value across all categories is above 50% due to the cut-off point chosen as a delimitation criterion. However, it is interesting that the only group with a max value below 50% are the CEOs who receive incentive pay. This might suggest a correct expected outcome of the hypothesis that incentive pay prevalence is negatively correlated with CEO ownership (H₃).

Table 9: Distribution of CEO's Ownership [Source: Own Contribution]

CEO Ownership (%)	<i>n</i>	Mean	Median	Min	Max	Std.
All CEOs	501	4,2%	0,0%	0,0%	50,0%	10,0%
Shareholding CEOs	163	13,0%	7,0%	0,0001%	50,0%	13,9%
CEOs with Incentive Pay	348	2,6%	0,0%	0,0%	45,0%	7,3%
CEOs with No Incentive Pay	153	7,8%	0,0%	0,0%	50,0%	13,7%

Graph 5 presents the distribution of CEOs by their highest achieved educational levels and corresponding prevalence of incentive pay. Ph.D. holders are vastly underrepresented, with only 6 respondents, 4 of which receive bonuses. The underrepresentation is expected as Ph.D. holders are typically medical practitioners, academics, psychologists or other forms of scientists, which in turn are underrepresented amongst top executives. Excluding the Ph.D.- and below professional levels, a rising trend is observable between the level of education and both being the CEO and receiving performance-related pay. The findings are consistent with Cole & Mehran (2016), who discover a positive relationship between educational levels and incentive pay in unlisted firms. Moreover, Master's degrees are the predominant academic level, constituting 54% of respondents. Plenborg et al. (2010) also find that more than half of CEOs have graduate degrees. In comparison, Amdam & Kvålshaugen (2017) find that in listed Norwegian companies, 86% of CEOs hold Master's degrees or higher, and the entire sample have a Bachelor's degree at the least. This may suggest that a college education is a prerequisite for top position eligibility in listed firms, while this is not the case for unlisted. It should be noted that the divergence is undramatic, as 84% of respondents have Bachelor's degrees or higher.

Graph 5: Distribution of Education levels and Incentive Pay Prevalence [Source: Own Contribution]



7.3 Respondents Without Incentive Pay

Given that the academic literature predominantly favors the use of incentive schemes to alleviate *agency problems*, it is relevant to examine why 30% of the respondents do not utilize such managerial solutions. Hence, the questionnaire illuminated the group by asking the non-receiving respondents to briefly describe why they are not covered.

Patterns of differences in the firm- and CEO characteristics for respondents with and without incentive pay are also explored. No distinctions of significant character are detected within the variables of age, sector, total assets, years of employment nor years as CEO. Yet, data reveal that the number of employees and net sales is lower for firms without incentive pay. This points to support of H₂ on *Firm complexity*.

Non-receiving CEOs justify their salary package for a diversity of reasons. The predominant reason is that they own shares and receive dividends, which they deem sufficiently motivating. The dataset reveals that 41% of non-receiving CEOs are shareholders, and it can thus be deduced that ownership interests substitute bonus schemes. Table 9 also reveals that un-incentivized shareholding CEOs, on average, have three times as many shares as those with incentives. Numerous respondents emphasize their firm's offensive dividend profile, and leave it up to all employees if they want to participate in a more risky pay package by buying shares. One of the CEOs expresses that *“management and key personnel have pure shareholding to achieve perfect alignment of interest.”*

Other respondents describe incentive schemes as irrelevant to their firm. The irrelevance finds groundings in incoherence with company strategy and policy, and satisfactory base pay levels. Others only deem incentives relevant to subordinate employees, i.e., the sales department. For instance, a CEO

within the telecom sector reports that *“In our industry, it is uncommon to have bonus schemes on executive levels, as the company straddles the line between social responsibility and business. There are requirements for profitability, but not at the expense of the social objective”*. Another CEO states that *“I am not triggered by bonuses. I am triggered by achieving results”*. These responses imply an organizational ideology reminiscent of the *stewardship theory*, in which motivation reaches beyond financial rewards and extend to intrinsic factors such as pro-organizational behavior.

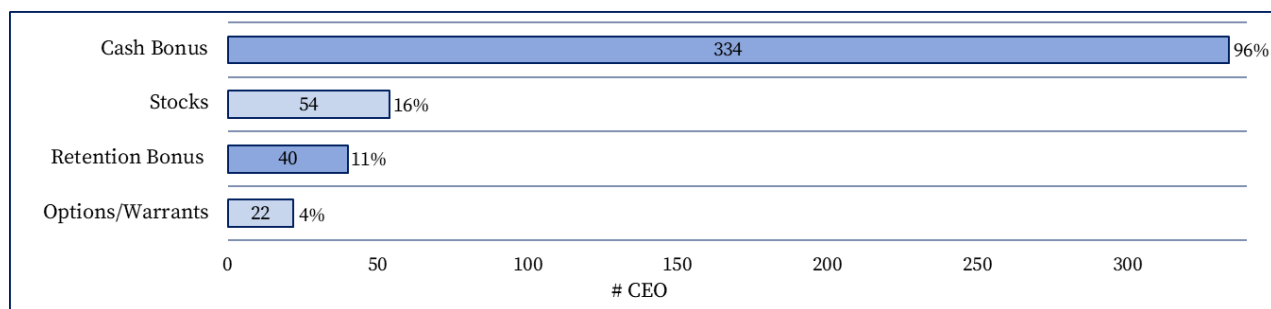
Other non-receiving CEOs justify the absence of bonus schemes on implementation complexity or general disbelief that they increase motivation, performance, and additional value creation. Respondents describe that they have abandoned such schemes due to unwanted behavior and that a correct level of fixed remuneration was allegedly more satisfactory. Some CEOs also point out that it is hard to design a bonus scheme suitable for knowledge-intensive companies; and how to determine criteria for such tacit, intellectual assets. In terms of complexity, a CEO state that *“Bonus schemes require tremendous work to be perceived as fair and goal capturing. Motivation is often misled towards bad assessments, in a changing business climate. Most companies’ results are affected by many exogenous factors outside the CEOs control, which one should not be charged/awarded for”*. The ambiguity as to what degree external factors ultimately influence incentive measures may thus be hard to determine. However, the application of external standards to peer groups could fill this void and lower a CEO’s sensitivity to exogenous factors. Yet, adopting such standards is resource-heavy and must be weighted in a trade-off.

In conclusion, the above argumentation indicates a tendency for schemes to be deselected for reasons aggregated to substitutes, relevancy, distrust and complexity. About 30% of the respondents disagree with academic literature, which is predominantly a big proponent of incentive schemes. However, it is argued that these viewpoints can be corrected by better design and company-specific incentive schemes. The dataset does not allow for further analysis on the matter, but will find its relevance in the later discussion.

7.4 Respondents With Incentive pay

The following sections will focus on incentivized CEOs, and the incentive pay schemes’ constituents and design will be presented. Graph 6 puts forth the distribution of compensation components included in the contracts of the 348 incentive-paid respondents. It should be noted that, as certain contracts include more than one form of payout, the total frequency of observations amount to 129%. Cash bonuses are, by far, the most predominant component, awarded to 96% of CEOs. Plenborg et al. (2007) uncover similar results, where 90% receive cash bonuses.

Graph 6: Distribution of Compensation Components [Source: Own Contribution]



Furthermore, 16% of CEOs are awarded stocks, while 4% receive stock options or warrants. In comparison, Randøy & Nielsen (2002) find that approximately half of companies on the Oslo Stock Exchange offer stock option plans to CEOs. The results are unsurprising, as the absence of a regulated exchange and continuously observable share prices complicates the applicability of awarding equity-based pay. By pooling the components under one category, the prevalence of equity-based compensation is 20%. In comparison, Plenborg et al. (2007) uncover a prevalence of 27%, indicating that equity-based remuneration is more common in Denmark than in Norway. Interestingly, the opposite is true for retention bonuses, where 40 CEOs (11%) are rewarded this way, compared to Plenborg et al. 's (2007) findings of 5%. The theory distinguishes cash bonuses and equity pay by providing short- and long-term incentives, respectively. A possible explanation is that Norwegian companies offset the low use of equity pay by offering retention bonuses to promote a long-term focus on value creation.

Moreover, by exploring the distribution of respondents by the number of components in their contracts, it is uncovered that 75% only have one, while 21% and 4% have two and three, respectively. The most common mixes are cash bonuses combined with retention bonuses or stock, where only one respondent had a combination of stocks and options. Hence, it is found that 25% of owners combine multiple components to incentivize both short- and long-term performance, following the literature's recommendations.

Respondents have also provided answers regarding the size of their incentive compensation, relative to total salary. The relative value was requested as the thesis does not concern pay levels or the absolute size of bonus schemes. It should be noted that 24 respondents chose not to disclose this information, why the results are based on 324 observations. On average, incentive pay constitutes 26% of total compensation.

Table 10: Descriptive Statistics on Relative Size of Incentive Compensations [Source: Own Contribution]

Incentive Pay in % Total Salary	<i>n</i>	Mean	Median	Mode	Min	Max	Std.
Variable Share	324	26%	23%	30%	1%	100%	19%

There is a rising trend in the share of variable pay, starting at 23% for medium companies, to 29% in Big medium and 32% in Large. It is further interesting to note that 7 respondents are 100% paid based on performance and have no form for base salary. Discovering this further, it is uncovered that the concerned either have substantial ownership where “salary” is paid in dividends, use stretch targets where performance-related pay is awarded intermittently, or will be awarded through stocks in the event of a future sale of the company. In these cases, the *principals* have transferred all risk to the *agent*, and the CEOs, from a theoretical standpoint, could request higher levels of variable salary in the form of a risk premium to offset the increased risk exposure (Hoff et al., 2021). Accepting such a risky form of pay further indicates that the CEO has a highly positive outlook on the firm’s long-term viability and their ability to achieve performance targets.

Compared to companies listed on Oslo Stock Exchange, Fernandes et al. (2013) find that incentive pay constitutes 43% of CEOs’ pay mix, where 28% is cash bonus and 15% is equity-based. Hence, it is found that listed firms both have a larger relative size of incentive compensation, and higher levels of equity-based pay, than unlisted companies.

7.4.1 Objective vs. Subjective Evaluation

The questionnaire asked respondents to rate the extent to which their performance is measured objectively or subjectively through a scale that sums to 100%. The previous section 5.1 discussed the pits and pearls of the choice of performance measures, and Table 11 illustrates the distribution of how CEOs are evaluated based on objective vs. subjective criteria. Data shows that the majority (57%) of respondents are assessed exclusively on unbiased and objective criteria, similar to those of Plenborg et al. (2007), who find 60%.

The data also shows that CEOs are evaluated on a combination of objective and subjective criteria, with a trend decreasing together with subjective weighting. For instance, 19% believe that their performance pay is subject to 20% subjectivity. This again corresponds to Plenborg et al.’s (2007) findings, where 73% of total bonus awards are based on objective goals. A possible theoretical postulation to the relative weighting, is that the objective criteria set the framework and magnitude of schemes, but that owners retain the power to make *ex-post* alterations for factors that are not justified or represented in the objective goals (Gibbs et al., 2009). This may, for instance, be through the discussed discretionary performance standards and increase the evaluation’s flexibility.

Table 11: Distribution of Objective vs. Subjective Evaluation Criteria [Source: Own Contribution]

Evaluation		n	%
Obj.	Sub.		
100%	0%	199	57%
80%	20%	65	19%
60%	40%	29	8%
50%	50%	31	9%
40%	60%	6	2%
20%	80%	5	1%
0%	100%	13	4%

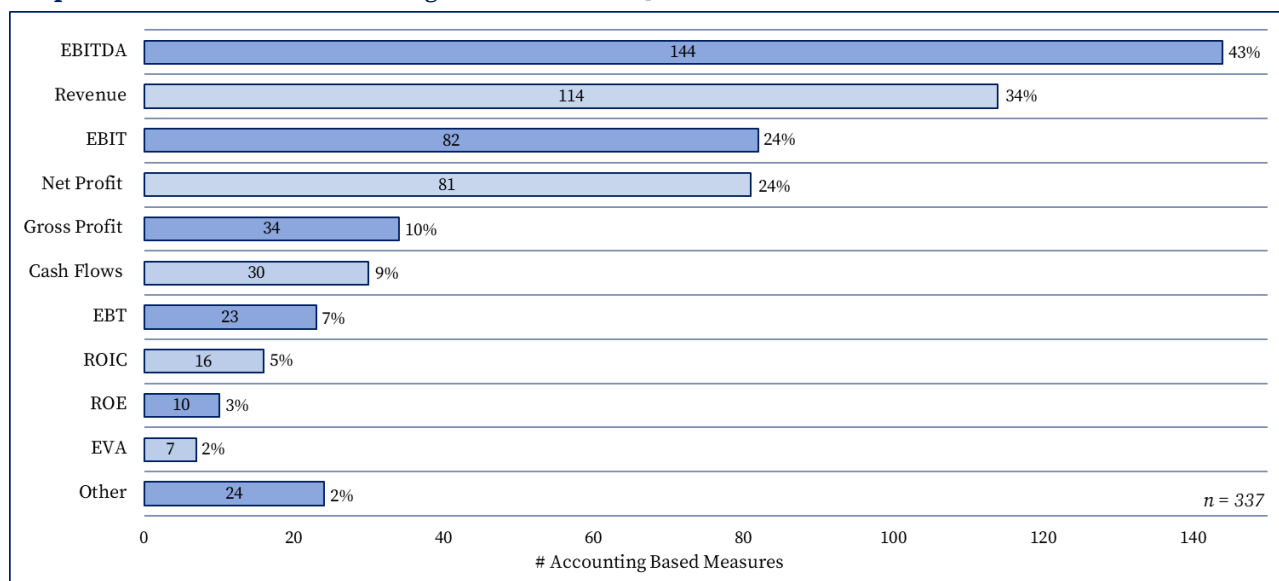
However, 4% of respondents indicate that their performance is solely based on subjective evaluation and were thus asked to briefly describe why. The majority justified the evaluation because the bonus arises if owners and BoDs subjectively assess that the performance has been satisfactory, based on criteria not known to the CEO. Another states that the bonus is “*based on our ability to adapt and change the company culture.*” Such non-financial measures could be complex and resource-intensive to quantify, making them prone to rely on subjective assessments. Another CEO justifies that “*the businesses’ predispositions are constantly changing, and therefore the achievements of results is measured in the light of what management can genuinely influence.*”

However, Plenborg et al. (2007) discovered that 69% of CEOs who receive subjective schemes believe that their contract can be improved. This is supported by academic literature that claims that the measure is more prone to biases and ambiguity, which could lead to performance review errors and thus conflicts between CEOs and owners (Kawaguchi et al., 2016). Yet, the dataset denotes that companies use subjective assessments to supplement the objective measures, as the literature suggests.

7.5 Accounting-based Performance Measures

The questionnaire has further asked respondents about their performance measures, where 339 CEOs (97%) are assessed on accounting-based metrics. The result is expected as the literature claims that accounting-based measures are the most commonly used (Core, 2020). The claim is further strengthened by Plenborg et al. (2007), who find a corresponding prevalence of 100% in Danish unlisted firms. The high prevalence reflects the void of a readily accessible ground for market values. According to the distribution on the following page, CEOs, on average, have 1,7 accounting-based measures in their contracts.

Graph 7: Distribution of Accounting-based Measures [Source: Own Contribution]



It is evident that the majority of companies heavily rely on the income-based *absolute measures* compared to the *relative measures*. For instance, 43% are governed by EBITDA measures, compared to only 5% measured on ROIC. Plenborg et al. (2007) similarly discovered that Danish companies depend extensively on the same operating result measures. The high prevalence of the absolute measures could be a result of companies focusing on top-line growth and bringing in lost earnings post-pandemic (Barton et al., 2011; SSB, 2022).

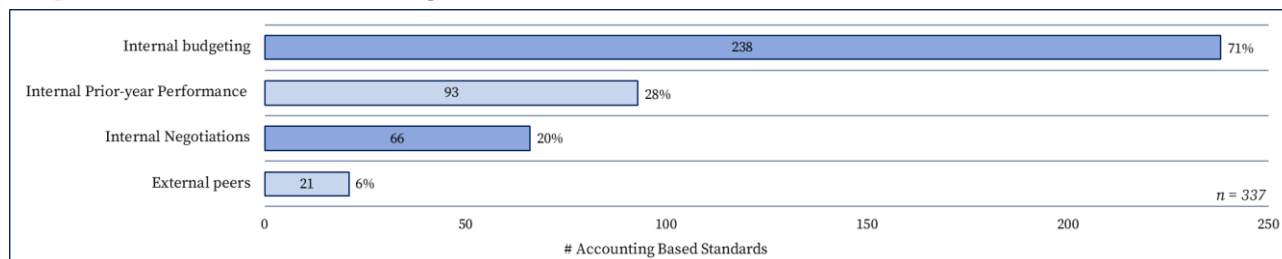
However, the observations are surprising, as literature finds both return ratios and especially EVA, as superior to the absolute measures, cf. section 5.1.2.1. The distribution shows that only 10% of CEOs are measured on either ROE, ROIC or EVA. Although these measures are more self-correcting and could incorporate elements within firm risk and cost of capital, the absolute measures are easier to communicate, more available and less complex. Findings might suggest that Norwegian unlisted companies favor these characteristics in the design of incentive contracts. The gross weighting also suggests that principals are not concerned with myopic and earnings-manipulative CEOs, indicating a relationship built on trust and managerial stewardship.

The distribution finds that 9% of CEOs are measured on cash flows. This is consistent with recommendations, as metrics from income statements are better at explaining value creation in a particular period than measures from the cash flow statement (Petersen et al., 2017). The *other* category also implies that some CEOs are measured on more firm-specific measures, such as *annual recurring revenue* (ARR) and *net working capital* (NWC). Applying ARR metrics can potentially mitigate some of the *horizon problems*, a common flaw in accounting-based metrics.

7.5.1 Accounting-based Performance Standards

Respondents have been asked about the standards on which their performance is objectively evaluated against, and distinguish between internal and external standards. CEOs' contracts have, on average, 1,2 benchmark standards. According to the data, 98% of all respondents are to a degree governed by internal standards, while only 6% use external standards. Plenborg et al. (2007) also find a corresponding distribution, where 80% of CEOs predominantly rely on internal ones.

Graph 8: Distribution of Accounting-based Performance Standards



The above distribution shows that 71% of CEOs' performance are benchmarked against internal budgets. The outcome is somewhat expected, as internal budgets require minimal effort and do not require new objectives formulation. In addition, the CEO's performance is consistent with what the company has budgeted in terms of overall economic success. 28% of CEOs are also measured relatively to prior-year performance. Although these measures are easily applicable and not very resource-intensive, the weighting does not comply with the literature's view on mitigating the risk of objectivity, *sandbagging* and *earnings management* (Milano, 2021).

Surprisingly, the standard to external peers is not very widespread across respondent's schemes, despite literature recommendations to hedge against exogenous factors. The prevalence is significantly lower than Murphy (2000)'s findings, where 11% of companies predominantly rely on external standards. Therefore, it may be presumed that *principals* in Norwegian unlisted companies find the market for peers too narrow and costly to absorb. Section 5.2.2 discovered the fundamental value of proper peers, which might be difficult to discern among companies that are not required to disclose necessary data. However, the prevalence of internal negotiation standards of 19% seems to offset some of the need for externality adjustments. Such negotiations may thus involve manual corrections for externalities in the bonus schemes that the *principal* deems outside the CEO's control. Although these corrections are more prone to subjective biases, they may work as a valuable substitute for the process of finding adequate peers (DeFond & Park, 1999).

Among the 21 companies utilizing external peers, the vast majority are operating within the finance & real estate and industrial sector, two sectors with greater sensitivity to exogenous factors and rivalry intensity. Parts of the dataset can thus be explained by literature, which implies that industries

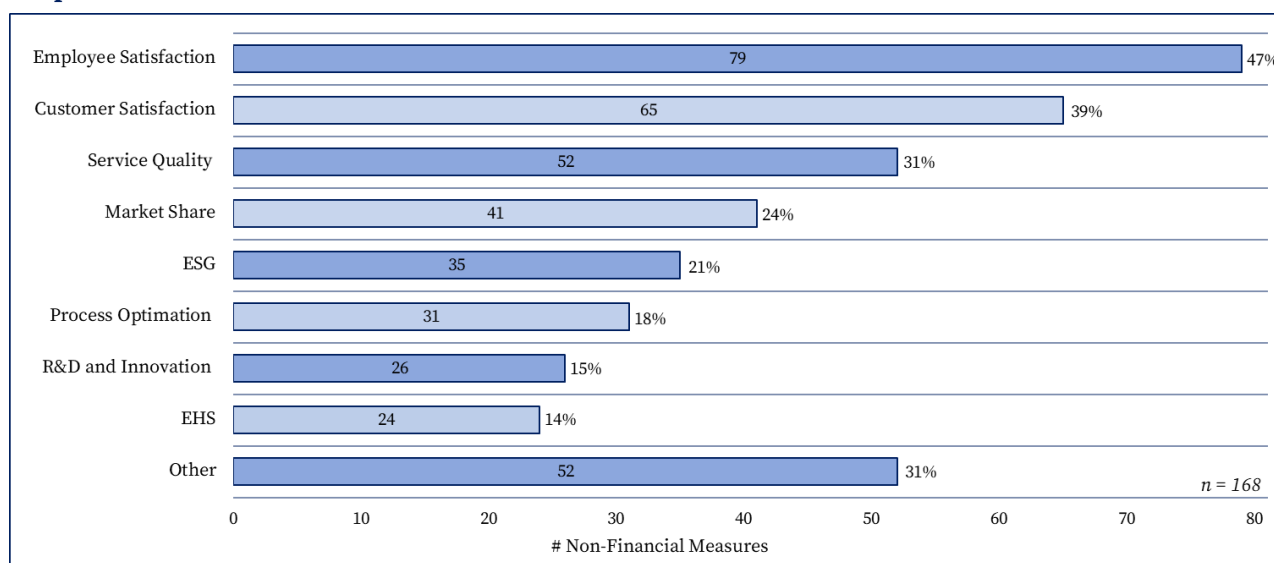
operating in such environments should rely more on external standards (DeFond & Park, 1999; Edmans et al., 2017).

In terms of exploring the time period in which performance is evaluated, it is evident that yearly evaluations are unequivocally the most prominent. 88% of accounting-based measures are evaluated yearly, while 9% are spread over shorter periods, and 3% over several years. The predominant period is logical as most of these metrics are derived from financial statements, which are settled on an annual basis. It is also conceivable that *principals* want the evaluation of CEOs' performance to be consistent with internal budgets, which often have an annual horizon period. 82% of CEOs evaluated over several years are further subject to internal negotiation standards. As uncertainty grows with time, it is suggested that *principals* wish to maintain the power to manage expectations and adjust for events affecting operations continuously.

7.6 Non-financial Performance Measures

The following section will examine the prevalence of non-financial performance measures (NFPMs). As uncovered by the previous section, 97% of respondents have accounting-based measures in their contract, and almost all measures subsequently discussed will thus be in combination with accounting-based measures. As such, Kopecka's (2015) recommendations that NFPMs should be used as supplementary measures are followed to a large extent. Results uncover that 48% of respondents' performance is evaluated against NFPMs. The results are highly similar to those of Plenborg et al. (2007), who find a 52% prevalence. Moreover, a positive trend between utilization of NFPMs and firm size is uncovered, as their prevalence across classes is 42%, 53% and 63%, respectively.

Graph 9: Distribution of Non-financial Measures [Source: Own Contribution]



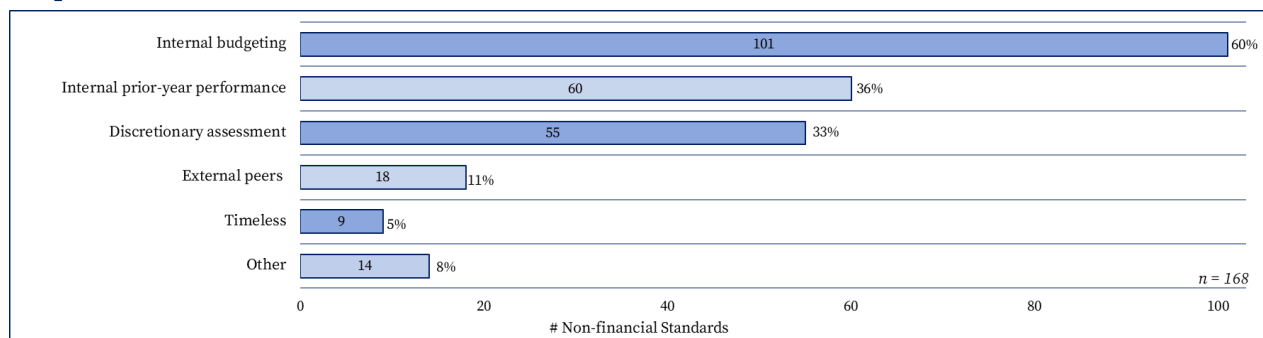
The distribution sum equals 405 individual measures, which indicates that CEOs, on average, have 2,4 measures in their contract. Moreover, it is observed that employee- and customer satisfaction are the most used measures, with 47% and 39% prevalence, respectively. Subsequently, service quality, market share, and ESG measures are widely used, with over 20% each. Plenborg et al.'s (2007) findings are highly similar, where all the mentioned measures, except ESG, are also the most prevalent. The study does not include ESG measures, which can likely be explained by the low relative focus on ESG in general in 2007 compared to today (Berntsen & Tønseth, 2021).

The *other* category is the third most prevalent answer, with 52 (31%) observations. This suggests that there are plenty of measures *principals* may deem value-creating. The measures include but are not limited to the accomplishment of major projects, compliance, culture fostering and diversity.

7.6.1 Non-financial Performance Standards

The internal standards are clearly the most utilized, where the 101 CEOs (60%) are evaluated against internal budgeting. Moreover, prior-year performance and discretionary assessment are the following most prevalent standards, with 36% and 33%, respectively.

Graph 10: Distribution of Non-Financial Performance Standards [Source: Own Contribution]



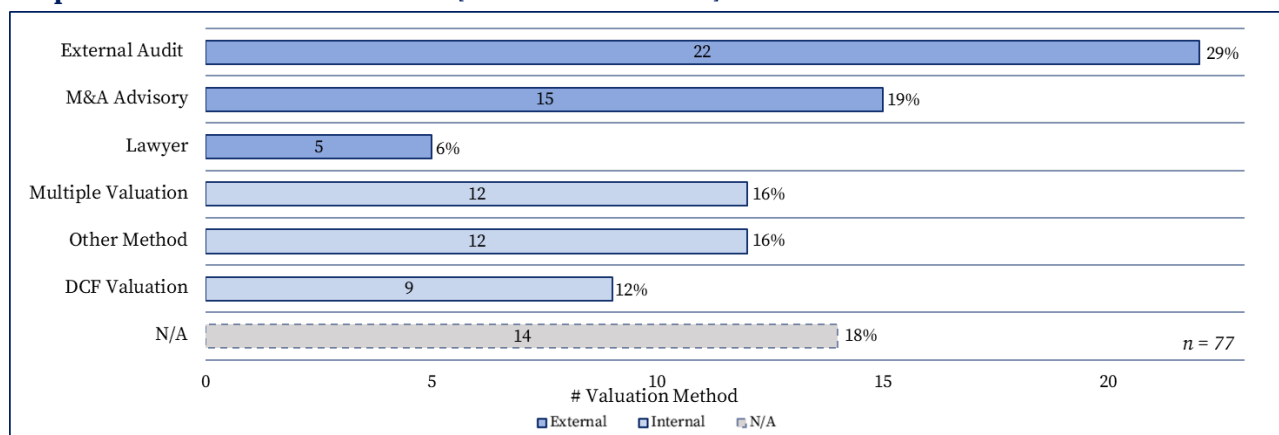
CEOs are, on average, evaluated against 1,5 standards, why it can be assumed that certain measures are evaluated against different standards. By distinguishing internal- and external standards, the former is most prominent, accounting for 92%. It is also interesting that 33% are evaluated on discretionary standards. This suggests that 55 companies recognize the intangible nature of NFPMs, and accordingly follow the notions of Murphy (2000) that performance targets may change over the evaluation periods based on everything from firm performance to market impacts. It is further found that the measures of those who are evaluated on external standards primarily include market share and customer satisfaction. This finding supports the point of Damodaran (2012), who stress that when comparing to peers, it is essential to select companies with similar operational characteristics and markets. Accordingly, market share and customer satisfaction are more appropriately comparable to peers, given similarities, than more firm-specific factors such as, e.g., developments in company culture.

Evaluation periods are equal to those within accounting-based measures, where yearly evaluations account for 89% of respondents while the remaining respondents are dispersed across outstanding categories. This indicates that evaluation periods do not differ based on the type of measure. Conceivably, even though NFPMs often concern long-term strategic goals, evaluation periods over several years might disincentivize managers as payouts may be perceived as farfetched. Moreover, if the NFPMs are tied to a strategic goal over, i.e., 5 years, yearly payouts would be comparable to stretch targets, where each year indicates progress towards the overarching goal.

7.7 Market-based Performance Measures

Market-based measures are expectedly the least used performance measure, where 77 CEOs (22%) are evaluated accordingly. These findings diverge from most previous studies, including Plenborg et al. (2007), who argue that market-based measures are virtually irrelevant for unlisted companies, due to inexpediency and complexity of proper valuation. Conversely, the results indicate that this is not the case in a Norwegian setting. Examining further, the distribution of who- and how the company valuation is performed is distinguished by internal- and external valuation.

Graph 11: Firm Valuation & Methods [Source: Own Contribution]



It should be noted that 14 CEOs (18%) have chosen not to disclose the company valuation method. Excluding these respondents, it is found that 55 companies (87%) only use one form of valuation, where in turn, the majority (67%) are performed by external parties. While the study by Murphy (2000) concerns performance standards, the argumentation that external benchmarking is superior to internal alternatives is arguably transferable to firm valuations. Following this rationale, external valuations are favorable as they will result in an unbiased and objective market value, as neither the CEO nor any affiliated colleague can influence the valuation. The use of M&A advisors may furthermore indicate a future sale of the company. This is confirmed by three respondents who, when asked how often the market value is determined, answer “*at the time of transaction.*” The same may also be true for firms that

use external auditors or lawyers. Unfortunately, no causation can be inferred as the questionnaire does not inquire about future sales plans or other potentially explanatory factors.

However, an examination of performance standards uncovers some interesting findings. Compared to other measures, those CEOs whose awards rely on market-based performance have a far smaller degree of internal budgeting as standard, prevalent only in 21% of contracts. Equally many are measured against last year's stock price, while external peers, discretionary assessment and timeless standards combined cover 34%. As such, it is uncovered that internal budgeting plays a significantly smaller role in the evaluation of market-based performance. Refer to Appendix 11 for a distribution chart of market-based performance standards.

Time frequencies of evaluation periods further differ from the other measures, where non-yearly evaluation periods are rare. Their prevalence is larger within the market-based measures, at 34%. The main argument against market-based measures in unlisted firms is that the share price is not readily observable (Plenborg et al., 2007; Edmans et al., 2017). Monthly and quarterly valuations account for 11% of respondents, indicating that an updated share price is more frequently observable, thus partially mitigating this problem. Further, it is uncovered that 23% performs firm valuation, either over several years or at the time of transaction. This indicates that these companies plan a future partial- or complete sale.

7.8 Choice of Measure & Weighting

The following section will nuance the dataset by examining the coexistence of performance measures in contracts. The choice of measures, combinations and respective weighting will be presented before analyzing the distribution of the typical number of objectives included in schemes.

Table 12 on the next page presents the distribution of contracts exclusively based on accounting-, non-financial- and market-based measures, and the proportion of CEOs who have a combination of these. As previously mentioned, 97% of incentivized CEOs are to some extent governed by accounting-based measures, whereas 46% exclusively rely on them. Only a small percentage of contracts rely solely on the two other measures, but 51% use a combination of two or three. The findings imply that companies favor incentive contracts that entirely or partially steer their CEOs' attention to accounting-based objectives.

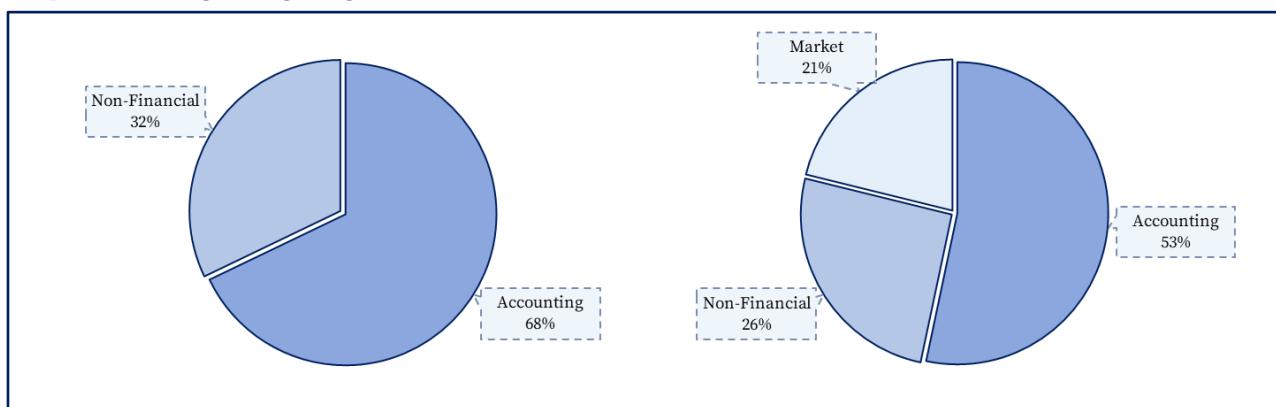
Table 12: Distribution of Measures in Contracts [Source: Own Contribution]

Combination of Measures	<i>n</i>	%
100% Accounting Based	161	46%
100% Non-Financial	4	1%
100% Market Based	6	2%
Accounting Based + Non-financial	106	30%
Accounting Based + Non-financial + Market Based	57	16%
Accounting Based + Market Based	13	4%
Non-fincancial + Market	1	0,3%
Total	348	100%

In practice, a key challenge in designing incentive contracts is selecting performance objectives that encompass all aspects of a CEO's contribution to value creation (Murphy, 2000). By combining measures of different nature, *principals* have the opportunity to measure the performance on different assessments. Academic recommendations thus justify the distribution, where over half of companies structure their incentive contracts on several measures, allowing them to discover various aspects of value creation in company activities.

Respondents susceptible to contracts with combinations of measures were asked to state their weighted significance. Graph reveals the most prevalent varieties to be accounting-based metrics combined with either non-financial- (30%), or non-financial- and market-based measures (16%). The following charts illustrate the average weighting found in the two most common combinations.

Graph 12: Average Weighting in Combinations of Measures [Source: Own Contribution]



The above combinations determine that the accounting-based measures are dominantly weighted, with 68% and 53%, respectively. For the mix of accounting and non-financial measures, Plenborg et al. (2007) find a weighted distribution of 85% and 15%, compared to 68% and 32%. Despite a higher weighting of NFPMs, the dataset follow the literature's notion that these should be utilized as supplemental measures (Kopecka, 2015). Combinations with market-based metrics further offset reliance on accounting

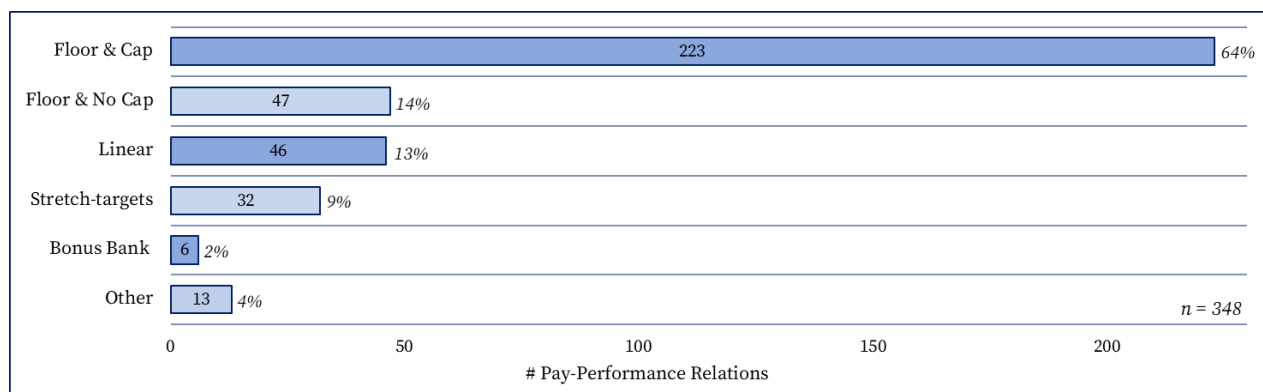
measures, which literature deems relevant to mitigate the risk of objectivity, exogenous factors and manipulation (Milano, 2021). This is especially the case where market-based measures are evaluated by external players and evaluated over several years.

In summary, it is noteworthy that Norwegian *principals* favor internal absolute measures, probably due to their ease of applicability and availability, despite their often short-term motivational horizon. In general, incentivized CEOs within the dataset use multiple criteria, with 3 measures per contract. The quantity is similar to Murphy's (2000) and Bechmann & Nielsen's (2012) findings, which uncover 2,3 and 4 measures, respectively per contract.

7.9 Pay-to-performance Relation

At last, the questionnaire inquired about respondents' pay-to-performance relation. The provided answers will be examined in the following section, along with results concerning incentive scheme objectivity and labor union prevalence. The pay-to-performance structure's distribution goes forth in the below figure.

Graph 13: Pay-to-performance Relation Distribution and Prevalence [Source: Own Contribution]



Evidently, performance structures with a minimum threshold value for triggering incentive awards (floor) and a maximum achievable value (cap) are the most prevalent, accounting for 223 (64% of) CEOs, while floor & no cap is the second most common with 14%. Hence, literature recommendations are largely disregarded, as academics warn against non-linear structures due to susceptibility of *earnings management* and the limitation of intervals in which CEOs have an incentive to perform (Healy, 1985). Despite being deterred in literature, Plenborg et al. (2007) also find a high prevalence at 47% and 22%, respectively. They argue that non-linear structures may be favorably implemented in firms where the CEO's direct contribution to performance is complex to identify. In these cases, linear structures could yield extreme results uncorrelated to the CEO's performance. Moreover, as indicated by results in section 7.5, *principals* do not seem concerned with myopic and earnings manipulative CEOs.

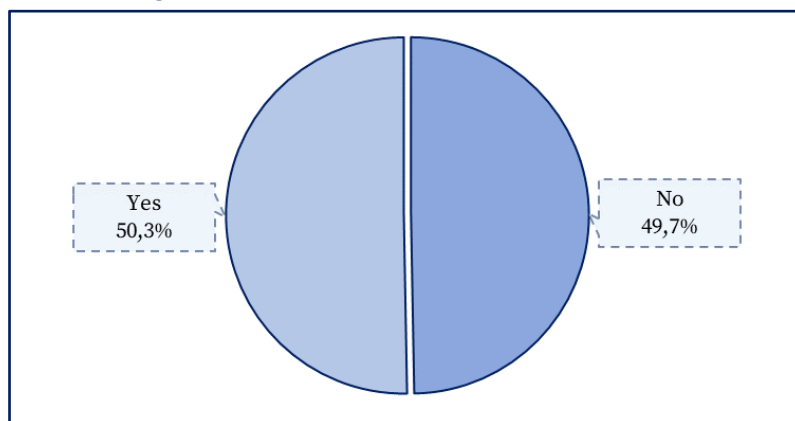
Furthermore, it is found that linear structures are prevalent in 46 contracts, indicating that 13% of companies follow the prevailing recommendation in literature and the OECD. Plenborg et al. (2007) do not provide any data on linear structure prevalence, conceivably because it was not found. The results may thus indicate that Norwegian CEOs have different risk preferences, as they accept riskier performance structures in the hope of larger possible payouts.

The remaining structures, stretch targets, bonus banks and *other* are included in 9% and 2% and 4% of contracts, respectively. Due to a mere 4 respondents receiving fixed payouts, the component was included in the *other* category, and due to the deselection of other alternatives, it is conceivable that bonus banks and stretch targets also include an extent of underlying fixed payouts. This is partly confirmed, as *others* were chosen by some of the CEOs whose bonus relies on a future sale of the company.

7.9.1 Scheme Design Objectivity

In the final block of the questionnaire, CEOs were asked if they are personally involved in designing their incentive schemes. As illustrated in the chart below, it is observed that 175 CEOs, i.e., over half of the incentivized respondents, are directly involved in the design, and can influence the selection of measures, standards and pay-to-performance relation. This is unexpected and diverges momentarily from the recommendations. Bias can easily be introduced in these schemes as the CEOs will have an incentive to *sandbag* and choose manageable performance measures or favorable standards. In turn, this issue may be problematic for *principals* to mitigate, as they have less insight into the company's daily operations and why incentive pay would be implemented in the first place. Yet again, this result contributes to the indicating trend discovered throughout the chapter, that *principal-agent relationships* in Norway may, to a larger extent, be characterized by trust, and CEOs might be psychologically more predisposed towards *stewardship* than utility-maximizing.

Graph 14: CEOs Involved in Design of Incentive Scheme [Source: Own Contribution]



Furthermore, as labor union membership and collective agreements are widespread in Norway and potentially may influence CEO compensation structures, the questionnaire asked whether the CEOs, the majority- or minority of employees, are unionized. Results uncover that union membership is, at various levels, present in 74% of companies. Hence, it is interesting to examine further as it diverges significantly from the U.S., where a mere 6,1% of private-sector workers are unionized (Bureau of Labor Statistics, 2022). As union membership primarily affects employee compensation levels, which is outside the thesis's scope, no patterns of significance were identified across the firms whose majority or minority employees are covered. However, it is found that the majority of employees are unionized in 42% of firms, while unionized CEOs constitute 14%. An interesting finding uncovers that out of the 175 CEOs that influence the design of their incentive schemes, only 9 are unionized. This indicates that union membership increases alignment with recommended practices from academia.

7.10 Sub-conclusion

The descriptive analysis constitutes part one of two analyses and has examined the prevalence and design of executive incentive schemes in Norwegian unlisted companies. Initially, a t-test on *Total assets* and a chi-square test on size class ensured that the sample of collected responses did not statistically differ from the population. Having confirmed the sample's validity, firm- and respondent characteristics of 501 complete collected responses were analyzed. The unlisted companies typically have a majority owner with a stake of 67,8%. The average CEO has a 4,2% ownership stake, is 52 years old, highly educated and has a company tenure of 13 years, 7 of which in the top managerial position.

Respondents without incentive pay

Incentive schemes are commonly used in Norwegian unlisted firms, where 69,5% of CEOs have a performance-related share as part of their total compensation. Prior to further analysis of this group, the 30,5% of CEOs who do not receive incentive pay provided qualitative data on why that is. Aggregating the responses revealed that ownership, dividends, firm-specific inexpediency and disbelief in incentive schemes' ability to add value, are prevailing reasons for their absence.

Respondents with incentive pay

348 CEOs receive incentive pay. Hence it is confirmed that incentive pay is both present and relevant in Norwegian unlisted companies. Prevalence also varies across sectors and increases with firm complexity. Cash bonus is clearly the most common compensation component, awarded to 96%, either solely or combined with other components. Stocks and options are rewarded 16- and 4%, respectively. Retention bonuses are at 11%, hence more prevalent than in comparable Danish companies, conceivably as a substitute to equity-based pay for incentivizing long-term value creation. Further,

variable rewards, on average, constitute 26% of total compensation, with an increasing trend across size classes. The majority of CEOs are objectively evaluated, 57% of which at a 100% level. There is an inverse relationship between observations and subjective weighting, where only 4% are evaluated solely on subjective criteria. The literature's recommendation, that subjective criteria should only supplement objective ones, is hence followed in 96% of observations. Performance is predominantly evaluated on an annual basis.

Accounting-based performance measures

Accounting-based measures are the most prevalent, included in 339 (97% of) contracts, either alone or combined with other measures. Moreover, on average, CEOs have 1,7 measures per contract, where absolute metrics, especially EBITDA at 43%, are heavily relied on. This indicates a prevailing focus on top-line growth. The relative measures are only used in 10% of contracts, diverging from the recommendations, which deem relative measures superior to the absolute. Conversely, recommendations are followed in the sense that only 9% are measured on cash flows, which academia deems suboptimal compared to metrics from the income statement. Only 22 companies use external benchmarks as performance standards, conceivably due to a lack of transparency on competitors, complicating accurate comparison and definition of peer groups.

Non-financial performance measures

NFPMs are included in the contracts of 168 (48% of) CEOs, and prevalence increases with firm complexity, from 42% in medium firms to 63% in large. There are typically 2,4 measures per contract, and only 4 CEOs rely solely on NFPMs, consistent with recommendations that NFPMs should supplement other measures. The most frequently applied measures are highly consistent with findings of comparable studies, with the exception of ESG, which is more relevant in our dataset, at 21%. This is conceivably due to increased attention around environmental and social factors in the past decade. 52 observations in the *other* category indicate that measures *principals* deem value-creating are plentiful. Similar to accounting-based, internal standards dramatically outweigh external standards, but evaluation of NFPM performance relies on discretionary assessment to a larger extent. Those who use external standards are primarily measured on market shares and customer satisfaction.

Market-based performance measures

Divergent to the literature's argumentation that market-based measures are virtually irrelevant in unlisted companies, they are included in 77 (22% of) contracts. External parties, especially auditors and M&A advisors, predominantly perform firm valuations, which indicate a potential full or partial sale of the company. This is further demonstrated by the frequency of valuations, which in 23% of observations

span several years. Three respondents confirm this by disclosing that their bonus will be rewarded at “*the time of transaction.*”

Choice of measure & weighting

161 (46% of) CEOs are measured solely on accounting-based metrics. The most common combinations are accounting-based and NFPMS, relevant for 30%, and all three combined, observed in 16% of contracts. Within these measure-mixes, the relative weighting is 68%/32% for accounting- and NFPM measures, and 53%/26%/21%, respectively, for those who are evaluated against all three. Accounting-based measures are consistently the most focal, while NFPMS and market-based are more important when combined with accounting metrics. Across all categories, CEOs are, on average, evaluated against three measures, consistent with recommendations from literature.

Pay-to-performance relation

Variable performance structures significantly outweigh fixed payouts, stretch targets and bonus banks. 223 (64% of) CEOs have exponential structures with floor and cap, where the maximum value typically is a percentage of the performance target. 14% have floor, but no cap value, and 13% have linear, where a negative bonus can occur if the CEO underperforms. Where literature mainly promotes linear structures, their relatively small prevalence may be explained by *principals* wanting to hedge for extremities in bonus payouts, especially when CEOs' direct contribution is hard to identify. Linear structures are more prevalent than in comparable studies, indicating that Norwegian CEOs may be more predisposed toward risk-taking.

Scheme design objectivity and labor unions

More than half of the analyzed incentive schemes are highly susceptible to biases, as 175 (50,3% of) CEOs are involved in designing their own pay package. Labor union memberships are, at various levels, prevalent in 74% of companies. The majority of employees are unionized in 42% of firms, and 14% of CEOs are union members themselves. Interestingly, it is uncovered that of the 175 CEOs who influence their own pay mix, only 9 are unionized. Half of the principals allow CEOs to influence their incentive schemes, indicating that Norwegian CEOs may be more predisposed toward a *steward* mentality.

Overall, the descriptive analysis has uncovered several interesting findings on incentive-schemes prevalence and design in Norwegian unlisted companies. Firstly, the identified positive trend between bonus schemes prevalence across size classes indicates a correct expected outcome of hypothesis 2. Observations on prevalence in relation to both CEO shareholding and foreign ownership, further indicate support for expected outcomes of hypotheses 3 and 5. Moreover, there are multiple indications

that Norwegian *principals* are less concerned with myopic and earnings manipulating CEOs than reviewed literature would assume. This is deduced by findings that cash bonuses, accounting-based measures, as well yearly evaluation periods and internal standards are dominant across all measures and size classes.

Chapter 8: Drivers of Incentive Pay Prevalence

As the descriptive analysis uncovered the extent to which structuring of incentive pay schemes are consistent with recommendations of *principal-agent* models, the second analysis will test whether the prevalence of incentive pay can be explained by drivers prescribed in the reviewed literature. Section 4.5 of the literature review formulated five hypotheses deduced from previous literature and theories. These determinants were deemed significant drivers for the use of incentive pay, and will thus be tested through regression analyses of the collected data. The rejection or support of the null hypotheses will consequently contribute to the research sub-question 4, and aim to uncover influences on the use of incentive pay. Similar to the descriptive, the analysis will be compared to imperfect proxies.

The chapter will first define the chosen variables applied in the regression, justify the model-building strategy, and test if the underlying key assumptions meet the required criteria. The model results, robustness and overall fit will thus be presented and discussed before the hypotheses are concluded.

8.1 Dependent & Independent Variables

The thesis will apply a *multiple logistic regression* to test the relationship between different determinants and the application of incentive pay, where the outcome is dichotomous. Based on the explanatory variables, the regression will describe the probability that one of two possible binominal outcomes occurs, with the dependent variable being whether the CEO is contractually incentivized or not. The logistic model is superior for classification problems and includes categorical, discrete and continuous variables (Stoltzfus, 2011). To increase the model's internal validity, selected control variables will be included and discussed to control for the impact of potential confounding and extraneous variables. Overall, outcomes are deemed significant at a 90% confidence level.

With only two potential outcomes (0 or 1), the relationship between the dependent and independent variables will not be linear. The model's non-linearity demands that coefficients are calculated using an iterative algorithm, automatically performed using the statistics software, STATA. Thus, it is not necessary to place restrictions on the coefficient values in the regression equation (Keller, 2011). The

mathematical theoretical foundation for the logistic regression is found in Appendix 12, and the model is built on the following variables.

$$\text{Logit (CEO Incentive pay}_i) = \beta_0 + \beta_1 \text{OwnershipConcentration}_i + \beta_2 \text{FirmComplexity}_i + \beta_3 \text{CEOShareholding}_i + \beta_4 \text{CompanyLeverage}_i + \beta_5 \text{ForeignOwner}_i + \beta_6 \text{Industry}_i + \beta_7 \text{CEOTenure}_i + \beta_8 \text{CEODuality}_i + \varepsilon_i \quad \text{Formula 3}$$

Table 13: Overview of Variables [Source: Own Contribution]

ID	Type	Variable Name	Classificaiton	Unit	Expected Impact
	Dependent Variable	CEO Incentive Pay	Binary	1 = Yes, 0 = No	
H1	Independet Variables	Ownership Concentration	Discrete	%	+
H2		Firm Complexity	Continuous	Pooled Variable	+
H3		CEO Shareholding	Discrete	%	-
H4		Company Leverage	Continuous	D/E Ratio	-
H5		Foreign Owner	Binary	1 = Yes, 0 = No	+
	Control Variables	Industry	Categorical	Industry (12)	
		CEO Tenure	Continuous	# Years	
		CEO Duality	Binary	1 = Yes, 0 = No	

8.1.1 Independent Variables

The first five variables are expected determinants relating to the causality sought to uncover in the formulated hypotheses. Further, the regression will include control variables with the aim of exposing potential confounding variables that may obscure the cause-effect relationship between the dependent- and independent variables. All included variables have a number of events exceeding the criterion range between 10 and 20, proposed by Stoltzfus (2011) to avoid an overfit model.

The variable *Ownership concentration* reflects the ownership share of the company's largest shareholder. The variable is a proxy indicating how concentrated the ownership structure is, as measured in the percentage of shares. Statisticians argue that percentages can be treated as both continuous and discrete data (Frankfort-Nachmias & Leon-Guerrero, 2006). However, as the underlying data from which percentages are derived, i.e., shares, are discrete, they are treated as such in this regression.

Firm complexity uses size class as a proxy, which in turn is constituted by a company's number of *Employees*, *Total assets* and *Net sales*. Recoding the variables was necessary as the values are inherently incomparable, and the number of *Employees* is discrete data, while *Assets* and *Net sales* are continuous. To transform the three variables into a coherent *Firm complexity* variable, each individual observation was divided by the largest observed value in the respective category to add relativity and enable inter-

categorical comparability. The produced relative values, multiplied by their respective weights of 1/3 each, were subsequently added to produce a value signifying firm complexity - where low values are low in complexity and vice versa. The self-composed pooled firm complexity (PFC) formula is presented below.

$$PFC_i = \frac{1}{3} \cdot \sum \frac{Employees_i}{Max(Employees_{Tot})} + \frac{Total\ Assets_i}{Max(Total\ Assets_{Tot})} + \frac{Net\ Sales_i}{Max(Net\ Sales_{Tot})} \quad Formula\ 4$$

CEO shareholding describes the ownership of the CEO as measured by the percentage of shares and is thus discrete. The very premise upon which *agency theory* is built is a separation of ownership and control (Berle & Means, 1932), where incentive pay is introduced as a solution to realign interest between owners and managers. Since the gap between ownership and control decreases as CEO shareholding increases, one would expect the need for incentive pay to erode accordingly. It must also be noted that the *separation ratio* set to 50% might have an impact as none of the analyzed CEOs are owner-managers and the interest alignment is thus fairly limited.

Company leverage describes the proportion of equity linked to a company's debt, appropriately measured by the debt-to-equity ratio. Cole & Mehran (2016) suggests that if a company has high leverage, the residual cash flows are more likely to be retained to service debt rather than award the CEO, especially in firms with high ownership concentration. As such, it was deemed necessary to test for correlation between the two variables, which uncovered a satisfactory correlation of <0,1.

The *Foreign owner* variable is a dummy variable meaning the outcome is dichotomous. Companies fall into one category or the other depending on whether a company's ultimate owner is Norwegian, or not.

8.1.2 Control Variables

Control variables inspect potential alternative explanations and indicate whether the outcomes of the analysis are explained by the determinants, and that causal relationships cannot be explained by other factors (Stoltzfus, 2011). The analysis's admissible control variables are *CEO duality*, *CEO tenure*, and *Industry*.

The dataset reveals a 7% divergence in the prevalence of incentive pay for respondents who are CEOs and those who hold the positions of both CEO and chairman of the board (CEO duality). Hence, CEO duality might have explanatory power on the outcome of the dependent variable, why it is relevant to include it as a control variable in the model.

CEO tenure is included as previous studies have found positive relationships between tenure and CEO pay levels and pay-performance sensitivity (Cremers & Palia, 2011). Conceivably, it might affect prevalence as well. The same findings and corresponding argument for inclusion also apply to the variable *CEO age*. However, the former was chosen as the inclusion of both variables is likely to introduce multicollinearity, as differences between age and tenure are highly correlated in the majority of observations.

As uncovered in the descriptive analysis, the prevalence of incentive pay varies across industries. Its prevalence is, for example, much higher in finance & real estate (88%), than in health care (29%). Therefore, *Industry* is included as a control variable, consisting of 12 dummy variables. More specifically, the actual regression will only contain 10 dummy variables, as one industry is omitted and becomes the reference group during dummy encoding. Moreover, as all respondents from the energy & utilities industry have contractual incentive schemes, STATA omits the variable as its explanatory power will not be able to yield any other results than success. Intuitively, testing incentive scheme prevalence based on an independent variable in which incentive pay is 100% prevalent is nonsensical.

8.2 Model Control

Beyond selecting the independent variables, it is imperative to test the six basic assumptions that underpin a *multiple logistic regression*. In addition to the already confirmed assumptions of a binominal dependent variable (#1) and sufficient events per independent variable (#2), the models' further assumptions will be discussed to ensure valid results.

Assumption #3: Independence of Observations

Logistic regressions require that all observations must be independent of each other. It is highly unlikely that respondents did not answer the questionnaire independently, and the assumption of no repeated measures is thus fulfilled.

Assumption #4: Absence of Multicollinearity

There should be no or limited multicollinearity among the explanatory variables. Violation of such will frequently lead to substantial standard errors in the predicted coefficients (Stoltzfus, 2011). The problem may be alleviated by eliminating redundant variables. Appendix 13 and 14 applied a *variance inflation factor* (VIF) test to control for covariates multicollinearity by giving the variance explained in each variable as a function of the other variables. There is broad consensus among statisticians suggesting that values >10 are associated with severe multicollinearity (O'Brien, 2007). None of the model's independent variables exceed this threshold. Yet, thresholds must be considered in the context of other

factors (Ibid), like in the control variable *Industry*, which could be subject to the *dummy variable trap*. If, e.g., the CEOs employed within *Consumer goods* have highly similar characteristics to those in *Transportation*, no causal inference can be drawn on the changes in the predicted outcome depending on whether they work in one sector or the other. Despite having slightly higher VIFs than the focal variables, none exceeds the critical threshold. The absence of multicollinearity is thus satisfactory withheld.

Assumption #5: Linearity of Independent Variables and Log-odds

A critical assumption is that there must be a linear relationship between the log-odds (logit) of regression outcomes and each continuous independent variable. Log-odds are the logarithmic value of the odds ratio, and p is the probability of a positive outcome, i.e., the prevalence of incentive pay. The formula can be presented as such:

$$\text{logit}(p) = \log\left(\frac{p}{1-p}\right) \quad \text{Formula 5}$$

To test for linearity, the natural logarithm of each continuous independent variable is calculated and multiplied by its corresponding original value. The newly produced variable is subsequently included in the initial regression model. The yield of insignificant coefficients signifies linearity between continuous variable and log-odds, and that the criterion for assumption #5 is satisfied (Shrestha, 2019). Appendix 15 finds that none of the continuous variables are significant and thus indicate a satisfactory model fit. A Box-Tidwell test also supports this notion. Although the discussed percentage variables, *Ownership concentration* and *CEO shareholding*, were deemed discrete, they were also tested in a separate model. These variables were also consistent with the assumption of linearity.

Assumption #6: No Substantial and Influential Outliers

The final assumption of logistic regression is the absence of substantial and influential outliers. The assumption is grounded on the basis that influential outliers may distort the model's accuracy of outcomes. Furthermore, academia specifies that not all outliers are necessarily influential, but have the potential to be (Healy, 2006). As such, it is of importance to run two tests. Cook's distance, which is based on residuals and leverage calculations, is used to test the influence of a data point (Cook, 1977). $4 / N$, where N is the number of observations, is a conventional threshold. If Cook's distance $> 4 / N$, the observation is considered influential. Moreover, standardized residuals can be used to see if a data point is an outlier. Observations with absolute standardized residual values >3 are considered potentially extreme outliers and should be avoided.

As the sample excludes 12 observations from respondents working in the energy & utilities sector, the number of observations is 489. As such, the cut-off point is: $4 / 489 = 0,0082$, a threshold of which 28 observations surpass. A graph of Cook's Distance is presented in Appendix 16. As influence is defined as an observation whose exclusion from the dataset will significantly alter the regression outcome, a manual test was conducted. Upon inspection of the respondents, no apparent patterns or divergent responses were identified. The regression *Health care* and *Finance & real estate* because they perfectly predicted failure and success, respectively. *Energy & utilities* was also excluded due to collinearity. When running the test for outliers, no observations have absolute standardized residual values >3 . Hence the assumptions criteria are satisfied.

8.3 Results

In this section, the regression outputs and applied model-building strategies will be presented and discussed. As a starting point, a saturated model including all independent- and control variables, was conducted to examine all predictors' potential effect on incentive pay prevalence. The direct approach is deemed optimal as there are no prior hypotheses on variables' hierarchical influence on incentive pay (Stoltzfus, 2011). Subsequently, a stepwise backward approach was undertaken. The backward stepwise approach takes basis in the original model, where insignificant variables, as identified through a Wald test, are removed individually and stepwise until only significant variables remain. The approach is further useful as the reduction of predictor variables mitigates potential multicollinearity problems and resolves overfitting (Hocking, 1976). In addition, the approach also provides a consistent and objective way to moderate variables and reduce bias in favor of proving the thesis's hypotheses (Bursac et al., 2008).

The regression output for the full- and reduced models are presented on the following page, where significance levels of 1%, 5% and 10% are denoted with ***, ** and *, respectively. The complete STATA script can be found in Appendix 17.

Table 14: Outputs of Binomial Logistic- and Stepwise Backward Regression [Source: Own Contribution; STATA]

Variables	Predicated	Binominal Logistic Regression			Backward Stepwise Regression		
		Beta	Odds ratio	P > z	Beta	Odds ratio	P > z
Intercept		0.463	1.589	0.442	0.324	1.383	0.100*
H1: Ownership Concentration	+	-0.315	0.997	0.471			
H2: Complexity	+	10.556	38403	0.051*	11.021	61169	0.045**
H3: CEO Shareholding	-	-4.152	0.959	0.000***	-4.413	0.957	0.000***
H4: Company Leverage	-	0.007	1.007	0.320			
H5: Foreign Owner	+	1.369	3.932	0.000***	1.233	3.432	0.000***
CEO Duality		-0.380	0.684	0.366			
CEO Tenure		0.027	1.028	0.026**	0.031	1.032	0.010***
Industry							
Construction		0.132	1.141	0.831			
ConsumerGoods		0.321	1.378	0.603			
Consumer Services		-0.663	0.515	0.312	-0.714	0.490	0.084*
Energy & Utilities	(omitted)	0.000	1.000				
Financials & RealEstate		0.786	2.195	0.339			
Health Care		-2.148	0.117	0.011**	-2.248	0.106	0.001***
IT		0.460	1.584	0.504			
Industrials		-0.204	0.816	0.716			
Materials		0.101	1.106	0.900			
Professional Services		-0.094	0.910	0.870			
Telecom		-1.591	0.204	0.030**	-1.693	0.184	0.001***
Transportation & Logistics	(omitted)	0.000	1.000				
# Obsevation		489			489		
Log Likelihood		-256.8			-261.0		
LR chi2 (17)		94.11			85.71		
Prob > chi2		0.000			0.000		
Nagelkerke Pseudo R2		0.246			0.226		
Cox & Snell Psueudo R2		0.175			0.161		
Correctly Classified		74.4%			73.6%		

8.3.1 Ownership Concentration

The first hypothesized driver of incentive pay, *Ownership concentration*, is insignificant and has a negative coefficient, in contrast to the positive expected relationship. Reviewed literature suggested that larger owners implement incentive schemes as a complementary control for indirect monitoring of the CEO's behavior (Hartzell & Starks, 2003; Jiang et al., 2009). As CEO shareholding of >50% constitutes the *separation ratio*, it was considered probable that larger owners carrying greater risk would implement incentive pay schemes to regain an extent of power. However, as observable in the full model, high levels of ownership concentration cannot be identified as a driver of incentive pay and we fail to reject the null hypothesis.

When running a nested model in which *Ownership concentration* is the only included predictor, the results yield an odds ratio of 1.008, with a p-value of 0,012, i.e., positive and significant at the 5% level. However, comparing various goodness-of-fit tests reveals that the nested model's explanatory power is vastly inferior. The log-likelihood is -305,14 compared to the original models -256,8 and the area under the ROC curve is 57,7% compared to 75,7%. Consequently, support remains insufficient and the hypothesis cannot be confirmed or denied. Refer to Appendix 17 for the nested model's output.

8.3.2 Firm Complexity

As uncovered in the descriptive analysis, the prevalence increased across size classes, on a mere calculation of averages, indicating a positive correlation. The regression outputs from the full- and reduced models confirm the relationship, as coefficients are positive and significant at the 10%- and 5% levels, respectively. However, PFC distribution values fluctuate between 0.0025 – 0.6723, explaining the extreme value in odds ratios. The marginal interpretation of a unit increase in our pooled variable is thus practically inconvenient.

The hypothesis was motivated by findings from reviewed literature, in which incentive pay, as measured by either prevalence or absolute levels, increases with firm complexity regardless of proxy. Bechmann & Nielsen (2012) find a significant positive relationship between prevalence and market cap in Danish private companies, while (Loe & Lindahl (2016) finds support for the same hypothesis among Norway's 500 largest companies, measuring on the number of employees. The utilized proxy in this regression on the number of *Employees*, *Total Assets* and *Net Sales* form a holistic and robust measure of *Firm complexity*. In turn, the hypothesis is accepted, and there is a confirmed positive relationship between firm complexity and the use of incentive pay in Norwegian unlisted companies.

8.3.3 CEO Shareholding

There is a strong negative correlation between CEOs' ownership stake and the use of incentive pay, as apparent from regression results in both models, highly significant at the 1% level. The odds ratio of 0,957 indicates that for each 1% increase in the CEO's total ownership, the probability of receiving incentive pay decreases by 4,3%. As uncovered in the descriptive analysis, cf. Table 9, the ownership stakes are three times higher for those with- versus those without incentive pay. This finding indicated that ownership allocation might substitute incentive pay schemes as an interest alignment tool.

Core et al. (1999), Lin & Lin (2014) and Randøy & Nielsen (2002) also find significant negative relationships. Notably, the latter study is based on a sample of Norwegian listed companies, but tests CEO compensation levels, not prevalence. Plenborg et al. (2007) observe that incentive pay is commonly

awarded to CEOs despite having partial ownership, indicating that performance-related pay might generate incentives beyond what ownership provides. The same observations were made in our dataset, where 62% of those with ownership also receive incentive pay. However, the hypothesis is confirmed, and it is found that, as in Norwegian listed firms, there is a negative relationship between CEO shareholding and incentive pay prevalence in the Norwegian unlisted firms.

8.3.4 Company Leverage

With a basis on Jensen's (1986) *control hypothesis*, it was deemed interesting to investigate whether the population uses debt as a controlling function of corporate governance. The intended effect would be to increase leverage so that residual cash flows would be retained in the company to service debt, as opposed to awarding the CEO (Murphy, 2012). Moreover, Ulfstein & Haugland (2019) test the relationship between firm leverage and director compensation levels in a mix of listed- and unlisted Norwegian firms and find a significant negative relationship.

No such relationship can be confirmed on prevalence for our sample, as the coefficients are neither negative nor significant. The prediction is examined further by running various nested models, including one in which only focal variables are included and one in which *Company leverage* is the sole predictor. The nested models results also fail to predict any significant relationship. The null hypothesis is not rejected as leverage cannot statistically be determined as a driver of incentive pay prevalence in a Norwegian unlisted setting.

8.3.5 Foreign Owner

The final predicted driver of incentive pay – *Foreign owner* has, as expected, a positive coefficient and is highly significant at the 1% level in both regression models. The saturated model produces an odds ratio of 3,932, indicating that a CEO of a Norwegian unlisted company is ~3,9 times more likely to receive incentive pay if the company they manage is foreign-owned. In the reduced model, the odds ratio is slightly lower at 3,432.

The motivation for testing the relationship stemmed from two findings from reviewed literature. Firstly, it was inspired by Berzins et al. (2008), who argue that individual people, as opposed to institutional investors, offer greater monitoring. In turn, it was conceived that foreign owners might substitute direct monitoring with incentive schemes, as direct monitoring across language, distances and cultural barriers is likely more complex. Secondly, foreign pay norms are characterized by higher levels and prevalence, why foreign presence in companies is thus likely to influence domestic contracts. Randøy & Nielsen (2002), supports this notion, finding a positive correlation between foreign board membership

and CEO pay levels. Evidently, the same positive relation holds true for ultimate foreign owners and executive incentives, as we accept the hypothesis and confirm foreign ownership as a driver of incentive pay use in Norwegian unlisted firms.

8.3.6 Control Variables

The control variable *CEO duality* is insignificant, and whether a CEO is also the chairman of the board, or not, cannot be identified as a predictor of incentive pay prevalence.

CEO tenure, on the other hand, has a positive coefficient and proves significant at the 5%- and 1% levels. The finding is thus consistent with those of Cremers & Palia (2011), who partly attribute the effect to increased relative bargaining power of CEOs in compensation negotiations. The same is true in our sample, conceivably because CEOs will form tighter bonds with owners and the BoD the longer they have been in the company, and will have a greater opportunity to negotiate a contractual variable pay mix. The reduced model's incremental change is notably small, as a 1-year increase in tenure is associated with an increased 3,2% prevalence probability.

With a basis in Table 6 on industry prevalence, it was deemed interesting to test if the probability of incentive pay use is industry-specific. The *Transportation & logistics* sector, where 70% of respondents receive variable pay, is applied as the reference level. Despite indications, there are no other sectors in which CEOs are statistically more likely to receive incentive pay. CEOs in *Consumer services* are less likely to receive at the 10% significance level in the reduced model, while the full model fails to explain a relationship. The odds ratio of 0,49 signifies that CEOs in the consumer service sector are 51% less likely to receive bonuses than those in the *Logistics & transportation* sector. Those from the *Health care-* and *Telecom* sectors are both less likely at the 5% level in the full model, and at the 1% level in the reduced. These findings were already indicated by the descriptive analysis, which uncovered a prevalence of 29% and 44%, respectively. However, the *Industry* control variable does not, in its entirety, have an alternative explanatory significance for the application of incentive pay.

8.3.7 Overall Model Fit

Subsequent to estimation, an assessment of the two models' overall fit finds its relevance. As goes forth by the log-likelihoods, R^2 -measures and the ROC, the saturated model's goodness-of-fit (GoF) is slightly better than the reduced one. However, both models are highly significant at the 1%-level and are thus both adequately capable of correctly predicting outcomes.

The intercept is insignificant in the full model, meaning that the null hypothesis – that the constant is zero, cannot be rejected. In a logit regression, a constant of zero indicates that the dependent variable would be zero if this applies to all the predictors as well. This would signify that the probability of a positive outcome is 50% (Keith, 2019). As in every statistical test, the nature of what is being examined must be considered. Despite not being able to prove that the constant is not zero, it is not removed as that would result in a model in which the outcome probability is 50/50 when predictors are zero. In turn, we know that prevalence differs based on a change in variables per the descriptive analysis, and the stepwise model, in which the intercept is significant at the 10%- level.

Likelihood ratio values are interpreted as comparable statistics between full and nested models, in which the greater LR chi²-value signifies a superior model fit as it better maximizes the likelihood function (Williams, 2021). The Cox-Snell R² is widely used in regressions estimated by maximum likelihood, and it serves as a basis for the Nagelkerke R², for which some of its drawbacks are adjusted (Allison, 2013). The models yield values of the aforementioned of 0.246 and 0.226. Based on these values, the external validity of the models is ensured, as a rule of thumb, deems values between 0.2 – 0.4 as signifying excellent GoF (Kvålseth, 2012). The ROC states that 74.4% of predicted observations are correctly classified. The diagnostic tests indicate an overall good fitting model, and the models are externally valid.

8.4 Sub-conclusion

The chapter has tested the hypotheses derived from the literature review through two binary logistic regression models; a saturated- and stepwise backward regression. The analysis had the purpose of answering the sub-question: *“What are the drivers of CEO incentive pay of Norwegian unlisted companies,”* thus investigating whether the use of incentive pay can be explained by conditions postulated in the literature. Again, it is acknowledged that the pool of potential determinants is immense and that hypotheses largely stem from conditions discovered in research on public and foreign firms. Yet, the thesis seeks to contribute to the field and predict drivers deemed interesting and relevant to the study’s scope, given the Norwegian setting and specific population criteria. The inferential statistical assumptions for the logistic regression were assessed and met, and the results from the reduced model are summarized in the following table.

Table 15: Overview of Empirical Findings [Source: Own Contribution]

ID	Independent Variable	Expected Impact	Finding	Conclusion
H1	Ownership Concentration	+	0	Not supported
H2	Firm Complexity	+	+**	Supported
H3	CEO Shareholding	-	-.***	Supported
H4	Company Leverage	-	0	Not supported
H5	Foreign Owner	+	+***	Supported

Three out of five hypotheses are supported at a maximum 5% significant level – inferring that the literature-prescribed drivers partly explain the prevalence of incentive pay for CEOs in Norwegian unlisted companies.

Yet, no significant positive- nor negative relationship is found for *Ownership concentration* and *Company leverage*, respectively. The former is especially surprising and deviates from several studies, but may indicate that higher levels of ownership concentration substitute or lower the necessity for incentive pay as a control mechanism. No support in H₄ indicates that the prevalence of incentive pay among CEOs in private firms is not subject to debt’s disciplinary effect.

The analysis finds that an increase in firm complexity and the presence of an ultimate foreign owner increases the likelihood of incentive pay prevalence and are significant at a 5% and 1% level, respectively. The positive relationships confirm the findings in the descriptive analysis. Although the pooled variable for complexity is hard to interpret on a unit level, it provides a holistic and robust measure for firm complexity. The positive relationship with foreign ownership further indicates that incentive pay alleviates the issue of distanced monitoring and that incentive pay norms in foreign countries influence domestic contracts. The support on a 1% significances level in H₃, further confirms a negative relation between CEO shareholding and incentive pay. In notion with prior literature, it is advocated that less monetary compensation and monitoring are required by directly uniforming the parties’ interest through shares. However, the threshold for when the shareholding suppresses the need for incentives is highly debatable and could be subject to various industry-, company- and individual-specific factors.

The control variables were introduced to improve the regressions' internal validity and control for alternative explanations. *CEO tenure* positively affects the use of incentive pay and is significant at a 1% level. This finds support in prior literature and is conceivably a result of increased bargaining power. The variable *CEO duality* and the majority of sectors were insignificant. However, all of the hypotheses in Table 15 have the same significance levels in the backward stepwise regression, regardless of control variables.

Chapter 9: Discussion

The purpose of this chapter is to discuss the thesis's most prominent findings and under what conditions these were obtained to achieve a deeper understanding and nuanced perspectives of the results. The limited research within the population may have impacted the thesis's fundamental standpoints and thus results, and will therefore suggest further research on a consecutive basis. Secondly, potential difficulties in applying theory and literature within *principal-agent models* to the thesis's empirical findings will be discussed. This will be based on differences in company characteristics and norms for contemporary literature. Lastly, the chapter will introduce ideas applicable to future bonus schemes.

9.1 Descriptive Analysis

The following section will discuss selected findings that warrant further examination. Namely, the respondents who do not receive incentive pay, considerations of effects on the variable pay mix, and interpretations of optimal pay structures. Additionally, the section will assess the applicability of the thesis's theoretical foundation. Alternative perspectives will be discussed where agency theory fails to explain the uncovered structures and implementation.

9.1.1 Does Incentive Pay Work?

The theoretical foundation on which the analyses are based assumes that *agents* are rational, utility-maximizing actors. The assumption met partial resistance as several CEOs responded that they are principally opposed to incentive pay, and stated alternative motivational factors and organizational ideologies. The appropriateness of alternative theorems and the scrutiny of *agency theory's* ability to accurately predict Norwegian CEOs' behavior find its relevance.

The absence of increased motivation and contribution to value-adding performance are frequently highlighted factors among opponents of incentive pay. Suggestively, it would be interesting to explore if alternate organizational theories have better explanatory ability of monetary incentives' absence. The fact that recommendations are primarily based on findings from U.S observations and that central studies are mainly from the 1980s and 90s should also be noted. The Nordic corporate governance model is globally regarded as a benchmark for how the interplay between owners, managers and shareholders should be conducted (The Economist, 2013). It is emphasized that its functions promote open dialogue between managers and owners, which indicates more *symmetrical information*.

Several studies have found that incentive pay hinders motivation, creativity, and in some cases, even performance. Eckartz & Kirchkamp (2020) conduct experiments where participants solve four different tasks where one is creativity-based, one is intelligence-based and the remaining two are repetitive tasks

requiring virtually no skill. Irrespective of the type of task, findings reveal that financial incentives do not affect performance on a collective or individual level, but rather depend on the individual's characteristics. Brennan (1994) argues that individuals are not merely seeking to maximize their monetary utility, but motivation stems from intrinsic values and physiological predispositions. Kohn (1993) supports the argumentation and adds that extrinsic motivators erode intrinsic motivation, and financial incentives may negatively affect performance and innovation. Donaldson & Davis (1991) also acknowledge the shortcomings of *agency theory* and introduce the alternative *stewardship theory* to address the abovementioned psychological- and behavioral premises that shape motivation amongst top executives.

Several responses analyzed in section 7.3 show signs of these qualities, which may indicate that a proportion of Norwegian CEOs are intrinsically motivated, and their behavior and decision-making may be better explained by *stewardship theory*. The findings spark the opportunity for further research on CEO psychology and stewardship, which would contribute to a more nuanced perspective on incentive pay, or the lack thereof, on owner-manager interest alignment. A qualitative study from a sociological standpoint would be appropriate to investigate CEOs' personality types and incentive fits to optimize future bonus schemes or other interests aligning corporate governance functions.

9.1.2 Balance of Variable Mix

The analyzed CEOs have incentive schemes constituting, on average, 26,4% of their total compensation. Bechmann & Nielsen (2012) survey managers of private Danish companies, asking what they deem an optimal variable share, where results uncovered 39%. A similar approach to surveying CEOs' opinions would provide a valuable perspective on how Norwegian CEOs perceive their pay mix, and other design elements. Yet, over half of the sample are involved in designing their own schemes, why it is plausible that a degree of ability for CEOs to affect their pay- and thus the relative size of it – is already present. This is in stark contrast to literature's- and intuitive recommendations, as bias is easily introduced. This raises the question of whether bias is more present in a Norwegian setting than in the study's compared proxies. However, if Norwegian CEOs, as indicated, lean towards a steward mentality, the bias of co-designing schemes with owners would be less severe.

Moreover, the variable share of 26,4% is notably smaller than the Norwegian listed counterpart's share of 43% (Fernandes et al., 2013). As listed firms are subject to stricter corporate governance controls, a higher variable mix might conceivably be a product of governmental recommendations or a bi-product of legislation. Managers of listed companies also have a higher degree of fiduciary responsibility for shareholders, which are plenty in contrast to unlisted firms. The ownership concentration is, in other words, far more dispersed, why it can be questioned if a correlation between a higher performance-

based proportion of pay is contingent on these factors. A final remark is that listed firms have the advantage of effortless comparison to competing peers' pay packages. Groysberg et al. (2021) point out that firms in competing markets want to offer compensation contracts that are “just above the median” in terms of attractiveness, and when all firms do this, the median keeps rising. This could further explain the listed firms' larger variable pay mix.

Accordingly, a deep-dive comparative study between listed and unlisted companies would uncover interesting insights. In extension to comparing legislation's effect on incentive schemes, measuring the pay mix and its constituent's impact on performance, motivation and retention would further contribute to the Norwegian academia on corporate governance.

As pointed out by Petersen et al. (2017), there is no “one-size-fits-all” solution to the design of incentive schemes. The design's effect on performance depends on the industry, the nature of the firm and the CEO's personality characteristics. A final recommendation would therefore be to conduct qualitative research on what variable share CEOs would prefer, where optimal effects on motivation, creativity and innovation would be examined across industries. An appropriate foundation for such a study could be the Business Chemistry® test (Deloitte, 2022). Such an extensive personality test to map individual traits and motivators would be a scientific approach to optimize incentive schemes.

9.2 Results from Regression Analysis

Among the five formulated hypotheses, three were identified as drivers of incentive pay. Throughout the section, a discussion on the shortcomings in methodology and definition of variables will find its relevance, as alternative methods could refine results. For the hypotheses that did not find support, the discussion will focus on alternative interpretations and understanding specific to the respective population. The contemporary relevance of the literature will thus be questioned, and future research will be proposed.

9.2.1 Ownership Concentration

The analysis fails to determine *Ownership concentration* as having any significant effect on incentive pay prevalence. As the reviewed literature is two-folded and finds both positive and negative relationships, it lays a foundation to question the validity of our chosen variable, proxied by the company's largest shareholder.

The population and dataset included family-owned firms. The largest shareholding in such companies does not typically dictate the influence and power, as additional chunks of ownership are dispersed

through other family members (Acuña et al., 2014). The actual influence is presumably of greater nature, where the majority owners act on behalf of passive shareholders. However, it would be speculative and irrational to generalize that all family-firms function as a common collective decision-making unit, as internal conflicts of personal-and company interest often occur (Alderson, 2015). Yet, interesting ideas within the *rotten kid theorem* concerning CEO pay could also be explored and support the notion; that family members (shareholders) act on behalf of others (voting rights) if their financial incentives are properly aligned (Bergstrom, 1989).

Other proxies for ownership concentration, such as definitions of categories (dummy variables), and the Herfindahl-Hirschman Index (HHI) that measures the market concentration, was also considered. The latter has frequently been applied by researchers and is here defined as the sum of the squared shareholdings within the firm (Rafique Yasser et al., 2017). Hence, the ratio includes all shareholders and provides most weight to more prominent owners. The HHI ratio increases if a shareholder receives more stocks at the expense of other shareholders. It is thus compelling that the concentration would rise with a decrease in CEO shareholding. Given the *separation ratio*, the HHI ratio may, *ceteris paribus*, shed light on *agency problems* within our dataset, as a higher rate could implicate a greater separation of ownership and control.

Nevertheless, it is also plausible that ownership concentration is not a driver of incentive pay in the Norwegian setting. Yet, Plenborg et al.'s (2010) research from Denmark finds that concentration measured on different proxies explains variations in CEO pay and that family firms are more generous in their compensation. This encourages future studies on both the prevalence of incentives with other proxy variables and how CEO compensation contracts are structured in family-owned firms, compared to other unlisted companies.

9.2.2 Firm Complexity

In harmony with all reviewed literature, the thesis found support in both analyses that the use of incentive pay increase with firm complexity, regardless of proxy. However, despite the pooled variable's holistic benefits, the marginal interpretation is challenged. Yet, the proxy is deemed adequate to better deal with potential noise arising from the application of one measure. For instance, *Total assets* could materialize a distorted picture of complexity between capital-light and heavy industries, such as consumer goods and industrials. Professional services and IT also differ in the reliance on human capital, and *Employees* do not necessarily constitute a homogenous proxy for business complexity.

A proposed solution to increase the variable's applicability of interpretation, is to transform the continuous variable into categorical variables with respective intervals for *Employees*, *Total assets*, and

Net sales. A bid on such intervals can be found in Appendix 18, which comprises four interval levels of complexity, based on the quartiles of the PFC distribution. An alternative means of enhancing marginal interpretability would be to multiple the PFC values by a thousand, lowering the odds ratios, enabling simpler interpretation of a unit increase of change.

Nevertheless, the literature is ambiguous and contradictory on what is the best determinant for firm complexity, and argues that the majority of existing metrics are misspecified, one-dimensional or unavailable (Cole & Mehran, 2016; Loughran & McDonald, 2020). In addition to the predominant measures on firm size, incurred risk, geographical diversification and expenses to professional services have been applied more recently. The thesis thus encourages future research to explore proxies that best provide explanatory power to complexity in a Norwegian business setting.

9.2.3 CEO Shareholding

The *principal-agent model* inspired the perception that equity ownership may offset the need for incentive compensation, and finds support within our population. Despite the strong negative correlation, 62% of those with ownership also receive incentives. The findings are similar to those of Plenborg et al. (2007), implying that bonus schemes generate motives beyond what ownership provides. Nonetheless, the average equity share among CEOs who receive incentives and those who do not is 2,6% and 7,8%, respectively. It is thus argued that the substitution effect is evident within the Norwegian sphere, implying that shareholding and rights to dividends have the potential to reduce the risk of *moral hazard* and *agency costs*.

The threshold for when shareholding eliminates the need for other incentives is questionable and not addressed in the thesis. Such a cut-off point is likely to be heterogeneous, depending on various underlying factors. Nevertheless, a benchmark could provide a useful guidance tool for principals in designing compensation packages and balancing the “ideal” path between forms of compensation, *agency costs*, and allocation of ownership. The literature on when *agency problems* cease in this relation is limited, and future research on determinants of such is thus encouraged. The dataset also points to an intriguing exploration of why some respondents are incentivized, and some are not, despite having the same ownership stake. A qualitative study is deemed appropriate to uncover owners’ rationale for introducing incentive pay to CEOs with and without ownership.

The literature review also introduced the *CEO horizon problem*, where shorter career horizons may lead to risk-averse actions that could be detrimental to the firm (Cho & Kim, 2017). Research finds that junior and senior CEOs are more prone to *short-termism* to obtain a managerial reputation and retirement safety. Theory suggests that stock remuneration should be more widespread among these demographic

groups, yet no patterns are discovered in the data set. Further research is thus advocated to explore the extent to which *principals* actively employ stocks to mitigate *horizon problems* and/or to secure commitment to risky innovation strategies.

9.2.4 Company Leverage

The hypothesis inspired by Jensen (1986)'s findings on the disciplinary effect of debt finds no support. This is despite the fact that former studies in a listed Nordic setting have found an inverse relationship between executive pay levels and leverage. The results again indicate that the CEO-owner relations in the Norwegian unlisted setting are, to a larger extent, built on trust and stewardship-inspired ideals, and owners and BoD's are less concerned with *moral hazard*. Another reason could be that the expected inverse link between debt and the mere prevalence of incentive pay is perhaps farfetched. Previous studies have found inverse relationships to pay levels, which rationale is sound as covering debt obligations would naturally be prioritized over additionally compensating the CEO. However, disregarding bonus schemes entirely due to high debt levels is conceivably an overly dramatic measure.

Edmans & Liu (2011) reason that shareholders ultimately carry the agency costs incurred by other stakeholders and that CEOs should be awarded accordingly to the company's value, rather than equity alone. They hence rectify that compensating managers with a mix of equity- and inside debt instruments (e.g., pension, bonds, and credit ratings) would reduce *agency costs of debt* and are significant components in CEO pay. Lee (2020) further finds that inside debt compensation promotes- and is positively correlated with long-term innovation activities, thus attenuating the risk of *horizon problems*. Employment of inside debt instruments may also be a steering tool for desired risk exposure, as higher levels reduce adaptation of risky investments, borrowing costs and CEOs' inclination towards *earnings management* (Aboody & Kasznik, 2000; H. L. James et al., 2020). Despite the above argumentation for a new model for CEO pay, none of the respondents in the dataset expressed that any of their variable measures are tied to debt. It is encouraged to investigate if the abovementioned benefits of inside debt instruments hold water in a Norwegian private context, and the rationale for its absence.

9.2.5 Foreign Owner

The analysis confirms that CEOs employed in companies with ultimate foreign ownership are ~3,9 times more likely to receive incentive pay. Although none of the reviewed literature has tested this specific relationship, we uncover that the determinant is a highly significant driver. However, this was primarily motivated by two findings in literature; i) that it may be introduced to alleviate physical- and cultural distance to offset poor monitoring quality, ii) and that norms for more variable pay in foreign countries influence domestic contracts. Yet, what drives the prevalence among the foreign-owned companies

within the dataset is ambiguous and calls for further investigation. Oxelheim & Randøy's (2003) argumentation that foreign board members increase corporate governance further motivates research on foreignism's effect on firm performance, *agency costs* and investor confidence in a Norwegian setting.

Although section 4.2 on geographical considerations reveals that the variable pay mix varies prominently between the U.S. and Norway, Appendix 19 does not indicate such a deviation in the dataset. Based on the incentive pay in % of total salary on a three-year average, domestic and foreign-owned companies have variable shares of 26% and 27%, respectively. This could be biased, as the majority of foreign-owned companies in Norway stem from Scandinavian neighbors with similar mixes. Thus, further analysis with dummy variables applied to specific countries could provide a nuanced picture of their effect on both key design elements and the variable pay mix.

9.3 Future Bonus Schemes and Research

As discussed in section 3.5.2, there has recently been an upsurge of ESG measures in executive pay packages. The world is facing major societal- and climate challenges, and the World Economic Forum's (2022) Global Risk report, states climate change as the current number one problem threatening the world. Over a sustained period, a green shift has taken place in business and stakeholders increasingly demand that firms act sustainably and take ESG action, beyond increasing shareholder value. ESG reporting has since 2013 been required by law for the largest Norwegian listed companies, and significant links between corporate ESG practices and profitability are, in many cases, apparent (Bryne & Sjøthun, 2021).

Focus on ESG reporting is further profoundly entrenched in the financial sector. Beyond controlling that reporting fulfills what is generally required, sustainability, social conditions and business ethics have become critical qualitative aspects investors assess when making investment decisions (Johansen et al., 2022). As specified by the heads of- ESG research and institutional clients at Norway's largest private capital fund, Storebrand Asset Management:

“The future winners of business are those who develop products in a way that combines global societal and environmental challenges with its own profitable growth” (Norum & Meisingset, 2011).²

The fact that Norum and Meisingset stated 11 years ago that the long-term success of corporations is contingent on actively incorporating ESG measures, suggests that stakeholders now negatively perceive companies whose ESG agenda is weak or non-existent. ESG considerations have recently extended to

² The citation has been translated for purpose of the reader.

compensation as well, where ISS (2021a) currently recommends that incentive pay packages ought to include at least one ESG metric. It is unlikely that managers, in the absence of such metrics in their bonus structure, will make decisions that unnecessarily contradict sustainability. However, their implementation is likely to establish ESG as an embedded focus of the company, and if not secure its future success, at least mitigate the negative perceptions and *opportunity costs* of its absence (Rapier, 2021). Considering the development and legislation covering listed firms, it is likely that ESG metrics will see a rise in pay schemes of unlisted firms as well. As uncovered in the descriptive analysis, such standards are currently included in a mere 10% of contracts. The relatively low current prevalence could also indicate that since ownership in private firms is less dispersed, shareholder pressure and demand for ESG action is less intense.

Further examination of the current- and future prevalence of ESG metrics, along with the design and effects of such schemes, would therefore make for a value-adding study. The research would be highly relevant in today's business environment and contribute to unlisted companies' ability to navigate the green shift.

Pressure is further likely to vary depending on the individual firm's nature and purpose. As CEOs have been the thesis's focal actor within the *PA relationship*, principals' motivation has partly fallen outside the scope. Hence, it would be interesting in future studies to investigate what principal's objectives are with their firms, beyond profits. While focusing on ESG might be imperative for some, its short-term cost of implementation could be too high or tradeoff too low, and perhaps not as relevant for others (Kilbey, 2020). Therefore, a study with an increased focus on principals' motivations and motives would provide a more complete view of incentive pay's effect on Norwegian unlisted companies.

A final recommendation would be to examine the effects of implementing incentive schemes with intangible rewards that emphasize intrinsic- rather than extrinsic motivation. It would be fascinating to see if these incentive schemes provide the desired effect on CEOs, owners, and firm profitability.

Optimally, longitudinal studies of the above-discussed factors would be preferred, as the development is highly interesting. The green shift is an ongoing development, and intrinsic motivation is a factor in which focus has recently increased. Alternatively, systematic cross-sectional studies on the abovementioned could, in the future, be used to construct meta-analyses. Research on motivation would further call for a more qualitative approach, as is appropriate for investigating behavior and psychological factors.

As described in section 1.3., the thesis excludes certain factors from the scope of the study and has purposefully failed to address the implications of, e.g., taxes and the Covid-19 pandemic. This was deemed necessary given the limited time at the authors' disposal and has, in turn, facilitated a thorough analysis of the study's central focus, i.e., the current prevalence, structures and drivers of incentive pay. It is, however, acknowledged that the study's findings must be interpreted in the context of the tested environment. Covid-19, for example, might have had an impact on the prevalence and the study's findings would plausibly be different had we examined the same sample in 2019. Likewise, further examination of the optimality and incentive schemes' effect on performance across industries would narrow the scope and provide a more granular level of understanding.

The point should thus be made, that supplementary- and more refined studies should be conducted to fully accept- or reject this study's findings. With regard to the abovementioned discussion, new findings will be strengthened if studies are conducted with a combination of qualitative and quantitative approaches.

Chapter 10: Conclusion

The thesis motivation was sparked by the void of country-specific research, despite unlisted companies accounting for 99% of Norwegian firms. The fact that 275 CEOs exercised the option to receive the thesis and results emphasizes the field's pertinence and lack of transparency.

The thesis has, across five chapters, sought to answer the research questions through the application of *agency theory*, empirical data and two analyses, to supplement the academic literature on executive incentive schemes in non-owner-managed Norwegian unlisted companies. As a result, the thesis has investigated the structures and prevalence of incentive schemes, and the extent to which the literature's suggestions for bonus scheme design are followed. This has been achieved through primary data collection in the form of a survey distributed to 3.012 CEOs, and secondary data collected through Orbis, Valu8, and Python Selenium scripts scraping relevant websites. The extensive data collection enabled, to the authors' knowledge, what is the most comprehensive empirical study on unlisted Norwegian incentive schemes ever conducted, with 501 respondents. A z-test ensured that the sample was representative for the population.

Agency theory has laid the theoretical foundation to explain the rationale behind incentive pay and its intended effects. With the assumption that both parties are financially motivated actors seeking to maximize their utility, there is a divergence of interests in the *PA relationship*, exacerbated by *asymmetrical information*. Achieving symmetrical information through direct monitoring is both time-

and resource-heavy; why *principals* may implement incentive schemes to financially incentivize specific goals, steering the *agent's* focus toward desired achievements. Although legislation on unlisted companies is limited, institutional recommendations further lay a basis for incentive pay practices. Proxy advisors recommend designing schemes that are influenceable, encourage long-term value, and recently, promote profitability under social and environmental conditions, indicating an increased focus on ESG in future bonus schemes.

A myriad of academics have examined how incentive schemes should be optimally designed to mitigate the *agency problem*. Through an extensive review of central research, several recommendations on bonus scheme design and determinants of incentive pay were identified. The material's geographical and empirical backgrounds were considered, and the most prominent applicable findings were applied to formulate five hypotheses. Several advantages and disadvantages accompany each design element, why academia offers no indication of an optimal pay package. As firms are highly homogenous, it is imperative that principals strategically design incentive schemes that desirably link the agent's compensations to desired firm outcomes.

There are three design elements to determine, i) What measures the *agent* should be measured on, ii) the standard they should be evaluated against, and iii) the pay-to-performance relation. The pay scheme should be objectively designed, but can be objectively or subjectively evaluated.

The descriptive analysis uncovered that incentive pay is commonly awarded, as 348 (69,5%) CEOs have performance-related pay as a part of their compensation. The 153 (30,5%) CEOs without incentive pay, were qualitatively examined. Aggregated, there are three prevailing reasons for the absence of incentive schemes, namely, incentives through ownership and dividends, firm-specific inexpediency or general disbelief that extrinsic motivators drive performance. The latter antithetically indicates that certain CEOs are intrinsically motivated. Despite ownership being a listed reason for the absence of an incentive package, 62% of shareholding CEOs are additionally incentivized through schemes.

Prevalence increases with firm complexity, and the variable share to total compensation averages 26%. Cash bonuses are the most frequent compensation component, awarded to 96% of incentivized CEOs, while stocks, options and retention bonuses are granted 16%, 4% and 11%, respectively. Most CEOs' performance is objectively evaluated, 57% of which on a stand-alone basis, while only 4% are solely subjectively assessed. This is further reflected in the choice of performance measure, where 96% are measured on accounting-based metrics, and most prominently EBITDA with 43%. Absolute measures and internal standards outweigh the relative and external, where merely 11% and 6,5% are measured on the latter, respectively, despite the literature's recommendation that they are superior. 48% are

measured on NFPMs with an average of 2,4 metrics per contract, almost exclusively combined with financial measures in line with recommendations. Despite negligence in previous research due to alleged irrelevancy, market-based measures are prevalent in 22% of contracts. Firm valuations are primarily conducted by external auditors and M&A advisors, indicating a future sale of the company. As an advocated design element by research, 30% combine accounting-based- and NFP measures, while 16% combine all three. With dominant weighting to accounting-based measures, the combinations' weighting of the groups are 68%/32% and 53%/26%/21%.

In the choice of pay-to-performance relation, the variable structures are heavily favored and utilized by 90% of CEOs. Herein, 64% have a floor and cap, 14% have a floor, but no upper limit and 13% are linear, where negative bonuses occur in the event of poor performance. Accordingly, only 45 firms follow the prevailing recommendation from literature and the OECD, assumingly to hedge for extreme outcomes in either direction. The sharpest contradiction to recommendations comes in the form of bias, as over half of CEOs are directly involved in designing their own pay package.

Overall, it can be concluded that there is a wide variety in how CEOs are compensated. Generally, accounting-based- and particularly income-based absolute metrics are set as performance measures, pay-to-performance relations are variable, and internal standards are relied on.

Five hypotheses on predicted drivers of incentive pay were formulated based on determinants prescribed in the literature, and tested through a *binary logistic regression*.

The literature suggests that when ownership is concentrated, larger owners implement incentive schemes as a complementary control to direct monitoring to regain control. The regression model does not find support for such a relationship. Potential factors influencing the variable's statistical performance include the utilized proxy - largest shareholder's equity stake, and the fact that the sample included family-owned firms, in which ownership power dynamics are ambiguous.

Per the reviewed literature, a significant positive relationship between firm complexity and incentive pay prevalence is identified. The association is somewhat of a stylized fact as numerous studies have found a significant relationship, proxying complexity on various metrics. The model utilized a proxy combining net sales, total assets and the number of employees to create a nuanced and robust variable with explanatory power across industries and firm idiosyncrasies.

Based on underlying assumptions of *agency theory*, qualitative responses on incentive pay substitutes and indicators from the descriptive analysis, a negative relationship between CEO shareholding and

incentive pay was predicted and confirmed. Simultaneously, 62% of shareholding CEOs also receive bonus pay, inspiring further investigation of a critical threshold point at which shareholding eliminates the need for additional incentives.

The disciplinary effect of debt prescribed by Jensen (1986), inspired the hypothesis that incentive pay prevalence decreases inversely to a firm's debt levels. The regression fails to identify a relationship. Subsequent to testing, the hypothesis was deemed speculative as previous studies have found a negative relationship between absolute pay levels and debt. The sheer prevalence of bonus schemes as an inverse function of leverage is admittedly more farfetched. Moreover, as most previous research examines listed companies, where ownership is vastly more dispersed, the CEO's responsibility for shareholders is arguably greater, and underperformance is more detrimental to reputation in regard to sanctions.

Foreign ownership had a potential effect on incentive pay based on two distinct indicators. Studies on foreign board representatives and compensation have found a positive correlation due to foreigners' compensation norms. Moreover, as foreignism has an intuitive detrimental effect on direct monitoring, a positive correlation between foreign ultimate ownership and incentive pay prevalence was hypothesized, and a significant relationship was identified. The analysis provides no further explanation as to which of these indicators ultimately drives the prevalence, and this could be subject to investigation in future studies.

The research question has been continuously addressed throughout the thesis, and have succeeded in uncovering how incentive schemes are structured in Norwegian unlisted firms. Concerning recommendations, some elements are consistent with those prescribed in *agency theory*, but overall, the structure of incentive schemes cannot be defined as closely aligned. Absolute accounting-based metrics grossly outweigh relative ones, internal standards are favored over external, alternative pay-to-performance relations are favored over the linear structure, and perhaps most conflicting, over half of CEOs are involved with the design of their pay packages. As such, *agency theory* may not be the most appropriate theorem to describe owner-manager relations in the Norwegian setting, inspiring further investigation of alternative theorems such as *stewardship theory*. CEOs seem less concerned with myopic and earnings-manipulative CEOs, indicating a relationship built on trust and managerial stewardship. The findings on drivers are further non-exhaustive, as there are likely a magnitude of additional determinants- and alternative theorems that can shed light on factors determining incentive pay. The thesis has presented several suggestions for future research that could build on our study. Our findings on design optimality have resulted in additional questions rather than a definitive answer. We therefore endorse the use our dataset in future research, on firm performance relation to incentive schemes designs.

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Chapter 12: Appendices

Appendix 1: The Survey Questionnaire [Source: Own contribution; Qualtrics]

NB! See separate PDF file for the complete questionnaire.

Note that the appendix has been automatically translated to English for the purpose of the reader, whilst the questionnaire initially was distributed in Norwegian.

Appendix 2: Personalized E-mail to CEO [Source: Own contribution; Qualtrics]

NB! Note that the letter has been automatically translated to English for the purpose of the reader, whilst the e-mail initially was distributed in Norwegian.

Dear \${m://FirstName},

We are two students who write to you as part of our survey on the use of bonus schemes in the Norwegian business community. The study is carried out as part of our master's thesis at Copenhagen Business School (CBS), and is in collaboration with Professor Steffen Brenner, who is the supervisor of the project.

Our research area aims to shed light on how Norwegian unlisted companies use bonus schemes as part of the salary package for the CEO, and whether these correspond to the literature's recommendations. Knowledge in this area is relatively limited in the Norwegian arena, which motivates us to make managers wiser about the effect of salary structures on value creation in the company.

In this connection, we ask for your help in answering our short survey about the bonus scheme for the CEO in \${m://ExternalDataReference}, which is estimated to take approx. 5-7 min. **It is noted that the answer will be 100% confidential and will only be used in aggregate form;** neither your nor your company's name will be included in the analyzes. It will not asked about the size of salaries.

We have manually screened approx. 5,000 companies, and found your company information through the database Valu8, subject to a number of search criteria such as. ownership structure, size and company form etc.

As the survey concerns bonus schemes for the CEO, it is our intention that the e-mail reaches her/him. If, contrary to expectations, the e-mail has not reached the company's top manager, we hope that you will forward it to the right recipient.

The questionnaire can be answered by clicking on the following link: \${l://SurveyLink?D=Bonus+schemes%20i%20norwegian%20unlisted%20companies}

If desired, it is possible to have both the survey and the master's thesis sent to you at the end of May. Feel free to contact us for questions or anything else on sval17ab@student.cbs.dk or bebo20af@student.cbs.dk.

With best regards,

Sverre Thu Albech & Bendik Treider Bonesmo
MSc in Economics and Business Administration

Cf. the Personal Data Act, you have the opportunity to unsubscribe from several e-mails from us. This can be done by \${l://OptOutLink?d=klikke%20her.}

Appendix 3: Personalized Reminder E-mail to CEO [Source: Own contribution; Qualtrics]

NB! Note that the letter has been automatically translated to English for the purpose of the reader, whilst the e-mail initially was distributed in Norwegian.

Dear \${m://FirstName},

One week ago, we sent you an e-mail in connection with a survey on bonus schemes in the Norwegian business community. We have received many answers, but would like your answer as well. We emphasize that we also want answers from you that are not covered by bonus schemes. Below you will find the original email sent to you.

We are two students who write to you as part of our survey on the use of bonus schemes in the Norwegian business community. The study is carried out as part of our master's thesis at Copenhagen Business School (CBS), and is in collaboration with Professor Steffen Brenner, who is the supervisor of the project.

Our research area aims to shed light on how Norwegian unlisted companies use bonus schemes as part of the salary package for the CEO, and whether these correspond to the literature's recommendations. Knowledge in this area is relatively limited in the Norwegian arena, which motivates us to make managers wiser about the effect of salary structures on value creation in the company.

In this connection, we ask for your help in answering our short survey about the bonus scheme for the CEO in \${m: // ExternalDataReference}, which is estimated to take approx. 5-7 min. **It is noted that the answer will be 100% confidential and will only be used in aggregate form;** neither your nor your company's name will be included in the analyzes. It will not asked about the size of salaries.

We have manually screened approx. 5,000 companies, and found your company information through the database Valu8, subject to a number of search criteria such as. ownership structure, size and company form etc.

As the survey concerns bonus schemes for the CEO, it is our intention that the e-mail reaches her/him. If, contrary to expectations, the e-mail has not reached the company's top manager, we hope that you will forward it to the right recipient.

The questionnaire can be answered by clicking on the following link: \${!://SurveyLink? D = Bonus schemes% 20% 20norwegian% 20unlisted% 20 companies}

If desired, it is possible to have both the survey and the master's thesis sent to you at the end of May. Feel free to contact us for questions or anything else on sval17ab@student.cbs.dk or bebo20af@student.cbs.dk.

With best regards,

Sverre Thu Albech & Bendik Treider Bonesmo
MSc in Economics and Business Administration

Cf. the Personal Data Act, you have the opportunity to unsubscribe from several e-mails from us. This can be done by \${!://OptOutLink?d=klikke%20her}

Appendix 4: Return on Invested Capital (ROIC) [Source: (Petersen et al., 2017)]

ROIC defines a company's profitability of operations, regardless of its financed.

Formula:

$$ROIC = \frac{EBIT}{Avg. Invested Capital}$$

Where,

- $Invested\ Capital = Equity + NIBD + Minority\ Interests$

If $ROIC_{After\ Tax}$, EBIT may be substituted by NOPAT:

$$NOPAT = EBIT \cdot (1 - TAX)$$

Appendix 5: Return on Equity Capital (ROE) [Source: Petersen et al., 2017]

ROE indicate a company's profitability of operations, including the effect of financial gearing.

Formula:

$$ROE = \frac{Net\ Income}{Avg.\ Shareholder's\ Equity}$$

ROE in relation to ROIC:

$$ROE = ROIC_{A.T.} + (ROIC_{A.T.} - NBC) \cdot \frac{NIBD}{Equity}$$

Where,

- $ROIC_{A.T.}$ = ROIC after tax.
- NBC = Net borrowing cost
- NIBD = Net interest bearing debt

Appendix 6: Economic Value Added (EVA) [Source: Petersen et al., 2017]

EVA express a company's true profit, and includes the company's risk profile through WACC.

Formula:

$$EVA = Invested\ capital \cdot (ROIC - WACC) = NOPAT \cdot (ROIC - WACC)$$

Where,

$$WACC = \frac{Equity}{Equity + NIBD} \cdot R_E + \frac{NIBD}{Equity + NIBD} \cdot R_D \cdot (1 - TAX)$$

Where,

- R_E is cost of equity, that can be found using the capital asset pricing model:
 - $R_E = R_F + \beta_E \cdot (R_M - R_F)$
- R_D is cost of debt, derived from the risk-free rate and an addiotnal risk premium:
 - $R_D = R_F + R_P$

Appendix 7: Sample Data Set – Raw

NB! See the separate Excel file for the complete data set for the sample. Due to the confidentiality of respondents, parts of information have been partially- or completely removed.

Appendix 8: Definitions of Industry Classifications [Source: Own contribution; MSCI (2022)]

Industry	Definition
Construction	The branch of manufacturing and trade is concerned with the construction, maintenance and repair of structures, e.g., infrastructure and buildings.
Consumer Goods	Companies engaged in production and/or sales of renewable and non-renewable consumer goods for private end-consumers, e.g., foods and electronics.
Consumer services	Companies engaged in providing services to private consumers, e.g., HoReCa and education/training services.
Energy & Utilities	Companies that provide or are involved in the value-chain for basic amenities, such as electric, water and gas.
Financials & Real Estate	All private financial institutions and companies are involved in real estate investment, both land and buildings.
Industrials	The sector includes companies that produce and distribute capital goods used in manufacturing, e.g., machinery- and electrical equipment. Note that <i>construction</i> and <i>professional services</i> are not included in this sector.
IT	Companies that offer information technology, integrations service, software, IT consultancy service and other computer systems.
Materials	Companies involved in the extraction of commodities, such as wood, metals and construction materials.
Professional Services	Services requiring special training/education, such as management consultancy and legal activities.
Telecom Services	Companies are involved in communication services on a large global scale, often through the internet of cellular networks. Also, include media companies.
Transportation & Logistics	Both domestic and international transport of goods and passengers through e.g. trains, vessels, cars and planes.

Appendix 9: T-Test for Non-Response Bias: Total Assets [Source: Own contribution]

$H_0: \text{Asset Sample (LN)} = \text{Asset Population (LN)}$

$H_1: \text{Asset Sample (LN)} \neq \text{Asset Population (LN)}$

Variance Sample (LN)	1,887474974
Variance Population (LN)	1,990737686
Rule of Thumb	0,948128418

There is no difference, hence assuming equal variance

T-Test: Two-Sample Assuming Equal Variances

	Assets Sample (LN)	Assets Population (LN)
Mean	2,9500	2,8915
Variance	1,8875	1,9914
Observations	501	3012
Pooled Variance	1,9766	
Hypothesized Mean Difference	0	
df	3511	
t Stat	0,8618	
P(T<=t) one-tail	0,1944	
t Critical one-tail	1,6453	
P(T<=t) two-tail	0,3889 < 5%	
t Critical two-tail	1,9606 > t stat = 0,86	

We fail to reject the H_0 hypothesis.

Appendix 10: Chi-square Test for Non-response Bias: Size Classification [Source: Own contribution]

Variable	Population (Excl. respondents)		Respondents	
	#Number	%	#Number	%
Medium	1.564	62%	306	61%
Big Medium	513	20%	107	21%
Large	434	17%	88	18%
Total	2.511	100%	501	100%

Variable	Size Classifications Actual Frequency		
	Population (excl. Resp)	Sample	Total
Medium	1.564	306	1.870
Big Medium	513	107	620
Large	434	88	522
Total	2.511	501	3.012

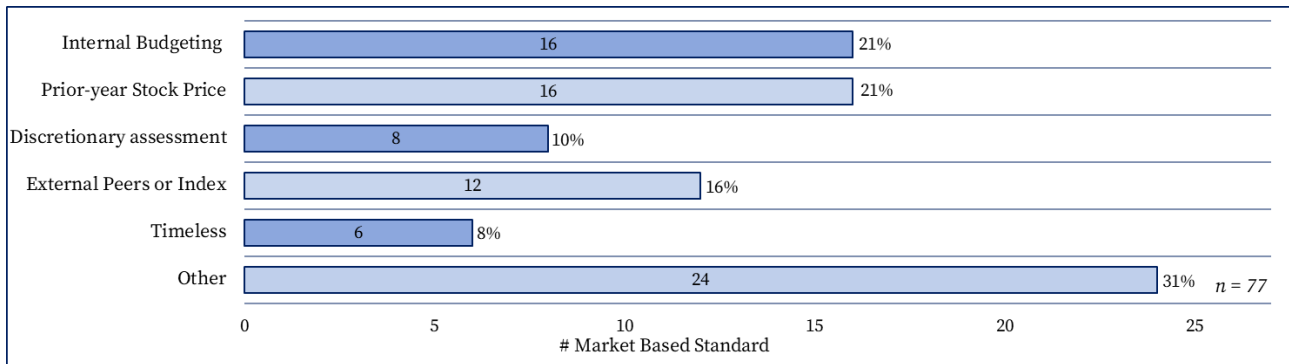
Chi-Square Test: Size Classification

Variable	Expected Frequency	
	Population (excl. Resp)	Sample
Medium	1.559	311
Big Medium	517	103
Large	435	87
Total	2.511	501

CHISQ.TEST: P Value 0,864316271 < 5%

The observed frequencies capture the expected frequencies.

Appendix 11: Distribution of Market-based Performance Standards [Source: Own contribution]



Appendix 12: Mathematical Explanation of Logistic Regression [Source: Own contribution; Biehl, 2020]

Linear regression,

$$Y^{(i)} = \beta_0 + \beta_1 x_1^{(i)} + \dots + \beta_p x_p^{(i)}$$

Transformed into the logistic regression (values limited to the interval [0,1],

$$P(Y^{(i)} = 1) = \frac{1}{1 + \exp[(\beta_0 + \beta_1 x_1^{(i)} + \dots + \beta_p x_p^{(i)})]}$$

Isolating the linear term,

$$\log\left(\frac{P(y = 1)}{1 - P(y = 1)}\right) = \log\left(\frac{P(y = 1)}{P(y = 0)}\right) = \beta_0 + \beta_1 x_1 + \dots + \beta_p x_p$$

Appendix 13: Variance Inflation Factor (VIF) [Source: Own contribution; STATA]

Variable	VIF	1/VIF
Industrials	7.40	0.135217
Professional Services	6.63	0.150867
Consumer Goods	4.81	0.207915
Construction	4.06	0.246223
IT	3.25	0.307825
Consumer Services	2.99	0.334420
Financials & Real Estate	2.71	0.368509
Transportation & Logistics	2.34	0.427716
Telecommunication Service	2.23	0.448359
Materials	2.17	0.461469
Energy & Utilities	1.84	0.542185
Foreign Owner	1.69	0.590819
Ownership Concentration	1.65	0.605433
CEO Shareholding	1.21	0.828137
CEO Tenure	1.11	0.903666
Complexity	1.06	0.940947
Company Leverage	1.04	0.958223
CEO Duality	1.04	0.958395
Mean VIF	2.74	

Appendix 14: Correlation Matrix of Coefficients of Regression Model [Source: Own contribution; STATA]

	Ownership Conc.	CEO Complexity	CEO Shareholding	Company Leverage	Foreign Owner	CEO Duality	CEO Tenure	Construction	Consumer Goods	Consumer Services	Energy & Utilities	Financials & Real Est.	(O) Health Care	IT	Industrials	Materials	Professional Services	Telecom.	Transport.
Ownership Conc.	1																		
Complexity	0.0892	1																	
CEO Shareholding	0.0697	0.1034	1																
Company Leverage	0.0966	0.0356	0.0162	1															
Foreign Owner	-0.5774	-0.0559	0.1778	-0.0464	1														
CEODuality	0.0593	0.0061	-0.1236	-0.0066	-0.1017	1													
CEO Tenure	0.0595	-0.0777	-0.2464	-0.0070	-0.0785	0.0149	1												
Construction	0.0139	0.0524	-0.0479	-0.0019	0.0011	0.0748	-0.0418	1											
Consumer Goods	0.0003	0.0380	-0.0408	-0.0031	-0.0380	0.0352	-0.0645	0.7940	1										
Consumer Services	0.0419	0.0499	-0.0381	-0.0019	-0.0401	0.0496	-0.0527	0.7286	0.7473	1									
Energy & Utilities	0.0191	0.0199	0.0087	0.0063	-0.0991	-0.0029	-0.0597	0.5887	0.6135	0.5584	1								
Financials & Real Est.	0.0528	-0.0470	0.0427	-0.0031	-0.0134	0.0507	-0.1189	0.6967	0.7163	0.6566	0.5383	1							
(O) Health Care	.	.	.	.	.	.	.	.	.	.	.	.	1						
IT	0.0832	0.0697	-0.0212	-0.0019	-0.0803	0.0407	-0.0389	0.7393	0.7592	0.6977	0.5708	0.6668	.	1					
Industrials	0.0358	0.0475	-0.0356	0.0045	-0.0428	0.0648	-0.0402	0.8338	0.8551	0.7839	0.6396	0.7510	.	0.7977	1				
Materials	-0.0012	0.0248	-0.0207	0.0030	-0.0436	-0.0083	-0.0883	0.6480	0.6713	0.6119	0.5072	0.5894	.	0.6221	0.6995	1			
Professional Services	0.0398	0.0164	-0.0472	-0.0689	-0.0462	0.0488	-0.0563	0.8218	0.8443	0.7738	0.6315	0.7446	.	0.7870	0.8846	0.6917	1		
Telecom.	0.0076	0.0648	0.0268	-0.0028	-0.0470	0.0170	-0.0684	0.6563	0.6782	0.6192	0.5136	0.5949	.	0.6316	0.7090	0.5580	0.6987	1	
Transport.	0.0309	0.0208	-0.0164	-0.0046	-0.0157	0.0253	-0.0149	0.6745	0.6915	0.6339	0.5167	0.6092	.	0.6452	0.7260	0.5656	0.7166	0.5731	1

Appendix 15: Test for Linearity of Independent Variables and Log-odds [Source: Own contribution; STATA]

Model for Only Continuous Variables:

Y: CEOIncentivePay	Odds ratio	Std. err.	z	P>z	[95% conf. interval]
Ln(CompanyLeverage) * CompanyLeverage	0.9994343	0.0077078	-0.07	0.942	0.984441 1.014656
Ln(Complexity) * Complexity	1786027	2.18E+07	1.18	0.238	0.0000722 4.42E+16
Ln(CEOTenure) * CEOTenure	0.9722769	0.0264528	-1.03	0.301	0.9217885 1.025531

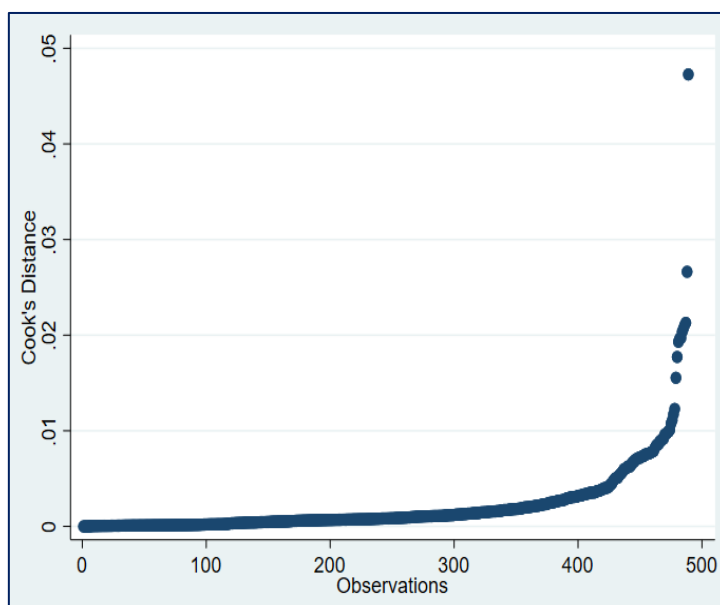
Model Also Checking for Percentage (Discrete) Variables:

Y: CEOIncentivePay	Odds ratio	Std. err.	z	P>z	[95% conf. interval]
Ln(OwnershipConcentration) * OwnershipConcentration	0.0923218	0.2299913	-0.96	0.339	0.0006995 12.18457
Ln(CEOShareholding) * CEOShareholding	6.656472	25.89981	0.49	0.626	0.0032455 13652.18
Ln(CompanyLeverage) * CompanyLeverage	0.9891841	0.0314099	-0.34	0.732	0.9294982 1.052702
Ln(Complexity) * Complexity	2.07E+63	1.62E+65	1.86	0.062	0.0005193 8.30E+129
Ln(CEOTenure) * CEOTenure	1.002449	0.050367	0.05	0.961	0.9084365 1.106191

Box Tidewell Test

Complexity	12.8426	5.259829	2.44 Nonlin.	dev. 1.128	(P = 0.288)
p1	1.995064	1.340693			
CompanyLeverage	0.008981	0.007272	1.24 Nonlin.	dev. 0.017	(P = 0.897)
p1	0.836798	1.155643			
CEOTenure	0.016236	0.010542	1.54 Nonlin.	dev. 0.344	(P = 0.558)
p1	0.370942	1.34035			

Appendix 16: Test for No Substantial and Influential Outlier: Cook's Distance [Source: Own contribution; STATA]



Appendix 17: Complete STATA Script.

NB! Please see separate PDF file for the complete STATA script.

Note several other STATA scripts were performed in trial and error, but that the script is complete for the discussions found in the thesis.

Appendix 18: Suggested Categorical Intervals for Pooled Complexity [Source: Own contribution]

Level	Pooled Complexity		Employees		Total Assets		Net Sales	
	Min	Max	Min	Max	Min	Max	Min	Max
Level 1	0.0025	0.0047	44	77	2.3	10.6	2.1	12.7
Level 2	0.0047	0.0074	78	122	10.7	48.3	12.8	41.0
Level 3	0.0074	0.0152	123	175	48.4	89.4	41.1	93.9
Level 4	0.0152	0.6723	176	7153	89.5	12208	94.00	4299

Appendix 19: Variable Pay-Mix: Foreign- and Domestic Owned Companies: Pay Mix [Source: Own contribution]

Incentive Pay in % Total Salary	<i>n</i>	Mean	Median	Mode	Min	Max	Std.
Foreign Owned	144	26%	25%	30%	1%	100%	18%
Domestic Owned	204	27%	20%	20%	1%	100%	20%