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Family Matters: Investigating Agency Problems Through CEO Compensation in Finnish Listed Family Firms

Empirical Evidence on Entrenchment and Alignment in Corporate Governance

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Abstract

Recognizing the governance dynamics of family firms is paramount due to their substantial global prevalence. Around 66 % of publicly listed firms in Finland fall under the category of family firms. Distinguished by their distinct traits, these family-owned businesses possess unique characteristics that profoundly influence their governance. This study investigates the impact of family ownership on CEO compensation within Finnish listed family firms and examines differences in remuneration between family and non-family firms from 2020 to 2022 with 379 firm-year observations using regression analyses. CEO compensation plays a crucial role in aligning shareholder and managerial interests and can reveal governance dynamics within family firms which remain underexplored.

This thesis adopts a robust theoretical framework that draws from diverse perspectives, including agency theories, socioemotional wealth, entrenchment theory, alignment theory, and prior research on CEO compensation. It emphasizes the heterogenous nature of family firms as an ownership type and highlights the significance of contextual factors in family firm research, addressing the often contradictory findings in the field.

Empirical findings from this study reveal consistent patterns in CEO compensation among Finnish listed family firms compared to non-family counterparts. Family-owned businesses tend to offer CEOs lower overall compensation and allocate a smaller proportion of short-term incentives relative to fixed payments. Moreover, these effects are more pronounced when the company is led by a family CEO. These findings provide evidence in favour of alignment theory, which suggests that family firms management and majority owners have naturally aligned interest with minority shareholders.

Keywords Agency problems, CEO compensation, Family firms, SEW,

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Tiivistelmä

Perheyritysten hallinnollisten erityispiirteiden ymmärtäminen on ratkaisevan tärkeää niiden merkittävän roolinsa vuoksi maailmanlaajuisena ilmiönä. Noin 66 % Suomen julkisesti noteeratuista yrityksistä voidaan luokitella perheyrityksiksi. Erottuen muista yritystyypeistä, perheyrityksillä on erityisiä ominaisuuksia, jotka vaikuttavat niiden hallinnoimiseen. Tämä tutkielma pyrkii selvittämään perheomistuksen vaikutusta toimitusjohtajan palkkioihin suomalaisissa listatuissa perheyrityksissä ja tutkii eroja palkitsemisessa perhe- ja ei-perheyritysten välillä vuosina 2020–2022 käyttäen 379 yritysvuoden havaintoja useassa regressioanalyysissä. Toimitusjohtajan palkkioilla on ratkaiseva rooli osakkeenomistajien ja johdon intressien yhteensovittamisessa ja ne voivat paljastaa hallinnollisia erityispiirteitä perheyrityksissä, jotka ovat jääneet vähemmälle huomiolle aikaisemmissa tutkimuksissa.

Tämä tutkielma omaksuu vankan teoreettisen viitekehyksen, joka ammentaa monipuolisista näkökulmista, kuten agenttiteoriasta, sosioemotionaalisesta vauraudesta, johdon linnoittautumista, yhteneväisyysteoriasta sekä lukuisista aiemmista tutkimuksista toimitusjohtajan palkitsemiseen liittyen. Tutkielma korostaa perheyritysten heterogeenista luonnetta omistustyyppinä ja nostaa esiin kontekstuaalisten tekijöiden merkityksen perheyritysten tutkimuksessa, käsitellen samalla aikaisempien tutkimusten usein ristiriitaisia havaintoja.

Tutkimuksessa ilmenneet havainnot paljastavat yleisiä ilmiöitä toimitusjohtajan palkitsemisessa suomalaisissa listatuissa perheyrityksissä verrattuna ei-perheyrityksiin. Tulokset antavat viitteitä siitä, että perheomisteiset yritykset tarjoavat toimitusjohtajilleen yleisesti ottaen alempia kokonaispalkkioita ja maksavat pienemmän osuuden lyhytaikaisia kannustimia suhteessa kiinteisiin kompensaatioeriin. Nämä vaikutukset ovat voimakkaampia, kun yritystä johtaa perheenjäsen. Havainnot ovat linjassa yhteneväisyysteorian kanssa, jonka mukaan perheyritysten johto ja enemmistöomistajien intressit ovat yhteneväiset vähemmistöosakkaiden etujen kanssa.

Avainsanat Agenttiongelmat, Toimitusjohtajan palkitseminen, Perheyritykset, SEW

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Abbreviations

CEO	Chief executive officer
SEW	Socioemotional wealth
STI	Short-term incentive
LTI	Long-term incentive
OLS	Ordinary least squares
VIF	Variance inflation factor
R&D	Research and development
ICB	Industry Classification Benchmark
ESG	Environmental, Social, and Governance

1 Introduction

1.1 Background

CEO compensation serves as an important mechanism utilized by companies to align interests of shareholders and managers (Fama, 1980). Over the years, executive pay has gathered heightened attention from both researchers and the public (Fernandes et al., 2013). Frequently, CEOs are perceived by the general public as being excessively compensated, irrespective of their actual contributions to the company's success and other factors. Consistent with the public's view on elevated CEO compensation research such as by Baker et al., (1988) have found that the level of CEO remuneration has increased greatly over the years with varying explanations for this. This has sparked curiosity whether the increase in CEO compensation has taken place at the expense of minority shareholders.

The increasing interest in CEO remuneration from investors and the public has not gone unnoticed by regulators. Recent developments in shareholder protection, such as the implementation of the SHRD II (Shareholder Rights Directive) in the EU opens an interesting timeframe for research in this topic. The directive, effective from 2020, planned to enable shareholders to affect management's compensation during general meetings and to increase CEO compensation transparency, bolsters shareholders' influence over executive remuneration (EY, 2019). The directive is aimed to have a positive impact on companies' remunerations transparency, comparability, and long-term orientation.

In connection with the new directive the Finnish Securities Market Association introduced its new Finnish Corporate Governance Code 2020, which includes updated standards on remuneration reporting among other guidelines. Since 2020, Finnish listed companies are mandated to provide more detailed remuneration reports, offering researchers a compelling opportunity to investigate remuneration practices on a broader scale in Finland, where previous data had been relatively restricted.

Especially closely held family-owned companies often face scrutiny for their discretion in disclosing company information (R. C. Anderson et al., 2009). Firstly, family firms with reduced reliance on external financing, tend to engage in less detailed reporting. Moreover, family firms are known for their inclination for privacy. Detailed personal financial information, such as compensation, is typically not voluntarily disclosed, particularly in cases where family members occupy pivotal management roles within the company.

Regarding the significant involvement of families in management, research by La Porta et al., (1999) across 27 countries revealed that 69% of family firms have a family member occupying a top management role. Similarly, Croci et al., (2012) find from a sample of 1576 Continental European family firms that 40% have a family member serving as the CEO of the company. It is in fact the high involvement of the owners and often opaque nature of large family firms that raises curiosity on how they are governed.

To understand the inner workings of family firms one should focus on its governing mechanisms, with CEO remuneration standing out as a pivotal aspect. Apart from its intrinsic importance, CEO compensation serves as a fundamental governing tool designed to align the interests of the CEO with those of the shareholders. According to Fama, (1980) managers can be disciplined for unwanted behaviour by altering their wage to discourage the manager from such behaviour. While base salaries offer limited flexibility for such alterations, performance-based incentives in the form of bonuses and equity grants have emerged as significant components of CEO compensation, reflecting the success of the firm. Firm performance is not however the only factor affecting CEO compensation. In addition to performance metrics, variables such as firm size, industry, strategic orientation, firm age, and ownership structure have been identified as determinants of CEO pay. Indeed, the structure and level of CEO compensation often serve as proxies for other, more complex phenomena. This thesis also aligns with this trend by focusing on ownership structure, with a specific emphasis on family firms, a subject that has received comparatively less attention in previous literature.

While there is no universally accepted definition for a family firm in academic literature, a commonly utilized criterion for listed family firms is when one or multiple family members hold at least 25% of the voting power in the company. However, alternative definitions have been proposed. For instance, in their work R. C. Anderson & Reeb, (2003) not only consider the extent of family ownership but also the presence of family members on the board of directors, suggesting that ownership levels alone may not fully capture the family's influence on the firm.

Furthermore, in a comprehensive study focusing on Finnish listed family firms, Ikäheimo & Lumijärvi, (2018) define family firms as those where a single family holds a minimum of 10% of the voting shares. They argue that even with a 10% voting share, families remain actively engaged in the company's affairs and often emerge as the dominant shareholder.

Consistent with this definition, this thesis also adopts a similar classification for family firms, and additionally considers different levels of family ownership among firms. Family firms often rely on so called pyramid structures as pointed out for example by Shleifer & Vishny, (1997). In such arrangements the ultimate owners may have considerably larger control over the company than their assets would suggest.

Understanding the governance dynamics of family firms is crucial, given their significant presence as a global phenomenon (La Porta et al., 1999; Shleifer & Vishny, 1997). Historically, family-owned enterprises have been the predominant business model for centuries, spanning not only small-scale ventures but also large corporations. Particularly in many developing nations where shareholder protection remains inadequate, family firms emerge as the predominant ownership structure. For instance, a majority of companies in Asia are family-controlled, especially in less developed regions where asset ownership is highly centralized (Claessens, Djankov, & Lang, 2000). In such contexts, family ownership arises as a natural consequence of concentrated wealth, with only affluent families having the means to invest.

Nevertheless, even in countries characterized by relatively equitable wealth distribution, centralized ownership structures can prevail. As observed by Shleifer & Vishny, (1997) a considerable portion of the global landscape exhibits relatively weak governance mechanisms, hindering external capital of entering firms. This in turn results in highly privatized firms, and in many cases indeed family firms. In line with this finding, La Porta et al., (1998) argue that laws governing investor protection and their enforcement varies greatly around the world resulting in different levels of investor rights and giving different regions different potential to raise equity. They propose that deficient investor protection may prompt countries to adopt alternative mechanisms, such as favouring more concentrated ownership structures. Consistent with this narrative Franks & Mayer, (2017) conclude in their paper that the development of stock markets in countries like the UK, Germany, Japan, and the US can be attributed not only to robust investor protection laws but also to the presence of supporting institutions and entities that foster trust between firms and investors. For example, in Japan, this role has historically been fulfilled by the zaibatsu families, while in the US, large family groups have played a similar function.

These observations underscore the pivotal role of family firms in developing countries, where they often emerge as the primary or most effective form of ownership in environments

with limited conditions for dispersed ownership. While scholars such as Claessens, Djankov, & Lang, (2000) have noted that ownership concentration tends to decrease as levels of development increase, this does not imply that family firms are exclusively prevalent in nations with weak shareholder protection and low levels of development. For example, even in the United States, where the prevalence of family firms has diminished over time, one-third of the companies listed on the S&P 500 index can still be classified as family-owned (R. C. Anderson & Reeb, 2003). Moreover, family firms are not merely an exception but rather a standard in continental Europe. Even with a relatively strict definition requiring a minimum of 25% family voting power, the Foundation for Family Business found in their 2022 study that more than 40% of listed companies in France, Germany, Greece, Italy, and Portugal were family firms as of 2020.

Nordic countries have received comparatively less attention in similar studies, making Finland an opportune focus for this research. Its robust corporate governance standards, coupled with a high level of institutional trust and a significant presence of family firms, offer a unique context for investigating CEO compensation dynamics. By exploring these factors, this study aims to provide valuable insights into the governance practices of family firms, contributing to the broader understanding of corporate governance dynamics.

1.2 Purpose and scope of the study

The main aim of this study is to investigate the influence of family ownership on CEO compensation within Finnish listed family firms, a sector that has received less attention in previous research. Additionally, the study seeks to uncover variations in remuneration between family and non-family firms within the Finnish listed company landscape, shedding light on governance characteristics specific to family firms. CEO compensation plays a pivotal role in addressing agency conflicts between managers and owners, and it is anticipated that the unique agency issues faced by family firms will be reflected in differences in remuneration practices.

While research on CEO remuneration is not a new area of research the intricacies of family firms and their distinct attributes offer a less explored avenue for investigation. Family firms have multiple unique characteristics in their governance which previous studies have found to affect executive remuneration. Numerous studies have concluded that family ownership exerts a moderating effect on executive remuneration. For example, Gomez-Mejia et al., (2003) observed that CEOs in family firms receive lower overall compensation when the

CEO is a family member. Similarly, Croci et al., (2012) found that family control negatively impacts both family and non-family CEOs' compensation. Additionally, Combs et al., (2010) discovered that CEO compensation tends to be lower in family firms, but substantially higher when a family member serves as the sole family member in the management or on the board.

While many studies have arrived at similar conclusions, several opposing findings have also emerged. For instance, Barontini & Bozzi, (2010) discovered that CEOs are systematically paid more in Italian listed family firms than in non-family firms. Similar results have been observed in other regions where family firms predominate. Studying Malaysian firms Jong & Ho, (2018) find that family firms pay higher remuneration to their CEOs, while the presence of institutional owners has no effect on remuneration in family firms. When looking at Israeli firms, Cohen & Lauterbach, (2008) find that family CEOs receive considerably higher pay than non-family CEOs in family firms.

The reason for difference in findings can be explained in many ways. Notably Villalonga et al., (2015) emphasize the imprecise definition of a family firm, which varies across studies. Additionally, contextual factors such as location, industry, and economic conditions play significant roles in shaping outcomes. Thus, there may not be a universal conclusion on the matter, underscoring the importance of investigating family firms within their specific contexts.

In this paper CEO remuneration is studied in Finnish listed family firms and non-family firms over the period of three years between 2020 and 2022. This presents a novel and compelling context, particularly considering the introduction of the new Finnish Corporate Governance Code in 2020, which enhances remuneration reporting transparency and detail. Previous studies have been somewhat constrained by limited remuneration data, often relying on aggregated amounts that fail to differentiate between various pay components. This thesis aims to utilize current and more detailed compensation data to provide a deeper understanding of the effects of family ownership on CEO compensation.

Research questions:

1. How and why does CEO remuneration in family firms differ from non-family firms?

2. To what extent does the presence of a family CEO influence the level of remuneration?

1.3 Structure of the thesis

This thesis comprises of eight chapters. The first chapter serves as an introduction, presenting the topic's background and outlining the research's motivation. The growing concern among policymakers and the public regarding CEO compensation, coupled with the prevalence of family firms and their unique nuances as an ownership type, presents an intriguing foundation for exploration within a fresh context.

The second chapter of this thesis initiates the literature review by introducing agency theory, a foundational concept essential for understanding governance issues within firms with concentrated ownership. In the third chapter, the focus shifts to the family aspect, exploring specific characteristics such as socioemotional wealth (SEW) and theories clarifying the dynamics between controlling family owners and minority shareholders. Concluding the literature review, the fourth chapter delves into CEO compensation in family firms, incorporating theories that contribute to understanding CEO remuneration and various determinants influencing it, including board independence, firm characteristics, and managerial power. Moreover, this chapter contextualizes these theories within the Finnish setting, presents hypotheses, and synthesizes the literature review with concluding remarks.

Transitioning to the empirical section, the fifth chapter introduces the data and methodologies employed in the study, accompanied by an overview of summary statistics to provide insight into the data being analysed. Additionally, the chapter outlines the variables utilized in the regression analyses and addresses potential methodological limitations.

Moving forward, the sixth chapter focuses on presenting the results of the regression analysis. Commencing with descriptive statistics and a correlation matrix to clarify data behaviour, the chapter proceeds to conduct various regression analyses on three distinct dependent variables to test the hypotheses formulated in the previous chapters.

Following the presentation of empirical findings, the seventh chapter offers diverse interpretations of the results grounded in theory and existing literature. Finally, chapter eight encapsulates the thesis by providing a comprehensive summary of contributions to existing research, while also acknowledging potential limitations and suggesting avenues for future investigation.

2 Agency theory

The agency theory is widely used explanation for conflict of interest between different parties. Its implication to company context has been refined and popularized by influential papers such as Fama, (1980) and Jensen & Meckling, (1976). Agency theory assumes that individuals are inherently self-interested and prioritize maximizing their own benefits. These assumptions resonate with the prevailing economic paradigms and have made agency problems and their resolutions central concerns in corporate governance today.

According to Jensen & Meckling, (1976) agency theory revolves around agency relationships between a principal and an agent in organizational relationships. Based on their definition the principal engages the agent to perform a certain service on their behalf while giving away some decision-making power to the agent. However, given that both parties seek to maximize their own interests, agents may not always act in the best interests of the principals. Principals attempt to mitigate this risk through monitoring and providing incentives but in doing so, they incur what are known as agency costs.

This section addresses two prominent agency issues within corporate governance, particularly in the context of family firms. In the realm of agency theory applied to listed family firms, shareholders are regarded as principals, while the management of the firm serves as agents.

2.1 The vertical agency problem

In academic literature, the agency problems stemming from the separation of ownership and management are commonly referred to as vertical agency problems, as they will be designated in this thesis. The vertical agency problem can be characterised to be closest to principal – agent problem defined by Jensen & Meckling, (1976). Specifically, this issue arises from the potential that management may not prioritize the best interests of shareholders. Such actions may include shirking responsibilities, deviating from the risk preferences of the owners, or, in extreme cases, engaging in fraudulent activities at the expense of the shareholders.

The existence of agency problems is facilitated by the necessity for external financing. For instance, an entrepreneur who is the sole owner of a company does not encounter agency problems. In this scenario, the entrepreneur serves both as the manager and the risk bearer.

However, when seeking to expand the business without the capacity or inclination to provide additional capital, the entrepreneur may turn to external investors for funding. The investors in turn desire a profitable return on their investment but have no desire to partake in the daily operation of the business. Consequently, a manager is appointed to oversee the company, and a contractual agreement is established between the manager and the investors, outlining the manager's responsibilities to operate the business in line with the investors' interests. Even though the investors nominally often retain control to act on behalf of the company, they are restrained doing so in practice due to lack of timely information. As noted by Fama, (1980) such contracts give the managers substantial discretion in managing the company and the opportunity to pursue their own interests.

Research indicates that vertical agency problems are most pronounced in widely held companies. In such firms, the so-called free rider problem arises, where individual shareholders lack sufficient incentives or means to effectively monitor management, expecting others to take on this responsibility. In fact, concentrated ownership can bring many benefits for a company's governance and is often associated with higher firm value. In their survey of corporate governance Shleifer & Vishny, (1997) emphasize the role of large owners reducing vertical agency problems. Larger owners such as investment companies possess both the motivation and resources to monitor management more effectively compared to dispersed ownership structures. Their substantial stake in the company incentivizes them to influence corporate decisions in a manner that enhances their investment returns. Furthermore, large owners typically wield concentrated voting rights, enabling them to exert tangible influence over management actions. By addressing the free rider problem inherent in dispersed ownership structures, these large owners play a crucial role in corporate governance. Recent studies support this notion, revealing that most listed companies are not characterized by dispersed ownership but are instead controlled by one or more dominant entities. According to La Porta et al., (1999) empirically most typical larger controlling entities are the state and families and the presumption of a widely held corporations have been started to be questioned.

Family firms are a prime example of concentrated ownership and often serve as a remedy for agency problems in regions with inadequate shareholder protection (La Porta et al., 1999; Shleifer & Vishny, 1997). Family firms typically have undiversified positions on the firm giving them strong incentives to monitor the firm's management (Demsetz & Lehn, 1985). This distinguishes them from large investment organizations, which typically maintain more

diversified asset portfolios and can therefore assume greater risk. Consequently, vertical agency problems are generally considered less prevalent in family firms.

2.2 The horizontal agency problem

While concentrated ownership appears to mitigate the vertical agency problem between managers and shareholders, it is not without its drawbacks. As ownership of a company becomes more concentrated, the ability to influence the company's actions effectively shifts away from smaller shareholders. This gives rise to the horizontal agency problem, which entails conflicts of interest between principals, typically between dominant shareholders and minority shareholders. As stated by Shleifer & Vishny, (1997) one of the most fundamental problems arising from large owners in corporate governance is their self-interest that they are able to exercise.

In effect large shareholders may maximize their own gain by using their control in the firm to expropriate wealth from minority shareholders. Such activities can range from exploiting business relationships with other companies to paying themselves special dividends. Expropriating minority shareholders is widely considered to destroy firm value. Supporting the argument that controlling owners prefer to expropriate private benefits Claessens, Djankov, Fan, et al., (2000) find that high concentration of control is negatively associated with firm value. Connelly et al., (2010) highlight on their paper that blockowners have considerable power and incentives to influence and monitor management, but when family members are blockholders, they rarely create value for minority shareholders.

Examining dividend payment behaviour across different ownership structures (Faccio et al., 2001; Maury & Pajuste, 2002) evidence has been found that companies pay less dividends when ownership is concentrated. This implies that such companies often expropriate fund from minority shareholders by extracting private returns from project that bring negative value to the company, resulting to smaller dividends. As Shleifer & Vishny, (1997) state, the ability of large owners to expropriate wealth from minority shareholders is especially great when their control rights are greater than their cashflow rights. This is often the case with many family owners who rely on pyramid structures to gain control of a firm with relatively low assets. For instance, Faccio et al., (2001) find that owners with lower cashflow rights related to their control rights pay less dividends than other companies suggesting expropriation towards minority shareholders. Family firms also often have different series

of shares with different control and cashflow rights. This way a family may maintain strong control on the firm with minimal cashflow rights.

While studying management ownership Morck et al., (1988) find that concentrated ownership has a positive effect on company performance, but only at low concentration levels. However, as ownership becomes more concentrated, performance declines. Scholars have interpreted this finding through the lens of agency problems. For instance, Shleifer & Vishny, (1997) theorize that having a substantial owner diminishes the free rider problem, resulting in more effective monitoring of management. However, as ownership concentrates further, the large owner gains so much control over the firm that it begins to use the firm to generate private benefits for itself at the expense of minority shareholders.

There seems to be a consensus that horizontal agency problems are more pronounced in family firms due to their typical concentrated ownership structure. Many scholars also find that minority shareholder expropriation is most prevalent when owners' control rights exceed their cash flow rights. Family firms fit this definition well in theory. As Shleifer & Vishny, (1997) state, family ownership often follows a pyramid structure granting them more control rights than the assets would suggests.

2.3 Agency theory conclusion

It is widely acknowledged that vertical agency costs are diminished in family firms due to the inherent alignment of interests between managers and owners. In family firms the family often holds substantial board positions and are in many ways more motivated and able to monitor the management. Moreover, the frequent inclusion of family members in managerial roles further reinforces this alignment. However, this alignment also contributes to heightened horizontal agency issues stemming from the concentrated ownership structure typical in family firms. Consequently, family firms possess the capacity to expropriate private benefits from minority shareholders, leveraging their substantial control within the organization.

There is no clear consensus whether the combined effects of horizontal and vertical agency problems result in family firms incurring higher overall agency costs compared to other companies. However, most convincing findings have arguably been found towards family firms bearing less agency costs overall. For instance, Morck et al., (1988) demonstrate that in companies where managers are controlling shareholders, firms are valued higher than its

counterparts. Adding to this Claessens, Djankov, Fan, et al., (2000) suggest that when control and ownership are combined, the incentive for value destroying activities decreases while at the same time the opportunity to do so increases. This would suggest that while family firms may have a greater opportunity for minority shareholder expropriation, they may restrain doing so.

While agency theory offers a straightforward framework for understanding ownership structure-related conflicts, it oversimplifies the complexities of these relationships. For instance, differences in agency cost between family firms and non-family firms are mostly explained with ownership concentration and joint role of owners and managers. However as stated, ownership can be concentrated in many ways. In Finland, for instance, state ownership is prevalent in many listed companies. Additionally, large Finnish pension insurance funds hold substantial stakes in numerous listed companies, often ranking among the top three largest shareholders. Concentrated ownership is therefore not only a phenomenon of family firms, but often in some level in most firms. Moreover, Connelly et al., (2010) contend that in reality owners have varying interest while the agency theory assumes owners to have interests that are aligned.

In the Finnish context, a more nuanced examination of the distinctions between family and non-family firms is required to accurately delineate their differences. Subsequent sections of this paper delve deeper into the unique characteristics specific to family firms.

3 Family firm characteristics

While ownership concentration is a defining trait of family firms compared to non-family counterparts, there exist unique attributes within family firms that set them apart. Scholars argue that agency theory oversimplifies the complex nature of family firms (Schulze et al., 2002). In fact, family firms can have great amenity potential for the controlling families which often is the reason to hold on to the company rather than to sell it (Demsetz & Lehn, 1985). Such characteristics are outside of classic agency theory which has given rise to competing or more so, complementing theories. This section deals with these special characteristics of family firms aiming to understand the differences in family firm governance and pave way in explaining differences in remuneration.

3.1 Socioemotional wealth (SEW)

Socioemotional wealth (SEW) can be considered to be the most important differentiating factor between family firms and other firms (Berrone et al., 2012). SEW encompasses a variety of primarily non-financial values that family members have regarding the company. These values include, among others, the preservation of family legacy, need for belonging and intimacy, meeting family expectations, organizational identification, and preservation of family firms' social capital (Gómez-Mejía et al., 2007). Such values significantly influence decision-making processes within family firms, often prioritizing the preservation of SEW over other objectives, even at the expense of minority shareholders (Berrone et al., 2012).

3.1.1 Family influence and social ties

According to Berrone et al., (2012) families exhibit a strong inclination to maintain control over the firm, often through formal means such as occupying key positions like CEO or holding significant roles on the board of directors. Large family owners often prioritize control to such an extent that management positions are retained even in the face of poor performance (Bennedsen et al., 2007). Maybe more subtly influence is often exercised informally through family hierarchy and charisma. Studies indicate that family firms are less inclined to diversify their business operations, reducing the need for outside members and thereby preserving family influence over the firm (Berrone et al., 2012).

Family ties are often mistaken for outright altruism between family members. While true altruism is present in most families, even more powerful feelings such as fear and respect

also guide the family firm dynamics (Casson, 1999). These dynamics become particularly evident when a family member assumes the role of CEO. Given that family members often hold significant board positions, family CEOs are presumed to wield considerable influence. Family CEOs tend to enjoy greater job security than external CEOs even in the face of poor performance, indicating preferential treatment of family members (McColgan & Hillier, 2004). As a result of this family CEOs have longer tenures which allows them to learn the firm specifics well (Gomez-Mejia et al., 2001; Villalonga et al., 2015). However, this increased job security may come with expectations from the family. Influential family members could influence the manager to prioritize SEW goals over wider considerations. Consistent with this Gomez-Mejia et al., (2001) suggest that family CEOs may be more inclined to prioritize pleasing family members over outside board members or minority shareholders. Findings from X. Chen et al., (2020) suggest that family CEO firms are more prone to accounting misstatements, fraud, and related party transactions, indicating a higher level of managerial entrenchment in family-led companies. It is evident that family influence is most pronounced when a family member assumes the role of CEO.

Interestingly in a model developed by Burkhart et al., (2003) the authors propose the possibility of collusion between family firms and external CEOs to extract private benefits from minority shareholders. Building on this concept, Barontini & Bozzi, (2010) theorize that families may offer additional compensation to external CEOs to secure their loyalty. Such possibility is not unheard of as many times CEOs and board members hold cross-sectional positions in each other's companies.

3.1.2 Emotional attachment and family dynasty

While emotional attachment is present in every organization, it is particularly pronounced in family firms (Berrone et al., 2012). Founder families, in particular, often have a strong attachment towards the company, viewing it as a culmination of the family's achievements (Casson, 1999). This profound emotional connection to the company can significantly influence decision-making within the firm. For instance, family firms have often been characterized as more risk-averse than non-family firms. This inclination toward risk aversion aligns with the notion that family firms typically have more undiversified positions within the company compared to institutional investors (Demsetz & Lehn, 1985). However, this perception has been challenged by the findings of Gómez-Mejía et al., (2007) in their study on business risk in family firms. They argue that family firms are not inherently more

risk-averse overall, but rather exhibit different socioemotional interests compared to widely held companies. According to Gómez-Mejía et al., (2007) a family firm may demonstrate risk aversion concerning socioemotional wealth while simultaneously embracing significant risk regarding business performance. For example, appointing a less qualified family member as CEO may pose a risk to the firm's performance, but from a socioemotional wealth perspective, such a decision may be deemed necessary to preserve the family dynasty and social ties. Thus, the perceived risk aversion of family firms may not stem from a reluctance to take risks per se, but rather from a focus on different aspects of the company's well-being.

Studies generally agree that family firms tend to have longer investment horizons compared to non-family firms. They are less sensitive to profit shocks, less likely to divest during economic downturns, and typically maintain their commitment to long-term strategies even under short-term pressures (Kappes & Schmid, 2013). Reflecting this to the findings by Gómez-Mejía et al., (2007), it could be suggested that family firms may often take considerable long-term financial risks but restrain from pursuing short-term risky projects that could endanger achieving SEW goals.

Due to their strong attachment to the company, family owners are often cautious of relying on external financing for fear of losing control over the firm. Consequently, family firms may offer fewer share-based awards, reflecting their emphasis on maintaining control (Croci et al., 2012). Providing evidence for this claim Ikäheimo & Lumijärvi (2018) find that family firms use less equity-based compensation than non-family firms. Their findings are significant only with relatively low family ownership levels, indicating that family firms may be reluctant to dilute their ownership and possibly lose control of the company.

Moreover, family firms are often regarded as enduring dynasties passed down through generations. To ensure the company's longevity and preserve it for future generations, family firms typically prioritize prudent, long-term decision-making over short-term gains. Therefore, family firms typically want to be seen as good corporate citizens. Consequently, they strive to uphold a positive corporate image and reputation, placing a strong emphasis on corporate responsibility (Berrone et al., 2012). While family firms are not necessarily acting in the forefront of social responsibility, they are less likely to commit actions that would be considered socially irresponsible (Dyer & Whetten, 2006). Given the heightened scrutiny surrounding excessive CEO compensation, it is plausible that family firms exercise

restraint in executive remuneration to avoid negative publicity and uphold their reputation as responsible corporate citizens.

3.2 Effect of SEW on family firm CEO compensation

3.2.1 Entrenchment theory

Family entrenchment is a term used in academic literature to describe family's opportunity to extract private benefits at the expense of minority shareholders (X. Chen et al., 2020). Many studies have reported such activities in family firms, which can manifest in various forms. However, for the purposes of this thesis, the focus will be on its effects on CEO remuneration. The altruistic nature often found in family firms provides a means to increase one's utility at the expense of minority shareholders by being generous towards other family members (Schulze et al., 2002). At its simplest form, excessive CEO compensation can be viewed as a form of private rent extraction, particularly when the CEO is a family member. For instance, a family member CEO might receive higher compensation relative to their competence, or bonus targets might be more easily achievable.

It could be claimed that the pursuit of socioemotional wealth goals should be reflected in CEO compensation, given its significance in corporate governance. Various studies have found differences in pay between family and non-family firms, particularly when a family member serves as the CEO. Research by Cohen & Lauterbach, (2008) indicates that family CEOs receive 50% higher compensation than other CEOs, suggesting potential minority shareholder expropriation. Somewhat similar findings have been documented by Barontini & Bozzi, (2010) who found that Italian family firms tend to pay their CEOs more, especially when the CEO is a family member.

Even if the absolute compensation is not found higher in family firms, it could be higher relative to their performance. Notably Bennedsen et al., (2007) and Pérez-González, (2006) have shown that successor family CEOs tend to perform worse than outsider CEOs due to limited labour market competition. This underscores the importance of assessing CEO compensation relative to firm performance, as excessive compensation is arguably determined by its comparison to firm performance and other metrics rather than just its absolute value.

3.2.2 Alignment theory

Alignment theory, an opposite perspective to entrenchment theory, suggests that in family firms where ownership and management are often intertwined, there is less need to align interests according to agency theory. Family firm alignment can manifest in CEO compensation through lower overall payment or in the structure of the compensation package, as aligned family firms will not partake in minority shareholder expropriation. Consistent with this theory, a significant body of research indicates that family ownership has a mitigating effect on family CEO compensation. For instance Ikäheimo & Lumijärvi (2018) find that family member CEOs receive considerably lower bonuses whereas non-family CEOs bonuses are equal to non-family firms CEOs. Consistently Croci et al., (2012) find that family firms pay family CEOs less than professional CEOs.

The interpretation of lower CEO compensation in family firms can vary, depending on the perspective. It is possible that family firms offer other remedies or substitutes that mitigate the need for higher CEO compensation. Several reasons for lower CEO compensation in family firms have been identified in the literature. Firstly, Gomez-Mejia et al., (2003) argue that CEOs with family ties value job security more than non-family CEOs do and therefore accept lower level of compensation. This is attributed to the stronger emotional ties family CEOs have to the company and their potentially more limited external job opportunities compared to professional outsider CEOs. Maybe most importantly Croci et al., (2012) highlight that family firms are often in a better position to effectively monitor management, reducing the necessity for compensation aimed at aligning interests. Furthermore, Mustakallio et al., (2002) emphasize that family firm boards serve both a monitoring and counselling function, with the latter strongly influencing management's commitment to strategic decisions, underscoring the significant influence of family firm boards. This monitoring may be even more effective when the CEO is a family member, as they may be more easily influenced by family ties. However, if the CEO is also the founder of the firm, their managerial power could be strong enough to override effective board monitoring, presenting a potential contradiction.

According to Croci et al., (2012) family firms are also quite reluctant to grant equity-based incentives due to their high value for control in the firm. Specifically, when the CEO is a family member, such incentives may be considered unnecessary due to the natural alignment of interests. In summary, from the perspective of alignment theory, family firms exhibit

inherent characteristics that mitigate the tendency for excessive CEO compensation. These characteristics include superior monitoring mechanisms and the presence of socioemotional wealth within family firms.

3.3 SEW conclusion

There is no definitive evidence to determine which of the aforementioned theories is more prevalent in family firms. Previous studies have employed different definitions and examined various contexts, making it challenging to draw conclusive conclusions. Additionally, family firms are diverse entities, and their emphasis on socioemotional wealth (SEW) versus financial goals can vary widely.

However, there are some factors that most studies with differing views seem to agree upon. First, family CEOs tend to receive different compensation compared to non-family CEOs. Higher compensation for family CEOs is often linked to managerial entrenchment, while lower compensation is associated with alignment theory. Secondly, SEW does play a role in shaping CEO compensation. Characteristics such as a longer investment horizon, the family's desire for control, and social ties all influence the level and structure of CEO compensation.

Based on the prevailing alignment theory in Western countries, it is reasonable to assume that a similar trend holds true in Finland, where shareholder protection is highly developed.

Hypothesis 1: Finnish Family firms pay less to their CEOs than Finnish non-family firms, especially when the CEO is a family member.

As family CEOs are likely to have strong long-term orientation towards the company, it would be likely that the need for long-term incentives is reduced. From other point of view, outsider CEOs in family firms do not naturally share the long-term interests of family owners. As family firms value long-term goals in order to preserve their SEW, it would stand to reason that outsider CEOs are also expected to be more long-term oriented than in other companies. Considering that a great majority of Finnish listed family firms are run by a professional CEO the following hypothesis is made.

Hypothesis 2: The proportional use of long-term incentives compared to fixed compensation is higher in Finnish family firms than Finnish non-family firms.

SEW undoubtedly exerts a profound influence on family firms across various dimensions. While characteristics such as strong social ties and a pursuit for control are prevalent in many companies, they are arguably most pronounced in family firms. Simply comparing outcomes between family and non-family firms without delving into the underlying reasons would be inadequate. SEW offers a complementary framework, alongside agency theory, to better understand the governance mechanisms at play within family firms. Given the lack of a clear consensus in existing literature, understanding these often unseen characteristics becomes particularly crucial.

In conclusion, the interplay between socioemotional wealth and governance mechanisms in family firms presents a multifaceted landscape for exploration. As we transition into the next chapter, which delves into executive compensation in family firms, it becomes evident that understanding the nuanced dynamics of SEW alongside traditional agency theory provides a comprehensive framework for analysing CEO remuneration. With alignment theory emerging as a possible explanation within the Finnish context, we embark on a deeper examination of how these theoretical foundations manifest in the practical realm of CEO compensation within family firms.

4 CEO compensation in family firms

4.1 Compensation of management as a remedy to vertical agency problem.

Managers often retain residual control rights, allowing them to prioritize their own interests over those of the principals. To address the vertical agency problem, various strategies have been proposed to align the interests of managers with those of owners.

One of the most effective remedies for the vertical agency problem is providing management with monetary long-term incentives to act in the best interests of the owners (Shleifer & Vishny, 1997). For example, Fama, (1980) suggests that in situations where ownership and management are separate, managerial labor markets typically discourage managers from acting against the owners' interests. According to Fama, (1980) managers can be disciplined through adjustments to their compensation, discouraging them from engaging in undesirable behaviour. However, this approach may not completely eliminate the possibility of managers prioritizing short-term gains over long-term interests, especially if they do not plan to remain in the labour market for an extended period.

Monetary incentives, in their simplest form, often take the shape of a competitive base salary for the services rendered. Since owners retain the ability to replace management at any time, ensuring the maintenance of a competitive salary dissuades management from engaging in actions that could result in termination. While a competitive base salary may motivate management to retain their position, it may not necessarily encourage them to perform at their highest potential. Moreover, verifying managerial performance at this level often requires extensive monitoring by the principal, leading to additional agency costs.

To address this issue, more sophisticated incentive structures have been devised to better align the interests of the agent with those of the principals. Compensation tied to managerial performance has become standard practice for CEO compensation in listed companies. This is typically achieved through short-term incentives, long-term incentives, and stock-based compensation. The specific combination of these elements, along with a base salary, varies across companies, industries, geographies, and ownership structures. However, regardless of the payment package's composition, its primary objective remains consistent: to align the interests of management with those of the shareholders.

4.2 Executive compensation determinants

4.2.1 Board of directors

Boards are a key mechanism to mitigate agency problems and are responsible for setting up the remuneration package for the CEO. Typically, boards are seen to moderate vertical agency problems between management and owners as they monitor the actions of the CEO to ensure they are in line with the interest of the shareholders. Boards do have an important role in alleviating horizontal agency problems as well assuming that the board is not fully controlled by the controlling shareholder (Villalonga et al., 2015). To prevent total managerial entrenchment most countries including Finland, have minimum requirements for number of independent board members. It is widely argued, as suggested by scholars such as Fama, (1980) that decisions regarding management compensation should be entrusted to outside directors who have no affiliation with the management team.

Supporting the monitoring effects of independent board members, research by R. Anderson & Reeb, (2004) indicates that family firms with a higher number of independent board members tend to perform better than those with fewer independent members. The presence of more independent board members may serve as a deterrent against minority shareholder expropriation by family members, such as through special dividends, related party transactions, or excessive compensation (R. Anderson & Reeb, 2004; Setia-Atmaja et al., 2011).

Consistent with the notion of better monitoring capabilities of independent boards, studies such as by Chhaochharia & Grinstein, (2009) have observed a strong association between an increase in independent directors in the US and a decrease in CEO compensation. Similarly, Devers et al., (2007) concluded that CEOs tend to earn more under weak governance structures with a higher presence of inside directors.

Scholars have presented various perspectives on the role of independent boards in influencing CEO compensation. Some studies indicate that firms with a higher proportion of outside directors on boards and compensation committees are more likely to link compensation to market performance (Devers et al., 2007). More so Fernandes et al., (2013) found that board independence is associated with higher CEO compensation and increased use of equity-based pay. When considering these findings within the framework of family firms, which may not typically exhibit great board independence, it suggests that family firm boards could potentially exert a moderating influence on CEO compensation.

It has also been found that closely held companies' performance measures are often subjective while widely held companies used more objective accounting-based performance measures (Ke et al., 1999). These findings would suggest that closely held family firms use more subjective performance measures in their remuneration rather than tying the compensation on accounting or market measures. Consistent with this idea Gomez-Mejia et al., (2003) suggest that family firm boards are more subjective evaluating their family CEOs performance. This often leads to more lenient outcomes for the CEO as poor performance is attributed to simply bad luck or extraordinary circumstances (Gomez-Mejia et al., 2003). However, an alternative perspective posited in research suggests that increasing CEO pay may be attributed to the improving monitoring capabilities of boards. As better monitoring has a strong link to CEO turnover, the CEOs require a premium for their decreased job security (Frydman & Jenter, 2010).

The consensus among studies is that independent boards are more effective in monitoring management and thereby help prevent the extraction of private benefits in family firms. While the precise impact of independent boards on CEO compensation remains somewhat uncertain, there is no disagreement regarding the finding that board independence serves to mitigate excessive CEO compensation aimed to expropriate minority shareholders.

4.2.2 CEO pay setting process and managerial power

Compensation is often perceived as solely determined by the board of directors or their subcommittees. However, in reality, CEOs frequently have significant input into their pay packages as the process involves discussions, goal setting, and benchmarking in which the manager participates. This dynamic can lead to a high risk of managers engaging in self-dealing during compensation negotiations, especially when the board is poorly motivated (Shleifer & Vishny, 1997). Nevertheless, the involvement of managers in their own compensation discussions does not necessarily indicate the exercise of managerial power. The extent to which a manager wields power over the board depends on various characteristics of the manager.

For example, in their study Barkema & Pennings, (1998) find that CEO characteristics and CEOs' family equity holdings increase the CEO's power to influence their compensation. According to them power does not come to the CEO automatically but is rather a product of entrenchment and social relationships, both of which are can often be strongly present in family firms. Indeed, in their review of recent studies on executive compensation Devers et

al., (2007) highlight the importance of human capital and social influence on executive pay. These factors are particularly pronounced in family firms where family relationships play a vital role in decision-making processes.

This dynamic is especially pronounced when the CEO holds significant managerial power and authority over the board (Shin, 2013). Usually in these cases the CEO has a dual role in the company and often also sits in the board of directors or has close ties its members. Consistent with this notion Combs et al., (2010) discovered that CEO compensation tends to be lower in family firms overall, but notably higher when a family member CEO is the sole family member involved in management or board positions. According to the theory of managerial power, a family CEO in such circumstances can be presumed to exert considerable influence over their compensation.

However, the extent of a family CEO's power may vary depending on their role within the family hierarchy. As stated by Casson, (1999) autocratic type of management where age and experience are often the basis for authority is typical for family firms In scenarios where the board of directors comprises senior family members, it is unlikely that the family CEO possesses significant managerial power, as the more senior family members are likely to exert considerable influence. Moreover, Mustakallio et al., (2002) argue that families have a shared vision of the company which is formed by the social interactions between family members. A shared vision provides a framework for strategic decisions in family firms and reduces opportunistic behaviour of managers (Mustakallio et al., 2002). Given that family CEOs act as agents for the family and share this vision, it would be atypical for them to wield managerial power over the board.

While managerial power has received attention in the literature, its exploration within the context of family firms has been relatively limited (Barkema & Pennings, 1998). Nonetheless, findings and parts of theory suggest that family CEOs wield significant influence over their compensation compared to their non-family counterparts. Some studies have even indicated that CEO tenure correlates with higher levels of managerial power (Devers et al., 2007). Given that family CEOs often have longer tenures, it stands to reason that they may possess greater managerial power. However, this may be especially pronounced in cases of founder CEOs, where other family members exert less influence.

While there is a draught of literature on managerial power of outsider CEOs in family firms, the power can be assumed to be low, due to high monitoring incentives of family owners.

Moreover, excessive monitoring of CEO compensation could lead to adverse effects. According to Tosi & Gomez-Mejia, (1994) there is a point of diminishing returns in monitoring CEO compensation, and excessive oversight may constrain the CEO's optimal performance for the company. This monitoring encompasses activities and policies aimed at controlling and observing CEO compensation. Interestingly, Tosi & Gomez-Mejia, (1994) suggest that monitoring of CEO compensation is higher in owner-controlled firms than in management-controlled firms. In essence, in companies with high ownership concentration, such as family firms, additional monitoring may become less effective.

Interpreting the results suggests that family firms have less need for a refined CEO incentive setting process. One could also argue that compensation monitoring might be lower in family firms since there is bias towards family CEOs (Gomez-Mejia et al., 2001). Conversely, outsider CEOs in family firms may face more extensive compensation monitoring, as family owners have strong incentives for oversight on outsiders.

4.2.3 The presence of institutional investors

While families may hold controlling stakes in their companies, they do not operate in isolation. Other significant shareholders, often called blockowners are defined by Maury & Pajuste, (2005) as owners that hold at least 10% of the votes in the company while others such as SEC define a blockholder to have at least 5% of votes (Connelly et al., 2010). Blockowners can have considerable influence in the company without being the controlling shareholder. Concentrated investors, or blockholders, have strong incentives to address agency problems and enhance firm value (Demsetz & Lehn, 1985). Research has explored the impact of various investors on family firm governance, revealing that institutional investors, in particular, play a moderating role in family CEO compensation (Gomez-Mejia et al., 2003). These institutional investors recognize that family CEOs often have inherently aligned long-term interests with the company, thereby diminishing the necessity for extensive long-term incentives.

Contrary to this perspective, institutional investors have also been found to advocate for higher performance-based pay to enhance monitoring efficiency. High institutional ownership has been identified as a significant explanatory factor for elevated levels of CEO compensation in the US (Fernandes et al., 2013). Consistent with their finding Croci et al., (2012) discovered that foreign institutional investors are linked to higher compensation in family firms, whereas domestic institutional investors have no discernible effect. In their

study Fernandes et al., (2013) also suggested that firms influenced by US markets often adopt higher compensation packages typical to US. Reflecting the findings of Croci et al., (2012) to this, it is possible that foreign institutional investors adopt the compensation packages the same way while domestic investors do not. Contributing to this area of discussion H. Chen et al., (2014) found a positive association between institutional ownership and family firm internalization. As often institutional ownership and internalization go hand in hand, the combination could have a significant effect on CEO compensation.

Overall, research indicates that the presence of institutional investors enhances monitoring capabilities within firms and benefits minority shareholders. In a study focusing on Finnish listed family firms Maury & Pajuste, (2005) find that the presence of a blockholder in family firms lowers the tendency for minority shareholder expropriation. This outcome is understandable given that institutional owners in Finnish listed companies are primarily domestic pension insurance funds, which are less likely to exert aggressive influence on CEO compensation compared to international investors. Furthermore Ikäheimo & Lumijärvi (2018) find Finnish listed companies having considerably lower presence abroad than non-family firms, suggesting a lower level of internalization and foreign institutional owners. Indeed, it is crucial to recognize that the influence of blockholders on CEO remuneration in family firms yields mixed results. While institutional owners enhance monitoring and thereby reduce minority shareholder expropriation, paradoxically, they could also employ high levels of performance pay as a means of monitoring.

4.2.4 Other factors affecting CEO compensation

Studies have identified various factors influencing CEO compensation, with firm size being often the most significant determinant (Baker et al., 1988). Large firms are perceived as more complex, requiring capable management. A considerable portion of the literature attributes elevated CEO pay to firm size and the competitive labor market (Frydman & Jenter, 2010). Given that CEOs can significantly impact a company's success, larger firms often offer competitive compensation to attract top talent. In larger firms, the cost of CEO compensation may not significantly impact overall expenses, as the potential performance increase resulting from additional pay can be substantial, albeit with diminishing returns over time.

Following this rationale, smaller firms are expected to offer lower CEO compensation due to their inability to match the pay levels of larger counterparts. Family firms, typically

smaller in scale compared to non-family firms (Ikäheimo & Lumijärvi 2018; McConaughy, 2000) should therefore pay their CEOs less on average. Controlling for firm size is crucial in this thesis to understand the specific factors influencing CEO compensation in family firms.

According to agency theory, performance-based compensation serves as a powerful incentive for managers to align their risk-taking behavior with the interests of shareholders. Given that a significant portion of CEO compensation today is tied to performance metrics, it is logical to expect that firm performance would influence CEO pay levels. Performance-based compensation structures often result in higher overall compensation for CEOs. For instance, in the US, the premium in CEO pay can largely be attributed to the increased utilization of performance-based pay, which compensates CEOs for the risks associated with variable compensation (Fernandes et al., 2013).

However, the extent to which performance-based pay drives performance remains a topic of debate. While some studies suggest a minor impact of firm performance on CEO pay, others indicate a stronger association. Critics argue that various external factors beyond managerial control can influence firm performance, challenging the direct link between performance-based pay and firm outcomes (Devers et al., 2007). Nonetheless, most studies acknowledge at least a moderate correlation between performance and CEO compensation (Frydman & Jenter, 2010).

As family firms typically exhibit different risk profiles compared to non-family firms, it is reasonable to anticipate variations in the use of performance-based pay. According to agency theory, performance-based compensation might be lower in family firms because the controlling shareholder, i.e., the family, has inherent incentives to effectively monitor management, thereby reducing the necessity for additional incentive structures. However, several studies, such as those conducted by Croci et al., (2012) have found no significant correlation between family ownership and the level of performance-based pay.

Nevertheless, when the CEO is a family member, research such as by (Ikäheimo & Lumijärvi 2018; McConaughy, 2000) indicates that family CEOs receive lower compensation. As suggested by McConaughy, (2000) compensation for founding-family CEOs is less sensitive to performance and lower compared to non-family CEOs, while Ikäheimo & Lumijärvi (2018) find that family member CEOs have considerably lower bonuses whereas non-family CEOs bonuses are equal to non-family firms CEOs.

Studies on family firms' performance compared to non-family firms have not been conclusive. Considering that there are certain governance differences between family firms and non-family firms, they should be visible in performance even if moderately, making it an important factor to control in this thesis when measuring compensation.

More consistent evidence has emerged regarding the effects of certain strategic measures, such as research and development (R&D) expenditure and growth, on CEO compensation. Research indicates that firms with significant investments in R&D tend to compensate their CEOs more generously (Gomez-Mejia et al., 2003). Traditionally, R&D-focused strategies are considered riskier compared to investing in established, profitable ventures. However, family firms, known for their long-term orientation, could in theory prioritize R&D investments due to their inherently long-term nature (Ikäheimo & Lumijärvi 2018).

Concentrated ownership has been associated with higher R&D intensity, while owners intending to sell the firm are inclined to reduce R&D expenditures (Connelly et al., 2010). Despite seemingly contradictory views, most scholars suggest that family firms tend to allocate fewer resources to R&D. This could be attributed to the limited managerial talent and specialization often found in family firms, which are crucial for successful R&D initiatives (Gomez-Mejia et al., 2003). Furthermore, for family firms, preserving the company's legacy often takes precedence over being at the forefront of innovation (Ikäheimo & Lumijärvi 2018).

Another strategic dimension impacting CEO compensation is firm growth. Family firms typically rely more on organic growth than on expansion through acquisitions (Ikäheimo & Lumijärvi 2018). Acquiring other companies may not align with the preservation of socioemotional wealth as these entities are not part of the family's legacy. Several studies have demonstrated that growth through acquisitions is associated with higher CEO compensation compared to organic growth (Devers et al., 2007). Additionally, similar to R&D intensity, the limited availability of talent within family firms may constrain their growth potential, even in the presence of real opportunities (Casson, 1999). Executing growth strategies effectively demands CEO talent and experience, which may be lacking in family firms.

In summary, CEO compensation is influenced by a myriad of factors, each with varying degrees of impact. For instance, according to a meta-analysis conducted by Tosi et al., (2000) firm size emerges as a robust predictor of CEO compensation compared to firm performance.

Similarly, firm growth through acquisitions and R&D intensity, both strategic endeavors, demand exceptional CEO talent, which may be scarce in the case of family CEOs, as demonstrated by (Bennedsen et al., 2007;Pérez-González, 2006).

Considering that use of outsider CEOs in Finnish family firms is substantial, labor constraints appear to be relatively low. In fact, the use of outsider CEO is a natural consequence of high level of shareholder protection (Burkhart et al., 2003). Nevertheless, it is important to control for these factors in this thesis to enhance the comparability with previous studies and to provide a more comprehensive understanding of CEO compensation dynamics.

4.3 Executive compensation packages in Finland

In the Finnish context, CEO compensation typically comprises four main components: (1) Base salary and benefits, (2) Short-term incentives and bonuses, (3) Long-term incentives, and (4) Supplementary pension contributions. Notably, base salary and benefits constitute approximately half of the total CEO compensation in Finnish listed companies (Ikäheimo & Lumijärvi 2018). For comparison, in U.S. listed firms, less than one-third of total CEO compensation is attributed to base salary (Fernandes et al., 2013). The fixed salary component plays a crucial role in the compensation package, providing stability for risk-averse managers and serving as a foundation for determining other payment elements. For example, the Finnish Corporate Governance Code 2020 recommends setting proportionate upper limits for variable pay, often defined as a multiple of the base salary.

Short-term incentives serve as a method to reward managers for achieving specific financial and non-financial objectives, often through annual cash bonuses based on the previous year's performance. These incentives play a vital role in ensuring that CEOs maintain the operational performance of the firm. However, when set at excessive levels, short-term incentives may inadvertently promote managerial myopia, where managers prioritize short-term gains over the long-term health of the firm. Although the manifestation of this behaviour in family firms is not extensively documented, research suggests that short-sighted managerial practices are more prevalent in environments with lower job security, as managers strive to meet immediate goals at the expense of long-term stability (X. Chen et al., 2015). Given that family firms often boast superior monitoring capabilities, this could potentially result in lower job security especially for outsider CEOs. Studies indicate that CEO turnover in family firms is more heavily influenced by poor performance compared to

other firms (Villalonga et al., 2015). Regardless of these findings there seems to be a lack of evidence for lower job security in family firms for family outsider CEOs compared to non-family firms CEOs.

The selection of outsider CEOs in family firms speaks for lower short-termism. Studies have found that short-sighted CEOs aiming for quick wins are unlikely to be attracted to family firms' long investment horizons (Kappes & Schmid, 2013). Therefore, one could argue that outsider CEOs in family firms are less inclined to exploit short-term incentives, as those inclined to do so are less drawn to family firms. Meanwhile, family CEOs may refrain from prioritizing short-term gains to safeguard socioemotional wealth. Furthermore, the structure of CEO compensation packages suggests that an increase in long-term incentives could potentially replace some short-term incentives. This leads to the formulation of a hypothesis regarding short-term incentives.

Hypothesis 3: The proportional use of short-term incentives compared to fixed compensation is lower in Finnish family firms than in Finnish non-family firms.

Long-term incentives serve as a response to potential managerial myopia. Unlike short-term incentives, which are based on a single year's performance, long-term incentives consider performance over multiple years (Larcker, 1983). Research suggests that managers tend to exhibit more short-sighted behaviour compared to shareholders, as they often use higher discount rates for long-term projects, valuing them lower than shareholders would (Kappes & Schmid, 2013). This preference for short-term gains is inherent to managers, whose risks are concentrated in a single firm and are more focused on the present than on distant future years. Implementing long-term incentives for managers can extend their time horizon and incentivize them to pursue more enduring projects (Larcker, 1983).

Most typically, long-term incentives take the form of equity-based performance share plans, where the CEO is rewarded with shares based on predefined key performance indicators (KPIs). However, other types of equity-based compensation plans, such as stock option plans, are extensively used worldwide. In Finland, however, utilization of stock option plans is not significant compared to other Nordic countries (EY, 2022; EY, 2023). In family firms, granting equity-based compensation is likely limited. Firstly, family firms tend to be reluctant to offer equity-based incentives due to their strong desire for control within the company (Croci et al., 2012). Similarly, research by Ikäheimo & Lumijärvi (2018) indicates that Finnish family firms utilize less equity-based compensation than non-family firms,

fearing dilution of their ownership stakes. Secondly, family CEOs often already possess substantial ownership in the company, both in reality and emotionally, rendering equity-based compensation less effective. Furthermore, given the significant goals of family firms to preserve their socioemotional wealth incentivizing the CEO to maximize share prices may not align with their strategic priorities.

The literature widely concurs that family firms are more inclined toward long-term orientation, both theoretically e,g, (Berrone et al., 2012; Casson, 1999) and empirically e.g. (Dyer & Whetten, 2006; Gómez-Mejía et al., 2007; Kappes & Schmid, 2013). Consequently, it is reasonable to assume that family firms expect a more long-term mindset from their managers. While such attributes can be assessed during the hiring process, incorporating a higher proportion of long-term incentives would not be unexpected, as proposed previously in Hypothesis 2.

In line with family firm theories and the context of this thesis, it is probable that Finnish family firms offer lower compensation to CEOs who are family members. This is because family CEOs already possess strong incentives due to their ownership stakes and the private benefits associated with preserving socioemotional wealth. Consequently, they may require fewer supplementary incentives through compensation (McConaughy, 2000). Additionally, Finland's high level of shareholder protection and transparency would make it challenging for entrenched family activities to occur, thus increasing the likelihood of family alignment and lower CEO compensation.

4.4 Summary on literature review

According to agency theory, managers and owners inherently have divergent interests, and remuneration serves as a tool to align these interests. Given the unique dynamics of agency conflicts in family firms, their compensation structures should reflect these differences. The extent to which family firms experience higher overall agency problems compared to other firms is not definitively established. Family firms encounter lower vertical agency problems because of their integrated management and ownership structures. However, they contend with more pronounced horizontal agency problems due to concentrated ownership and the relative distance from other shareholders.

Special characteristics inherent in family firms help to clarify the differences in agency problems that they face. Particularly, the pursuit of SEW, or non-financial goals such as

maintaining the family dynasty and preserving family ties, distinguishes family firms from other types of firms. The entrenchment view posits that the pursuit of SEW often comes at the expense of minority shareholders and the overall well-being of the firm. Activities stemming from this view range from nepotism in CEO appointments to excessive outsider CEO compensation aimed at securing loyalty to the family. In contrast, the alternative alignment view suggests that family owners are naturally aligned with the company's interests and thus have superior incentives to ensure its well-being. Given their inherent motivation to oversee the firm, family members may require fewer additional incentives in the form of remuneration. While evidence supporting these views varies, studies suggest that alignment theory is more prevalent in countries with robust shareholder protection frameworks. The differing findings across studies can be attributed to changes in contextual factors.

In addition to SEW, numerous factors distinguish family firms from non-family firms and may influence CEO remuneration. Boards and their subcommittees play a critical role in determining CEO compensation and mitigating the expropriation of firm wealth (R. Anderson & Reeb, 2004). The effectiveness of these boards depends on their independence and relationship with the CEO. In family firms, where CEOs may have familial ties to the board, they may exert greater influence over board decisions. However, family boards have also been identified as diligent monitors of CEOs, potentially reducing the risk of excessive compensation. Dynamics between boards and CEOs in family firms differ from those in non-family firms, although the extent of these differences remains uncertain.

The presence of institutional investors significantly influences family firm governance and CEO compensation. While these investors often moderate family CEO pay due to perceived alignment with long-term interests, they may also advocate for higher performance-based compensation to enhance monitoring efficiency. Studies show that high foreign institutional ownership is associated with elevated CEO compensation in family firms, while others indicate that institutional owners have a moderating effect on compensation. Additionally, family firms with a high level of internationalization tend to pay their CEOs more, and companies influenced by US markets tend to compensate their CEOs more, reflecting the preferences of foreign institutional owners. However, in Finland, where most institutional owners are domestic pension insurance funds, such trends are not expected.

Even more firm-specific factors play pivotal roles in determining CEO compensation, often accounted for in studies on the subject. Firm size emerges as the foremost predictor of CEO compensation, with larger firms offering higher pay due to their complexity and greater resources. Performance-based pay, influenced by firm performance, is presumed to impact CEO compensation positively, although the actual effect on firm performance remains debated. Strategic orientations such as R&D investment and growth, typically associated with higher compensation due to the specialized CEO talent they require, are less intense in family firms, potentially leading to lower CEO pay.

While it can be expected that CEO compensation levels differ between family firms and other firms, so too does the payment structure. Typically, CEOs receive a mix of base salary, benefits, and variable pay. Given that most studies suggest alignment theory holds true in contexts with high shareholder protection, it can be predicted to apply in Finland as well. Consequently, the compensation structure is likely to align with alignment theory, indicating that family firms favour long-term-oriented compensation packages to align outsider CEO interests with family objectives. Similarly, family firms are likely to rely less on short-term incentives to avoid managers of using them to their advantage against family SEW goals.

Previous literature and studies have different views and findings on family firms depending on the location, industries, time, and definitions (Villalonga et al., 2015). Consequently, conducting research on family firms within their specific contexts is imperative. Building upon insights from family firm and CEO compensation literature, as well as previous studies, hypotheses were formulated in the literature review. The upcoming sections of this thesis will transition into an empirical investigation centered on the Finnish context. This empirical inquiry aims to provide evidence and insights into the dynamics of CEO compensation in family firms within Finland by testing the hypotheses formulated in this thesis. The first and next section of the empirical part of this thesis introduces the data and methods used in the regression analyses to come.

5 Data and methods

The dataset of this thesis consists of Finnish companies listed on Nasdaq Helsinki and Nasdaq First North in the period of 2020 to 2022. The timeframe was specifically chosen to align with the implementation of the new Finnish Corporate Governance Code in 2020. This decision was made to ensure the reliability and accuracy of the data, particularly in light of the new remuneration reporting practices introduced. Finnish companies listed in Nasdaq First North were included as they provide data regarding family CEOs which are rarer in larger and older companies found in Nasdaq Helsinki. This also increases the sample size and therefore reliability of the dataset. Firms operating within the financial sector are excluded from this analysis due to their unique characteristics and regulatory frameworks e.g. on remuneration.

I manually gathered the ownership data from companies' official websites and annual reports, with a focus on end-of-year information spanning the three-year period from 2020 to 2022. Verification of the ultimate owners of holding companies was conducted using Asiakastieto, a service used to verify company information of Finnish entities. In certain cases, assumptions were made regarding ownership data, particularly in the classification of individuals as family owners based on shared last names. However, it is important to acknowledge that this approach may overlook female family members who do not share the family name. I took this potential limitation into account, particularly in borderline cases within family ownership levels.

I meticulously gathered the compensation data from companies' remuneration reports, and in cases where such reports were unavailable, from financial statements. It is important to note that the compensation data reflects actual payments made to the CEO and does not include any unrealized payments. Other relevant data points I sourced from the Orbis database, with any missing information supplemented manually from companies' annual reports.

5.1 Variable descriptions

5.1.1 Dependent variables

In this thesis, all compensation items are attributed to the year they are paid out. Extraordinary compensation items are categorized as either fixed payments or short-term incentives, depending on their characteristics. Severance pays are excluded from the analysis to prevent distortion of the results.

Many studies do not differentiate between short-term and long-term cash incentives, but rather make the separation between cash bonuses and equity incentives. This thesis will make the separation between short-term and long-term incentives in the way they are reported in the company's remuneration report. Stock options were not included in this thesis, particularly when they were reported solely as the number of stocks, as calculating a hypothetical value for them would have been challenging within the scope of the study. Similar approaches have taken also in other studies such as by (Jong & Ho, 2018). Furthermore, given the relatively low usage of stock options in Finland, it is unlikely that their exclusion significantly affects the results of this study. According to a report by EY (2023), only 5% of long-term incentives in Finnish listed companies were option-based in 2022. Additionally, a study comparing Nordic countries by EY (2022) found that in Finnish companies, only 4% of long-term incentives were option-based, whereas in other Nordic countries, stock options were used in 16% to 39% of long-term incentives.

The following payment items are used for the variables used in the compensation analysis:

- Fixed payments: This category encompasses cash salaries, fringe benefits, mandatory pension contributions, and supplementary pensions.
- Short-term incentives (STI): These incentives are based on the previous year's evaluation and results, typically paid in cash. In Finland, KPIs for short-term incentives often revolve around profitability but are increasingly incorporating Environmental, Social, and Governance (ESG) criteria (EY, 2023).
- Long-term incentives (LTI): Long-term incentive schemes typically span three to five previous fiscal years and are commonly equity-based but can also be cash-based. Often, a combination of both forms is utilized, with cash

payments often covering taxes arising from equity-based compensation. In this thesis, LTIs are assumed to be based on the three previous fiscal years, consistent with common practice in Finland (EY, 2023). Option awards reported solely as the number of options, rather than their value, are excluded from the LTIs in this study.

Based on these compensation items, three dependent variables are formulated for subsequent analyses:

1. **Total compensation**: Total compensation includes all the compensation items listed above. Total compensation does not include extraordinary items such as CEO severance pay which is often included in the total compensation in the annual reports. The variable is depicted as a logarithm of total compensation to reduce non-normality and heteroscedasticity (Croci et al., 2012).
2. **Short-term incentive proportion (STIP)**: The dependent variable STIP is calculated as short-term incentive divided by fixed payments. The particular formula is chosen as the upper limits of short-term incentives are often derived from the amount of fixed payment. In all of the regressions STIP will be illustrated as percentage points.
3. **Long-term incentive proportion (LTIP)**: The dependent variable LTIP is similarly calculated as long-term incentive divided by fixed payments. However, to smoothen the effects of some of the extreme values, a logarithmic transformation is applied to this ratio.

5.1.2 Explanatory variables

There is no universally accepted definition of a family firm in the literature. In Finnish studies, such as Ikäheimo & Lumijärvi (2018) family firms are defined as firms with minimum 10% family voting rights. Additionally, owners are eligible for special minority shareholder rights, such as the ability to demand an additional general meeting when their ownership is at least 10% of the company.

In this thesis, family firms are defined similarly, with the criterion being that a single person or group of people sharing the same family name jointly own at least 10% of the company shares in a given period. This definition includes both founder family firms and firms which families have invested in and acquired at least a 10% ownership. To represent family firms, a dummy variable, D(Fam), is employed. Additionally, the level of family ownership is

categorized into three groups based on the concentration of family ownership: (1) Low family ownership (10% to 24.99%), (2) Medium family ownership (25% to 50%), and (3) High family ownership (over 50%). Each group is assigned a corresponding dummy variable: D(Low fam), D(Med fam), and D(High fam).

Research indicates that family influence is particularly significant when the CEO of the firm is a family member. To capture this influence, a separate dummy variable, D(Family CEO), is utilized when a company is led by a family member. This enables a comparison of the remuneration of family and outsider CEOs in family firms.

Given the influence of concentrated ownership on remuneration, a dummy variable, D(Ownership concentration), is included to control for concentrated ownership apart from family ownership. Ownership concentration is assessed using the BvD Independence Indicator from Orbis, which spans from A (indicating low ownership concentration) to D (indicating high ownership concentration). In this thesis, values of B, C, and D signify concentrated ownership, defined as ownership of at least 25% by a single entity or group.

5.1.3 Control variables

Multiple control variables are employed in this thesis to account for typical factors influencing CEO remuneration. The following firm-specific variables are included:

- Firm age (logarithm of years' operating),
- Firm size (logarithm of firm sales),
- Growth (yearly change in sales %),
- Leverage (Debt to equity),
- R&D intensity (R&D expenses to total assets), depicted as dummy variables D(R&D High), D(R&D Med) and D(R&D Low),
- ROA (Profit to total assets).

The control variables were chosen based on previous literature and research. For instance, firm size has been identified as one of the biggest contributors to CEO pay e.g. (Baker et al., 1988; Gomez-Mejia et al., 2003; Tosi et al., 2000). Firm age was also controlled for, considering the differences in family ownership dynamics between young and later-generation firms, as highlighted in previous studies (Combs et al., 2010; Gomez-Mejia et al., 2003). Firm growth is also found to be positively linked to CEO variable compensation (Devers et al., 2007). Considering that family firms rely more on slower organic growth

(Ikäheimo & Lumijärvi, 2018) it makes sense to control growth when analysing CEO compensation. Leverage was included to enhance comparability with similar studies like those conducted by Ikäheimo & Lumijärvi (2018) and Jong & Ho, (2018). Similarly to firm growth, R&D intensity is used to depict a strategic inclination of a firm found to affect CEO compensation (Gomez-Mejia et al., 2003; Ikäheimo & Lumijärvi, 2018). And lastly the return on assets (ROA) is used to depict firm performance (Combs et al., 2010; Gomez-Mejia et al., 2003). Moreover, most of the beforementioned control variables were used in a similar Finnish setting by Ikäheimo & Lumijärvi (2018) giving merit on the use of these also in this thesis.

Dummy variables were used on R&D due to the excessive amount of zero values which skewed the data. The control variables are based on previous years information compared to the compensation payment year, as CEO compensation is almost always based on previous years decisions and performance. Furthermore, dummy variables are utilized to mitigate industry and year-specific effects as in all encountered previous studies. Industry classifications from the ICB framework are employed, with the "Industrial" sector serving as the reference category. Year dummy variables are also included, with "2022" acting as the reference year.

5.2 Summary statistics

The number of firms has varied between the years 2020 to 2022 as new companies have been listed and some have unlisted. Initially there were 547 firm years of which 60 were eliminated as they concern financial companies. From the remaining sample of firms, a total of 108 firm years were eliminate due to missing remuneration and/or ownership data. This resulted in a final dataset comprising 379 firm-years, as depicted in Table 1 below.

Table 1: Summary of data sample

	Number of firms and total firm-year observations			
Year	2022	2021	2020	Total
Initial sample	185	183	179	547
Financial companies	20	20	20	60
Missing data	29	31	48	108
Data used in regression analyses	136	132	111	**379**

During the period from 2020 to 2022, family firms in Finland constituted approximately 66% of the total listed companies, as depicted in Table 2 below. This proportion is slightly higher compared to a similar study conducted by Ikäheimo & Lumijärvi (2018) where family firms accounted for 58% of Finnish listed companies in 2016. Family firms seem to be more prevalent in certain industries than in others. Based on the Industry Classification Benchmark (ICB) most Finnish listed companies belong to the industrial sector, with 81% of them being family firms. The technology sector follows closely behind, with a proportional representation of 72% family firms, while the consumer goods sector ranks third with 69% family firm representation. Family ownership also extends to other sectors, albeit to varying degrees, including basic materials (59%), healthcare (55%), real estate (54%), telecommunications (33%), utilities (25%), and consumer goods (28%).

Table 2: Number of firm-year observations by industry

	All firms	Family firms	Other firms	%- Family firms
Basic materials	22	13	9	59 %
Consumer Goods	29	8	21	28 %
Consumer Services	78	54	24	69 %
Energy	3	0	3	0 %
Health Care	31	17	14	55 %
Industrials	126	102	24	81 %
Real Estate	13	7	6	54 %
Technology	60	43	17	72 %
Telecommunications	9	3	6	33 %
Utilities	8	2	6	25 %
Total	**379**	**249**	**130**	**66 %**

Within the dataset of this thesis, approximately 12% of the companies are listed on Nasdaq First North, a marketplace tailored for small, emerging Nordic firms. Around 70% of First North firms were family firms in the data set, which is slightly more than the dataset average. However, the difference is minimal and does not require an additional control variable to be included, as possible biases should be captured by the industry dummy variables. Generally, First North serves as an initial platform for companies seeking broader external financing, with their eventual aim being to transition to the main exchange. Consequently, these companies closely resemble the smaller firms listed on the Helsinki Stock Exchange. Notably, the health care sector exhibits the highest proportional representation of First North firms, constituting 32% of the sample within this sector, as illustrated in Table 3 below.

Table 3: Number of firm-year observations by industry categorized between Helsinki stock exchange and First North

	Listed in Helsinki stock exchange	Listed in First North	%- First North
Basic materials	22	0	0 %
Consumer Goods	24	5	17 %
Consumer Services	75	3	4 %
Energy	3	0	0 %
Health Care	21	10	32 %
Industrials	105	21	17 %
Real Estate	12	1	8 %
Technology	53	7	12 %
Telecommunications	9	0	0 %
Utilities	8	0	0 %
	332	**47**	**12 %**

From 2020 to 2022, family firms with "Low" ownership (10%-24.99%) represented 35% of total firm-year observations. In 23% of total firm-year observations, family firms had "Medium" ownership (25%-50%), while in 8% of observations, family firms had "High" ownership (>50%). Non-family firms with concentrated ownership accounted for 14% of total observations. The remaining 21% of observations were classified as widely held firms with no significant ownership concentration, as depicted in Table 4 below. Family member CEOs comprised approximately 14% of family firm CEOs, which translates to 9% of CEOs in all listed Finnish firms.

Table 4: Number of firm-year observations by ownership type

Ownership type	Firm-year observations	%- of total observations
Family ownership concentration		
Low ownership	132	35 %
Medium ownership	88	23 %
High ownership	29	8 %
Other firms		
Ownership concentration	52	14 %
Widely held firms	78	21 %
Total	**379**	**100 %**
	%- of family firms	%- of total observations
Family CEO	14 %	9 %

A limited number of companies only provided the total compensation amount of their CEO without detailing the individual payment items, as illustrated in Table 5 below. These instances are solely included in the analysis of total compensation but excluded when examining variable payments. Although the excluded observations from variable pay regressions exhibit a higher proportion of family firms, the actual number of excluded observations is minimal, reducing concerns regarding biased results.

Table 5: Summary of data sample for variable pay regressions

	Total observations	Family firm observations	% of total observations	Other company	% of total observations
Start sample	379	249	66 %	130	34 %
Only total compensation reported	31	26	84 %	5	16 %
End sample for variable pay	**348**	**223**	**64 %**	**125**	**36 %**

Table 6 below depicts the use of various CEO compensation schemes in the dataset utilized for regressions concerning variable pay. This table excludes observations with only total compensation reported, as detailed earlier in Table 5. Upon examining the variable pay sample, it is observed that 73% of companies paid short-term incentives to their CEOs. Similarly, long-term incentives were paid 45% of the time, while both incentives were paid in 37% of cases. Share-based plans were implemented by firms 87% of the time, although they may not have been exercised in the current period. As illustrated in Table 6 below, both short-term and long-term incentives were less frequently provided, both individually and collectively, in family firms compared to non-family firms.

Table 6: CEO compensation schemes between family firms and non-family firms

	Total observations	%- of compensation sample	Family firm observations	%- of total family firm observations	Other company observations	% of total other firm observations
Short-term incentive (STI)	255	73 %	144	65 %	111	89 %
Long-term incentive (LTI)	157	45 %	89	40 %	68	54 %
STI & LTI	128	37 %	64	29 %	64	51 %
Share-based plan	302	87 %	192	86 %	110	88 %

5.3 Methods

5.3.1 Ordinary least squares (OLS) method

Ordinary Least Squares (OLS) is a widely employed statistical method that aims to minimize the sum of squared vertical differences between observed and predicted values. The model is often used in similar studies such as by Ikäheimo & Lumivirta (2018) and it serves as a fundamental technique for estimating relationships between dependent and independent variables. OLS operates on the assumption of linearity between these variables, with the discrepancies between predicted and observed values represented as residuals.

This method boasts several strengths, including its simplicity, efficiency, and reliability. OLS yields results that are intuitive, facilitating clear interpretation and practical implications. Its efficiency lies in its scalability and ability to minimize variance among estimators. Moreover, OLS is renowned for its reliability, as it consistently produces unbiased estimates and accommodates multiple statistical tests.

In this thesis, every regression analysis will provide a comprehensive set of metrics, including coefficients, standard errors, t-statistics, p-values, confidence intervals, R-squared, adjusted R-squared, F-values, and the number of observations. These metrics collectively offer valuable insights into the relationship between variables and the overall robustness of the model.

5.3.2 Model specification

The model encompasses ten distinct groups of variables, with the dependent variable comprising multiple groups that are employed in separate regression analyses: Total compensation (TC), Short-term incentive proportion (STIP), and Long-term incentive proportion (LTIP). The independent variable groups include ownership concentration (OC), family ownership (FO), and family CEO (FCEO). Additionally, the control variable group encompasses firm-specific (FS), industry (I), and year (Y) control variables. The models, along with their corresponding dependent variable groups, are outlined below:

$$TC_{it} = a + b(OC_{it}) + c(FO_{it}) + d(FCEO_{it}) + e(FS_{it}) + f(I_{it}) + g(Y_{it}) + \varepsilon_{it}$$

$$STIP_{it} = a + b(OC_{it}) + c(FO_{it}) + d(FCEO_{it}) + e(FS_{it}) + f(I_{it}) + g(Y_{it}) + \varepsilon_{it}$$

$$LTIP_{it} = a + b(OC_{it}) + c(FO_{it}) + d(FCEO_{it}) + e(FS_{it}) + f(I_{it}) + g(Y_{it}) + \varepsilon_{it}$$

The Total compensation (TC) is a logarithm of total compensation. Short-term inventive proportion (STIP) is short-term incentive divided by fixed compensation. Respectively, the Long-term Incentive Proportion (LTIP) is calculated as the division of long-term incentives by fixed payments. To mitigate the impact of extreme values, a logarithmic transformation is applied to this ratio, facilitating a smoother representation and analysis of the data. The independent variable groups are structured as follows: Ownership Concentration (OC) comprises D(Ownership concentration) and D(Family), while the Family Ownership group (FO) encompasses D(Low family), D(Medium family), and D(High family). Family CEO (FCEO) indicates the presence of a family CEO with the variable D(Family CEO). The Firm-specific (FS) group includes firm age, firm size, leverage, R&D intensity dummies, and

ROA. The industry control variable (I) consists of industry dummy variables based on ICB industry classification, and the Year control variables (Y) comprise year dummy variables spanning from 2020 to 2022.

5.3.3 Limitations of the method

The model assumes a linear relationship between the dependent and independent variables, which may lead to inefficient estimates and biases if the true relationship is nonlinear. Additionally, the OLS method is sensitive to outliers, which can disproportionately impact estimated coefficients. To mitigate this, detailed compensation data, such as remuneration reports, are utilized to exclude outlier variables like CEO severance pay. Furthermore, a winsorization method is employed to trim extreme values from the lower 1% and upper 99% of the sample, preserving sample integrity while reducing the impact of outliers.

Another challenge is multicollinearity, where strong correlations between explanatory variables can hinder reliable coefficient estimation. To address this, variance inflation factor (VIF) analysis is conducted in Stata for each regression. VIF measures the extent of multicollinearity for each independent variable, with values above 5 indicating high multicollinearity. Variables with high VIF scores are removed to maintain the reliability of other variables, while values between 1 and 5 suggest low to moderate multicollinearity, typically acceptable for analysis.

6 Results

6.1 Descriptive statistic

In this section, I provide a comprehensive overview of the descriptive statistics concerning the dependent variables, controlled variables, and explanatory variables utilized in the analysis. Examining these statistics aims to offer a detailed understanding of the distribution, central tendencies, and variability of the data, laying the groundwork for the subsequent analyses and interpretations.

6.1.1 Control variables and dependent variables

Analysing the statistics of the control variables provides valuable insights into the characteristics of the companies under study. On average, the yearly sales, a measure of firm size, amount to approximately 1.65 billion euros, while the average firm age stands at 55 years. Initially, variables such as the debt-to-equity ratio, sales growth, and R&D intensity exhibited extreme values, necessitating a winsorization process to trim outliers from the lower 1% and upper 99% of the sample. Following this adjustment, the average debt-to-equity ratio was recorded at 63.7%, sales growth at 16.4%, and R&D intensity at 2.3%. Furthermore, the average return on assets (ROA) for the firms amounted to 1.6%, as detailed in Table 7.

Table 7: Descriptive statistics of control variables

	Mean	Median	Std Dev	Minimum	Maximum
Firm size (firm sales EUR)	1 648 820 898	179 334 000	6 886 465 390	6 000	112 400 000 000
Firm age (in years)	55,4	34,0	50,6	3,0	373,0
Debt to equity %	63,7	55,4	89,1	-304,4	372,7
Sales growth %	16,4	4,6	61,2	-96,3	398,1
R&D intensity %	2,3	0,3	6,8	0	99,8
ROA %	1,6	3,5	15,2	-88,6	92,3
Ln Firm size	19,0	19,0	2,3	8,7	25,4
Ln Firm age	3,6	3,5	0,9	1,1	5,9

When comparing family firms to non-family firms, notable distinctions emerge. Family firms, on average, feature smaller firm sizes, with family firms boasting an average sales figure of approximately 794 million euros, in contrast to non-family firms' significantly higher average of 3.58 billion euros. Additionally, family firms tend to be younger, with an average firm age of around 54 years, whereas non-family firms have an average firm age of

67 years. Furthermore, family firms typically demonstrate lower growth rates compared to their non-family counterparts, a trend evident in the data presented in Table 8 below.

Table 8: Descriptive statistics of control variables categorized between family firms and other firms

	Mean		Median		Std Dev	
	Family firm	Other firms	Family firm	Other firms	Family firm	Other firms
Firm size (firm sales EUR)	793 645 426	3 578 837 024	158 998 000	383 900 000	1 773 110 555	11 557 843 041
Firm age (in years)	53,6	66,8	34,0	54,0	55,4	42,4
Debt to equity %	69,8	62,4	60,6	48,6	89,5	65,8
Sales growth %	11,9	16,1	4,6	4,1	51,1	56,8
R&D intensity (R&D expe	2,1	1,9	-	0,0	5,2	3,7
ROA %	3,2	3,4	3,6	4,4	12,7	10,2
Ln Firm size	19,0	19,9	13,0	19,8	1,9	2,4
Ln Firm age	3,6	3,9	3,5	4,0	0,9	0,8

Transitioning to the compensation data and the derived dependent variables, it is observed that the average fixed compensation in the dataset stands at approximately 555 thousand euros. This fixed compensation encompasses various components such as base salary, benefits, pension contributions, and supplementary pension contributions. On the other hand, the average short-term incentive amounts to around 177 thousand euros, while the average long-term incentive is approximately 300 thousand euros. Comparatively, the average proportion of short-term incentive to fixed compensation is about 25.5%, whereas the average proportion of long-term incentive to fixed compensation is around 42.3%. The average total compensation is recorded at 960 thousand euros, with variable pay constituting an average of 27.4% of the total compensation as presented in Table 9 below.

Notably, both short- and long-term incentives exhibit relatively high standard deviations, reflecting the diverse approaches companies employ regarding performance-based pay. Consequently, numerous zero values are present, indicative of instances where performance-based pay goals were not achieved. Additionally, some of the highest long-term incentive amounts were subjected to winsorization to mitigate their disproportionate influence on the results. Prior to winsorization, the maximum long-term incentive exceeded 27 million euros, underlining the potential for extreme values to skew the analysis.

Table 9: Descriptive statistics of compensation data and dependent variables

	Mean	Median	Std Dev	Minimum	Maximum
Fixed compensation	555 264	379 432	446 955	81 000	2 802 710
Short-term incentive	177 114	69 244	302 644	0	2 975 781
Long-term incentive	299 953	0	694 206	0	4 706 670
STIP %	25,5	17,9	29,2	0	222,8
LTIP %	42,3	0	101,1	0	677,6
Variablepay %	27,4	21,9	23,7	0,0	89,1
Total compensation	960 005	537 844	1 124 469	89 000	8 211 444
Ln Total compensation	13,3	13,2	0,9	11,4	15,9

When investigating compensation data between family firms and non-family firms it becomes apparent that family firms are paid less than other firms. For example, the average fixed compensation for family firms is around 442 thousand euros whereas for non-family firms the average fixed compensation is around 757 thousand euros. The biggest difference however can be found in short-term incentives. On average family firms pay 114 thousand euros in short-term incentives whereas non-family firms pay around 290 thousand euros. Similarly, the proportion of short-term incentives compared to fixed compensation (STIP) in family firms is notably lower than in non-family firms. However, interestingly the proportion of long-term incentives compared to fixed compensation (LTIP) is slightly higher in family firms than in non-family firms. The lower average compensation is further illustrated in total compensation where family firms pay on average 788 thousand euros and non-family around 1 469 thousand euros as can be seen from Table 10 below.

Table 10: Descriptive statistics of compensation data and dependent variables categorized between family firms and other firms

	Mean		Median		Std Dev	
	Family firm	Other firms	Family firm	Other firms	Family firm	Other firms
Fixed compensation	442 024	757 284	328 916	520 466	311 480	568 105
Short-term incentive	114 035	289 647	33 320	163 000	177 973	424 763
Long-term incentive	231 747	421 633	0	38 000	631 416	784 488
STIP %	20,7	34,0	12,6	27,6	25,4	33,3
LTIP %	43,7	39,8	0	6,7	118,4	59,8
Variablepay %	23,6	34,2	16,5	31,6	24,1	21,5
Total compensation	787 806	1 468 564	430 000	872 031	891 623	1 526 958
Ln Total compensation	13,1	13,8	13,0	13,7	0,9	0,9

6.1.2 Explanatory variables

The descriptive statistics of the explanatory variables are summarized in Table 11, where all variables are represented as dummy variables. On average, the ownership concentration stands at 0.42, indicating that approximately 42% of firm observations exhibit concentrated ownership, defined as a shareholding of at least 25%. Family firms constitute the majority,

comprising 66% of all Finnish listed firms. Delving deeper into family ownership, it is found that low family ownership is observed in 35% of Finnish companies, while medium ownership is present in 23% of instances, and high family ownership in 8% of listed firms.

Furthermore, the presence of a family CEO is noted in 9% of all firm observations, equating to 14% of all family firms. This implies that the vast majority, 86%, of family firms are managed by professional CEOs rather than family members.

Table 11: Descriptive statistics of explanatory variables

	Mean	Median	Std Dev	Minimum	Maximum
D(Ownership concentration)	0,42	0	0,49	0	1
D(Fam)	0,66	1	0,47	0	1
D(Low fam)	0,35	0	0,48	0	1
D(Med fam)	0,23	0	0,42	0	1
D(High fam)	0,08	0	0,27	0	1
D(Family CEO)	0,09	0	0,29	0	1

6.2 Correlation analysis

Table 12 presents a correlation matrix illustrating the relationships among key variables in this thesis, including CEO total compensation, firm-specific control variables, and explanatory variables. The correlation coefficients in the matrix range from -1 to 1, signifying perfect negative or perfect positive relationships, respectively. A multitude of factors affect total CEO compensation as the compensation setting processes vary greatly between companies. Therefore, it is not reasonable to expect high levels of correlations between a single variable and total compensation. In the context of this thesis a high correlation is considered when the absolute value of the correlation coefficient is above 0.30. A moderate correlation has an absolute value between 0.3 and 0.15. Similarly, an absolute value lower than 0.15 is considered low correlation. The p-values indicating statistical significance are present in the matrix.

No major multicollinearity issues are identified from the matrix. High level of correlation is present notably concerning total compensation, firm size, firm age and between some of the dummy variables as expected. To provide further assurance a VIF command is used in in each regression of this thesis as detailed in section 5.3.3.

6.2.1 Control variable and dependent variable correlation

As supported by the literature review, firm size emerges as the most influential factor in determining CEO compensation, evident from its notably high positive coefficient of 0.72.

Firm age also exhibits a strong correlation with total compensation (0.38), albeit somewhat intertwined with firm size (0.43). Interestingly, sales growth demonstrates a low negative correlation (-0.10) with total compensation, possibly indicating that rapidly growing firms, typically smaller and younger, may face constraints in offering high CEO salaries. Notably low and high levels of R&D intensity are positively correlated (0.20 & 0.12) with total compensation suggesting that firms with no R&D expenditure pay their CEOs less on average, consistent with the previous findings presented in literary review. Examining profitability, return on assets (ROA) demonstrates a moderate positive correlation (0.28) with total compensation. Notably, ROA exhibits a strong positive correlation with firm size (0.45), potentially elucidating some of the association with total compensation. Conversely, while no significant correlation is observed between the debt-to-equity ratio and total compensation, the variable is retained for the sake of comparability, given its inclusion in numerous similar studies.

6.2.2 Explanatory variable correlation

As anticipated, family firms exhibit a negative correlation with firm size, particularly evident at low and medium ownership levels (-0.13 & -0.12), suggesting that, on average, family firms are smaller in scale compared to other firms. Moreover, family firms tend to be younger on average, although this relationship is statistically significant only at low family ownership levels (-0.17).

However, the correlation between family ownership levels and other firm-specific variables yields mixed results. Low and medium family ownership levels demonstrate a low negative correlation with low R&D intensity (-0.18 & -0.13), contradicting the notion that family firms allocate less resources to R&D activities. Similarly, medium and high family ownership levels exhibit a slight negative correlation with high R&D intensity (-0.09 & -0.08), indicating that family firms may have R&D expenditure levels comparable to those of non-family firms. While there appears to be some association between R&D intensity and family ownership, the magnitude of these effects is minimal and challenging to interpret definitively.

Looking at firm performance, high family ownership has a low positive correlation (0.10) with sales growth. This might be explained by a number of smaller new firms which are often run and owned by the firm founder. Such firms are likely to experience high growth at their infancy. Low family ownership has a low negative correlation (-0.13) on ROA whereas

medium family ownership has a low positive correlation (0.11). It could be suggested that family ownerships benefit only become relevant at moderate ownership concentration levels.

The correlation of explanatory variables with total compensation aligns with the literature review and the hypotheses formulated. Ownership concentration demonstrates a low negative correlation with total compensation (-0.09), while medium family ownership displays a moderate negative correlation (-0.24). This suggests that family ownership potentially moderates CEO compensation compared to other forms of concentrated ownership, as theorized in the literature. This implies that listed family firms in Finland may face fewer agency problems compared to other firms. Although low and high family ownership levels also exhibit a low negative correlation with total compensation, their coefficients are not statistically significant. Furthermore, family CEOs demonstrate a high negative correlation with total compensation (-0.33), consistent with alignment theory, as family CEOs are more inclined to accept lower pay levels to align with family goals.

While the initial findings from the correlation analysis enable broad interpretations, more robust methods are necessary to test the hypotheses. Section 6.3 will introduce regression analyses, providing more reliable results regarding the relationship between family ownership and CEO compensation.

Table 12: Correlation matrix of CEO total compensation, firm-specific control variables, and explanatory variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Ln Total compensation	1													
2. Ln Firm size	0.72***	1												
3. Ln Firm age	0.38***	0.43***	1											
4. Debt to equity %	0.04	0.15***	-0.03	1										
5. Sales growth %	-0.10**	-0.13**	-0.22***	-0.05	1									
6. D(R&D Low)	0.20***	0.26***	0.03	-0.07	-0.01	1								
7. D(R&D Med)	0.04	0.01	0.16***	-0.13***	0.01	-0.31***	1							
8. D(R&D High)	0.12**	-0.08	0.06	-0.12**	-0.05	-0.17 ***	-0.16***	1						
9. ROA %	0.28***	0.45***	0.19 ***	0.15***	0.02	0.03	-0.03	0.12**	1					
10. D(Ownership concentration)	-0.09*	-0.02	-0.10**	-0.01	0.04	0.09*	-0.05	-0.09*	0.03	1				
11. D(Low fam)	-0.08	-0.13***	-0.17***	0.01	-0.04	-0.18***	0.02	0.09*	-0.13**	-0.30***	1			
12. D(Med fam)	-0.24***	-0.12**	-0.04	0.04	-0.06	-0.13**	0.02	-0.09*	0.11**	0.26***	-0.40***	1		
13. D(High fam)	-0.05	-0.01	-0.07	-0.04	0.10**	-0.03	0.06	-0.08*	-0.08	0.19***	-0.21***	-0.16***	1	
14. D(Family CEO)	-0.33***	-0.28***	-0.20***	-0.09*	0.13 **	-0.12**	0.08*	0.01	-0.04	0.03	0.12**	0.14***	-0.03	1

Significance levels of 1%, 5% and 10% are indicated as ***, ** and *.

6.3 Regression analysis

This section introduces the regression analyses aimed at assessing the hypotheses outlined in this thesis. Separate regressions are conducted for each dependent variable: total compensation, short-term incentive proportion (STIP), and long-term incentive proportion (LTIP). The explanatory variables include different levels of family ownership (Low, Medium, and High), ownership concentration, and the presence of a family CEO, aiming to estimate the dependent CEO compensation variables. Additionally, firm-specific control variables, year dummies, and industry dummies are included in each regression.

In each regression analysis, the coefficients, standard errors, t-statistic values, p-values, and 5% and 95% confidence intervals for each variable are displayed. The coefficient's sign signifies whether the relationship between an independent variable and the dependent variable is positive or negative. Additionally, the coefficient value measures the magnitude of change in the mean of the dependent variable when the explanatory variable changes by one unit, while holding other variables constant.

The p>|t| value indicates the extent to which the coefficients of the explanatory variable deviates from zero. Typical significance levels utilized in research are 1%, 5% and 10%. If the p-value is less or equal to 0.01, 0.05, or 0.1, it is considered statistically significant at the corresponding level.

To assess multicollinearity, the Variance Inflation Factor (VIF) is utilized, with the “vif” command executed in Stata after each regression analysis. A high VIF value, typically over 5, raises concerns as it indicates an increased likelihood of multicollinearity. In all tested models below, no significant multicollinearity issues are observed, with each variable having a VIF value below 2.50 and the mean VIF for each analysis remaining below 1.50, ensuring the reliability of the results.

The coefficient of determination, also known as R-squared, is a statistical measure quantifying the proportion of the variability in the dependent variable which are explained by the independent variables in the regression model. R-squared indicates the goodness of fit of the model, expressing the percentage of variability in the response variable that can be accounted for by the predictors. Adjusted R-squared, on the other hand, considers the number of variables and sample size, offering a more balanced evaluation of the model's explanatory

power. Adjusted R-squared accounts for the trade-off between explanatory capacity and model complexity, enhancing comparability between models.

6.3.1 Total compensation and family ownership

Before introducing any explanatory variables, a regression is conducted on controlled variables and CEO total compensation. The results, shown in Table 13, reveal that firm size and R&D intensity have a statistically significant positive relationship with total compensation. Interestingly, return on assets (ROA) exhibits a slight statistically significant negative relationship with total compensation. Although firm age displays a positive relationship with total compensation, it fails to achieve statistical significance. Similarly, while sales growth demonstrates a slightly positive relationship with total compensation, it does not reach statistical significance. Conversely, the debt-to-equity ratio shows no meaningful relationship with total compensation, and the slightly negative coefficient is not statistically significant.

Table 13: Regression 0 – Control variables of CEO total compensation

Dependent variable	**Ln Total compensation**					
	Coef.	Std. err.	t	P>|t|	[0.05	0.95]
Controlled variables						
Ln Firm size	0.317	0.021	15.45	0.000	0.276	0.357
Ln Firm age	0.057	0.046	1.25	0.212	-0.033	0.146
Dept to equity %	-0.000	0.000	-0.29	0.768	-0.001	0.001
Sales growth %	0.001	0.001	0.92	0.356	-0.001	0.002
D(R&D Low)	0.176	0.097	1.82	0.070	-0.014	0.366
D(R&D Med)	0.229	0.097	2.36	0.019	0.038	0.419
D(R&D High)	0.807	0.147	5.48	0.000	0.518	1.096
ROA %	-0.006	0.003	-2.10	0.036	-0.011	0.000
Constant	6.825	0.372	18.36	0.000	6.094	7.556
Year dummies	Yes					
Industry dummies	Yes					
R-squared	0.576					
Adjusted R-squared	0.554					
F-value	25.690					
Observations	379					

The first hypothesis examines whether family firms compensate their CEOs less than non-family firms. The regression results presented in Table 14 explore the relationship between family ownership level and CEO total compensation. A concentrated ownership dummy is included to ensure that any observed effects of family ownership on compensation are not solely attributable to concentrated ownership structures.

The results indicate a moderate to high negative relationship between family ownership and CEO total compensation, suggesting that family firms indeed offer lower total compensation to their CEOs even after controlling for other relevant factors. Specifically, the coefficient for concentrated ownership exhibits a statistically significant low negative correlation (-0.121), while the coefficient for family ownership shows a statistically significant moderate negative correlation (-0.266). This suggests that family firms possess unique compensation moderating factors not present in other forms of concentrated ownership, aligning with the hypotheses outlined in the literature review. This finding is consistent with previous research on Finnish listed family firms by Ikäheimo & Lumijärvi (2018), which similarly found that family firms tend to compensate their CEOs less than non-family firms.

Given that the definition of a family firm varies across studies (Villalonga et al., 2015), it is important to consider the level of family ownership to better understand its impact. Thus, the regression results on the right side of Table 14 categorize family ownership into three levels (Low, Medium, and High). Each level demonstrates a statistically significant negative relationship with total compensation. Notably, the coefficient for general ownership concentration decreases to a statistically insignificant value (-0.069), indicating that the influence of general ownership concentration diminishes when family ownership is considered.

Further analysis reveals that Low family ownership exhibits a statistically significant negative relationship with total compensation (-0.186), while Medium family ownership has the most pronounced effect with a negative coefficient of (-0.399). These results suggest that as family ownership increases, the moderating effects on CEO compensation become more pronounced. However, at high family ownership levels, the moderating effects are somewhat less severe (-0.278) compared to medium family ownership. This implies that alignment theory is most prominent in moderate family ownership levels, but as the family gains full control of the firm, some entrenchment may emerge, contributing to weakened alignment incentives due to increased horizontal agency problems.

Table 14: Regression 1.1 – Family ownership and CEO total compensation

Dependent variable	Ln Total compensation						Ln Total compensation					
	Coef.	Std. err.	t	P>|t|	[0.05	0.95]	Coef.	Std. err.	t	P>|t|	[0.05	0.95]
Explanatory variables												
D(Ownership concentration)	-0.121	0.072	-1.69	0.091	-0.262	0.0195	-0.069	0.077	-0.90	0.371	-0.221	0.083
D(Family)	-0.266	0.083	-3.21	0.001	-0.429	-0.103						
D(Low fam)							-0.186	0.092	-2.03	0.043	-0.367	-0.006
D(Med fam)							-0.399	0.104	-3.83	0.000	-0.604	-0.194
D(High fam)							-0.278	0.150	-1.85	0.065	-0.574	0.017
Controlled variables												
Ln Firm size	0.309	0.020	15.20	0.000	0.269	0.349	0.303	0.021	14.76	0.000	0.262	0.343
Ln Firm age	0.017	0.046	0.36	0.718	-0.074	0.107	0.025	0.046	0.54	0.589	-0.066	0.116
Dept to equity %	-0.000	0.000	-0.44	0.663	-0.001	0.001	-0.000	0.000	-0.47	0.639	-0.001	0.001
Sales growth %	0.000	0.001	0.58	0.561	-0.001	0.002	0.000	0.001	0.47	0.641	-0.001	0.001
D(R&D Low)	0.126	0.097	1.24	0.217	-0.071	0.312	0.117	0.0972	1.20	0.231	-0.075	0.308
D(R&D Med)	0.233	0.096	2.44	0.015	0.045	0.421	0.231	0.095	2.43	0.016	0.044	0.419
D(R&D High)	0.761	0.145	5.24	0.000	0.475	1.047	0.725	0.146	4.96	0.000	0.438	1.012
ROA %	-0.005	0.003	-2.01	0.045	-0.011	-0.000	-0.004	0.003	-1.63	0.104	-0.010	0.001
Constant	7.404	0.398	18.59	0.000	6.621	8.188	7.484	0.400	18.72	0.000	6.698	8.271
Year dummies	Yes						Yes					
Industry dummies	Yes						Yes					
R-squared	0.592						0.597					
Adjusted R-squared	0.568						0.571					
F-value	24.65						22.86					
Observations	379						379					

As found by numerous researchers (Barontini & Bozzi, 2010; Cohen & Lauterbach, 2008; Croci et al., 2012; Gomez-Mejia et al., 2003; Ikäheimo & Lumijärvi 2018), the compensation of family CEOs differs from that of professional CEOs in family firms. Whether family CEOs are compensated more or less than their non-family counterparts depend on the perspective between alignment and entrenchment theories. Therefore, Table 15 introduces a variable indicating whether the firm is led by a family CEO or a professional CEO.

The results presented in Table 15 reveal that the presence of a family CEO has a statistically significant strong negative effect on CEO total compensation (-0.446). This indicates that family CEOs receive lower total compensation compared to professional CEOs in family firms. Moreover, some of the explanatory power has shifted from the family ownership level variables to the presence of a family CEO.

Notably, the negative coefficient associated with the presence of a family CEO is stronger than that of any family ownership level variable. This suggests that family CEOs are indeed compensated less than non-family CEOs within family firms. This finding aligns with the principles of alignment theory, which posits that family CEOs inherently share congruent interests with the firm, thereby reducing the necessity for excessive compensation as a form of incentive.

Based on these results, support for Hypothesis 1 is found, suggesting that family firms pay their CEOs less total compensation, especially when the firm is managed by a family member.

Table 15: Regression 1.2 – Family ownership variables and CEO total compensation

Dependent variable	Ln Total compensation					
	Coef.	Std. err.	t	P>|t|	[0.05	0.95]
Explanatory variables						
D(Ownership concentration)	-0.071	0.076	-0.94	0.347	-0.221	0.078
D(Low fam)	-0.136	0.091	-1.49	0.138	-0.315	0.044
D(Med fam)	-0.348	0.104	-3.36	0.001	-0.552	-0.144
D(High fam)	-0.268	0.148	-1.81	0.071	-0.559	0.023
D(Family CEO)	-0.446	0.125	-3.57	0.000	-0.692	-0.200
Controlled variables						
Ln Firm size	0.288	0.021	14.02	0.000	0.248	0.329
Ln Firm age	0.007	0.046	0.15	0.883	-0.083	0.097
Dept to equity %	-0.000	0.000	-0.73	0.465	-0.001	0.000
Sales growth %	0.000	0.001	0.78	0.435	-0.001	0.002
D(R&D Low)	0.124	0.096	1.29	0.196	-0.064	0.312
D(R&D Med)	0.272	0.094	2.89	0.004	0.087	0.458
D(R&D High)	0.744	0.144	5.17	0.000	0.461	1.026
ROA %	-0.004	0.003	-1.40	0.161	-0.009	0.002
Constant	7.820	0.404	19.34	0.000	7.025	8.616
Year dummies	Yes					
Industry dummies	Yes					
R-squared	0.611					
Adjusted R-squared	0.585					
F-value	23.16					
Observations	379					

The results regarding total compensation provide evidence that listed family firms in Finland tend to compensate their CEOs less overall compared to non-family firms. This finding resonates with alignment theory, which posits that family firms' management inherently shares congruent interests with shareholders, particularly given the overlapping roles within family firms. The core values of Socioemotional Wealth (SEW), as introduced by Gómez-Mejía et al., (2007) are likely significant contributors to these results, considering that other prominent characteristics of family firms were controlled for in the regressions. The pursuit of SEW inherently influences CEO compensation, given its pivotal role in shaping management decisions.

Moreover, the findings underscore the prevalence of alignment theory, particularly evident in the observation that family CEOs receive lower compensation compared to professional CEOs in family firms. Family CEOs are likely driven by strong SEW goals themselves, thereby reducing the necessity for excessive compensation. Moreover, family CEOs are often subject to significant influence from family boards, a dynamic heightened by the strong social ties inherent in family firms (Mustakallio et al., 2002). This influence serves to diminish the likelihood of managerial entrenchment, thereby mitigating the potential for excessive CEO compensation. By operating within the framework of close-knit family relationships, family CEOs are subject to enhanced oversight and accountability, further

reinforcing the alignment between CEO compensation and the broader goals of the family firm.

6.3.2 Short-term incentive and family ownership

The second hypothesis examines whether family firms provide their CEOs with lower short-term incentives relative to fixed compensation compared to non-family firms. The dependent variable, STIP %, represents the proportion of short-term incentives to fixed compensation. To isolate the effect of family ownership, ownership concentration is included as a control variable in the regression analysis.

Table 16 displays the results, revealing a statistically significant negative correlation between family ownership and STIP (-13.292). This suggests that family firms offer lower short-term incentives relative to fixed compensation compared to non-family firms. To delve deeper into this relationship, a second regression is conducted, incorporating additional explanatory family variables.

Analysing the control variables in the second regression, significant positive relationships are observed for firm size, sales growth, and high R&D intensity, with coefficients of (5.960), (0.056), and (17.867) respectively. Conversely, firm age and low R&D intensity exhibit statistically significant negative relationships, with coefficients of (-3.371) and (-8.642) respectively. These findings shed light on the nuanced dynamics influencing short-term incentive structures within family firms.

When family ownership is further categorized, the regression results reveal a statistically significant and strong negative relationship between family ownership and STIP, particularly at low and medium family ownership levels, with coefficients of (-15.674) and (-13.622) respectively. However, high family ownership exhibits a positive coefficient of (4.593), though statistically insignificant. This ambiguous result may be interpreted in light of the theory proposed by Shleifer & Vishny, (1997) suggesting that as ownership concentration increases, controlling shareholders may prioritize generating private benefits at the expense of minority shareholders.

Given that the explanatory variables are binary, and the dependent variable is expressed as a percentage, the coefficients of the explanatory variables reflect changes in percentage points. Therefore, the results suggest that firms with low or medium family ownership offer

approximately 13.62% to 15.67% lower short-term incentives relative to fixed compensation compared to non-family firms.

Table 16: Regression 2.1 – Family ownership variables and proportion of short-term incentives

Dependent variable	STIP %						STIP %					
	Coef.	Std. err.	t	P>|t|	[0.05	0.95]	Coef.	Std. err.	t	P>|t|	[0.05	0.95]
Explanatory variables												
D(Ownership concentration)	3.239	3.074	1.05	0.293	-2.808	9.285	0.862	3.247	0.27	0.791	-5.525	7.249
D(Family)	-13.292	3.519	-3.78	0.000	-20.216	-6.368						
D(Low fam)							-15.674	3.821	-4.10	0.000	-23.192	-8.156
D(Med fam)							-13.622	4.465	-3.05	0.002	-22.407	-4.838
D(High fam)							4.593	6.507	0.71	0.481	-8.209	17.394
Controlled variables												
Ln Firm size	6.087	0.919	6.63	0.000	4.280	7.894	5.960	0.919	6.48	0.000	4.151	7.768
Ln Firm age	-3.249	1.972	-1.65	0.100	-7.128	0.631	-3.371	1.961	-1.72	0.087	-7.230	0.487
Dept to equity %	-0.027	0.019	-1.40	0.162	-0.065	0.011	-0.028	0.019	-1.48	0.140	-0.065	0.009
Sales growth %	0.066	0.029	2.30	0.022	0.010	0.123	0.056	0.029	1.96	0.051	-0.000	0.113
D(R&D Low)	-8.179	4.158	-1.97	0.050	-16.359	-2.78e-06	-8.642	4.106	-2.10	0.036	-16.721	-0.564
D(R&D Med)	2.582	4.055	0.64	0.525	-5.396	10.559	2.107	4.006	0.53	0.599	-5.773	9.987
D(R&D High)	16.882	6.139	2.75	0.006	4.806	28.959	17.867	6.121	2.92	0.004	5.825	29.910
ROA %	-0.011	0.135	-0.08	0.933	-0.276	0.254	-0.017	0.134	-0.12	0.902	-0.280	0.247
Constant	-67.930	18.452	-3.68	0.000	-104.230	-31.630	-65.976	18.321	-3.60	0.000	-102.019	-29.933
Year dummies	Yes						Yes					
Industry dummies	Yes						Yes					
R-squared	0.272						0.295					
Adjusted R-squared	0.225						0.245					
F-value	5.80						5.89					
Observations	348						348					

To assess the impact of a family CEO on short-term incentives, the dummy variable D(Family CEO) is incorporated into the regression. However, the results presented in table 17 indicate that the presence of a family CEO yields a negative coefficient of (-6.574) on STIP, although this finding lacks statistical significance. According to research by X. Chen et al., (2015) managerial short-sightedness tends to be more prevalent in firms with lower job security, while studies by McColgan & Hillier, (2004) suggest that family CEOs typically enjoy greater job security. Although the results in table 17 hint at such dynamics, they do not attain statistical significance, thus unable to support the hypothesis conclusively. However, more robust findings were reported by Ikäheimo & Lumijärvi, (2018), who observed that family CEOs received significantly lower bonuses compared to non-family CEOs.

Table 17: Regression 2.2 – Family variables and proportion of short-term incentives

Dependent variable			**STIP %**			
	Coef.	Std. err.	t	P>|t|	[0.05	0.95]
Explanatory variables						
D(Ownership concentration)	0.671	3.268	0.21	0.837	-5.759	7.101
D(Low fam)	-14.746	3.969	-3.72	0.000	-22.554	-6.938
D(Med fam)	-13.426	4.481	-3.00	0.003	-22.241	-4.611
D(High fam)	4.476	6.520	0.69	0.493	-8.351	17.303
D(Family CEO)	-6.574	6.408	-1.03	0.306	-19.180	6.032
Controlled variables						
Ln Firm size	5.812	0.994	5.85	0.000	3.857	7.767
Ln Firm age	-3.467	1.968	-1.76	0.079	-7.339	0.405
Dept to equity %	-0.030	0.019	-1.57	0.116	-0.068	0.008
Sales growth %	0.057	0.029	1.99	0.047	0.001	0.114
D(R&D Low)	-8.205	4.143	-1.98	0.049	0.049	-0.054
D(R&D Med)	2.815	4.076	0.69	0.490	0.490	10.833
D(R&D High)	18.020	6.145	2.93	0.004	0.004	30.108
ROA %	-0.016	0.135	-0.12	0.907	0.907	0.250
Constant	-62.272	18.909	-3.29	0.001	-99.472	-25.071
Year dummies	Yes					
Industry dummies	Yes					
R-squared	0.297					
Adjusted R-squared	0.243					
F-value	5.45					
Observations	348					

The results of the study indicate that family firms tend to offer lower short-term incentives relative to fixed compensation compared to non-family firms, particularly at low and medium family ownership levels. However, at high family ownership levels, this negative effect diminishes, suggesting that a higher degree of family ownership may mitigate the tendency to offer lower short-term incentives.

Regarding the involvement of a family CEO, the study did not yield conclusive findings. While the hypothesis that family firms with family CEOs would have an additional negative impact on the proportion of short-term incentives compared to fixed compensation remains unconfirmed, it is notable that the data did not provide reliable conclusions in this regard.

These results largely align with the tenets of alignment theory, which posits that the management of family firms inherently shares congruent interests with shareholders, given the overlapping nature of ownership and management in such firms. Moreover, the findings resonate with the principles of SEW theory, which prioritize long-term objectives over short-term value maximization. Consequently, in an effort to mitigate short-termism, family firms may opt to provide lesser short-term incentives relative to total compensation.

Additionally, less shortsighted CEOs are applying to family firms as shortsighted CEOs are not likely to be interested in family firms' long investment horizons (Kappes & Schmid, 2013). However, the ambiguous results concerning high family ownership and family CEO involvement require further investigation in the future. Both explanatory variables exhibit high standard errors and p-values, indicative of low reliability. Moreover, the skewed distribution of observations for these dummy variables, owing to the relatively low prevalence of highly concentrated family firms and family member CEOs among Finnish listed companies, may also contribute to the inconclusive findings.

6.3.3 Long-term incentive and family ownership

The results pertaining to the third hypothesis, examining whether family firms exhibit a higher proportion of long-term incentives compared to non-family firms, reveal no statistically significant relationship between family variables and the proportion of long-term incentives (LTIP). Most variables display high p-values, indicating their statistical insignificance. Notably, only firm size and high R&D intensity demonstrate a statistically significant relationship with LTIP, as illustrated in Table 18 below.

This finding mirrors the results obtained in the analysis of short-term incentives in section 6.3.2, suggesting a preference for variable payment over fixed compensation among larger firms and those with a focus on research and development. However, despite the explanatory power offered by control variables, the family-related explanatory variables fail to yield any reliable insights into the relationship between family involvement and the proportion of long-term incentives.

Consequently, the third hypothesis cannot be conclusively verified or refuted based on the available data and analysis. Further research and exploration may be necessary to elucidate the dynamics underlying the use of long-term incentives in family firms compared to their non-family counterparts.

Table 18: Regression 3 – Family variables and proportion of long-term incentives

Dependent variable			LTIP						LTIP			
	Coef.	Std. err.	t	P>|t|	[0.05	0.95]	Coef.	Std. err.	t	P>|t|	[0.05	0.95]
Explanatory variables												
D(Ownership concentration)	-0.074	0.215	-0.34	0.732	-0.496	0.349	-0.053	0.231	-0.23	0.818	-0.508	0.401
D(Family)	-0.161	0.246	-0.65	0.514	-0.644	0.323						
D(Low fam)							-0.075	0.278	-0.27	0.788	-0.621	0.472
D(Med fam)							-0.179	0.317	-0.56	0.574	-0.803	0.445
D(High fam)							-0.338	0.462	-0.73	0.465	-1.247	0.571
D(Family CEO)							-0.361	0.451	-0.80	0.423	-1.248	0.525
Controlled variables												
Ln Firm size	0.402	0.064	6.27	0.000	0.276	0.528	0.392	0.067	5.89	0.000	0.261	0.522
Ln Firm age	0.017	0.138	0.12	0.903	-0.254	0.288	0.016	0.139	0.11	0.910	-0.258	0.290
Dept to equity %	-0.001	0.001	-0.84	0.402	-0.004	0.002	-0.001	0.001	-0.91	0.362	-0.004	0.001
Sales growth %	0.002	0.002	1.06	0.291	-0.002	0.006	0.002	0.002	1.11	0.266	-0.002	0.006
D(R&D Low)	-0.246	0.290	-0.85	0.397	-0.817	0.325	-0.219	0.293	-0.75	0.455	-0.795	0.357
D(R&D Med)	0.109	0.283	0.39	0.700	-0.448	0.666	0.151	0.288	0.52	0.600	-0.416	0.718
D(R&D High)	1.145	0.429	2.67	0.008	0.301	1.988	1.132	0.435	2.61	0.010	0.277	1.987
ROA %	0.016	0.009	1.70	0.090	-0.002	0.035	0.016	0.010	1.70	0.090	-0.003	0.035
Constant	-6.539	1.289	-5.07	0.000	-9.074	-4.004	-6.315	1.330	-4.75	0.000	-8.931	-3.699
Year dummies	Yes						Yes					
Industry dummies	Yes						Yes					
R-squared	0.2447						0.2468					
Adjusted R-squared	0.1961						0.1908					
F-value	5.03						4.41					
Observations	348						348					

Indeed, while the statistical insignificance of the results regarding the proportion of long-term incentives (LTIP) does not allow for definitive conclusions, the negative coefficients of the explanatory variables may suggest a tentative indication that family ownership could potentially have a negative effect on the long-term incentive proportion. When considered alongside the robust findings from the analysis of short-term incentives, the results could indicate that family firms pay generally less performance-based compensation than non-family firms.

That being said, the results on long-term incentives were statistically insignificant and opposite to the hypothesized direction which casts doubt on the validity of the third hypothesis. Given these findings, it appears unlikely that family firms exhibit a higher proportion of long-term incentives compared to non-family firms. However, it is essential to exercise caution in interpreting these results, and further research may be warranted to explore this relationship in greater depth.

7 Discussion

In this chapter, the aim is to tie the results to the presented theory and find possible causes and deeper interpretations of the results. Prior literature has indications that could help explain the findings in section 6 further. By examining the results in light of existing theories and empirical evidence, we can gain a more nuanced understanding of the relationships between family ownership and CEO compensation.

7.1 Results in view of theory

The evidence supporting the first hypothesis underscores the significance of family ownership in shaping CEO compensation dynamics within firms. While agency theory traditionally addresses governance mechanisms and their impact on compensation, it falls short in accounting for the unique dynamics present in family firms (Schulze et al., 2002). Agency theory is however used to explain the effects of ownership concentration, which is widely regarded to alleviate vertical agency problems (Shleifer & Vishny, 1997). As seen from the results however, ownership concentration is not a sufficient explanation for lower agency problems, reflected as lower CEO compensation.

A complementary framework, Socioemotional Wealth (SEW) theory, provides a more comprehensive lens for understanding the nuances of family firm behaviour as presented by Gómez-Mejía et al., (2007). The hypotheses in this thesis are rooted in SEW theory, which posits that family firms may prioritize SEW goals over purely financial objectives. As elucidated in chapter 3, the pursuit of SEW goals can manifest in both entrenchment and alignment behaviours within family firms. The results of sections 6.3.1 and 6.3.2, indicating lower total CEO compensation and a reduced proportion of short-term incentives, lend support to the alignment perspective. Higher than average CEO compensation on the other hand is often interpreted as managerial entrenchment and minority shareholder expropriation. Based on the results this view is not supported in the Finnish context at least in the timeframe from 2020 to 2022.

The findings from section 6.3.1 underscore the heightened influence of family involvement on CEO compensation, particularly when a family member assumes the role of CEO. Entrenchment theory and alignment theory offer contrasting expectations regarding the impact of family CEOs, with entrenchment theory suggesting potential self-serving behaviours and alignment theory proposing a focus on shareholder interests and long-term

firm sustainability. The results in section 6.3.1 not only validate these theoretical predictions but also provide additional support for the alignment perspective. It is worth noting that the prevalence of alignment theory in this context doesn't negate the relevance of entrenchment theory. Instead, these theories should be viewed as complementary frameworks, offering insights into CEO compensation dynamics that are contingent upon the unique circumstances and dynamics within each context.

The findings in this thesis align with previous studies such as Croci et al., (2012) and Ikäheimo & Lumijärvi, (2018) which indicate differences in CEO compensation between family and non-family firms regardless of whether the CEO is a family member. However, other research, such as that by Gomez-Mejia et al., (2003) and Cohen & Lauterbach, (2008), suggests that compensation variations are primarily observed when a family member occupies the CEO position. The results presented here are more consistent with the former set of studies, indicating that family firms exert a moderating effect on CEO compensation even with non-family CEOs.

Several explanations may account for this phenomenon. One key factor could be the superior monitoring capabilities inherent in family firms. These firms may place less emphasis on performance-based pay, as suggested by the results regarding short-term incentives in section 6.3.2 and the summary statistics in table 6 of section 5.1. The robust monitoring mechanisms within family firms may sufficiently ensure optimal CEO performance, reducing the necessity for performance-based compensation alignment. However, this lower emphasis on performance-based pay is unlikely to translate into higher base salaries. In fact Ikäheimo & Lumijärvi, (2018) found that CEOs of family firms receive slightly lower base salaries than their counterparts in non-family firms.

Additionally, family CEOs often enjoy greater job security compared to non-family CEOs (McColgan & Hillier, 2004) , which may lead them to accept lower compensation levels and experience less pressure from the board. Furthermore, family CEOs may possess fewer qualifications and fewer job opportunities outside the firm than professional CEOs (Bennedsen et al., 2007) , contributing to their acceptance of lower compensation.

Overall, the results presented in this thesis support underlying theories of family firms, particularly the pursuit of SEW which motivates both family agents and principals to act in unexpected ways. In this context, the pursuit of SEW appears to result in more aligned family owners with minimal instances of minority shareholder expropriation, at least in terms of

CEO compensation. These findings not only validate theoretical predictions but also provide additional support for the alignment perspective, highlighting the complexity and interplay of factors influencing CEO compensation in family firms.

7.2 Results compared to previous opposing findings

7.2.1 Shareholder protection and culture

The higher level of family alignment observed in Finnish listed companies compared to findings in other countries, such as those reported by Jong & Ho, (2018) in Malaysia, Barontini & Bozzi, (2010) in Italy or Cohen & Lauterbach, (2008) , can be attributed to several factors. However, the most significant contributor to better family alignment in Finland is likely the strong shareholder protection framework in place.

While laws governing shareholder protection exist in most countries, the manner in which they are enforced, as well as cultural and social factors, play a crucial role. Research conducted by Boda et al., (2018), funded by the EU, highlights Finland as having the highest level of trust in institutions among all EU member states. Finnish nationals, on average, exhibit a level of trust in institutions approximately at 7 on a scale of 1 to 10, whereas, for example, Italian nationals have a trust rating of 4.5 (Boda et al., 2018). This high level of trust extends to companies, which are viewed in many ways as institutional entities over which individuals have little to no control. Moreover, as stated by Boda et al., (2018), trust on institutions is derived from general trust and expectations on other people.

Furthermore, trust in institutions is closely related to CEO compensation. According to agency theory, shareholders compensate CEOs for their services and expect a corresponding return. In countries with high levels of trust, such as Finland, breaches of this trust are more likely to result in public outrage and scandal. Consequently, companies may exercise restraint in implementing excessive CEO compensation schemes, fearing the repercussions of public scrutiny. Conversely, in environments where trust in institutions is low, such scandals may have less impact, as expectations are already diminished.

Moreover, low trust in institutions can stem from perceived incompetence or resource limitations within these institutions. This creates opportunities for exploitation by companies, particularly in subjective areas such as CEO compensation, where oversight may be lacking. In family firms, CEO compensation can serve as a mechanism for minority shareholder expropriation, allowing the family to maintain power and wealth. Ironically,

family firms often serve as a remedy for agency problems in regions with inadequate shareholder protection, as noted by La Porta et al., (1999). In such cases, the unreliability of shareholder protection mechanisms necessitates that minority shareholders accept some level of expropriation by the family if they wish to invest in the region.

Another factor affecting trust and likely contributing to minority shareholder expropriation is economic inequality. Economic inequality promotes division amongst people which can create a culture with low trust and polarization. Such sentiment in family firms could make minority shareholder expropriation more acceptable as a way to seek SEW goals.

Finland and other Nordic countries have a strong tradition of economic equality, which is reflected in their societal structures. In contrast, countries with higher economic inequality often see family firms dominate the business landscape. For instance, in many Asian countries, particularly in less developed regions where asset ownership is concentrated, family-controlled businesses prevail (Claessens, Djankov, & Lang, 2000). Research conducted in these regions has frequently identified signs of family entrenchment and minority shareholder expropriation.

While shareholder protection and economic equality are likely correlated, they represent distinct aspects of a country's institutional framework. Shareholder protection is primarily legislatively driven, whereas economic equality reflects broader cultural and societal phenomena. Consequently, they may influence CEO remuneration in different ways. A notable example of cultural influence on CEO pay is the United States, which is renowned for its high level of shareholder protection but also exhibits one of the world's highest CEO compensation levels. Even studies attempting to justify the US pay premium, such as that by Fernandes et al., (2013) , acknowledge an unexplained pay premium of 26% for US CEOs compared to their foreign counterparts. This leaves cultural and economic factors promoting economic inequality as the most likely contributor for the pay premium.

In Finland shareholder protection is enforced by the culture but is also developed formally. The Finnish Corporate Governance Code plays a pivotal role in defining the governance standards for listed firms in the country. For instance, it mandates a certain level of board independence to mitigate the risks of entrenchment stemming from concentrated ownership. Independent boards serve as a safeguard against actions that may lead to minority shareholder expropriation, such as excessive CEO compensation (R. Anderson & Reeb, 2004). Studies, such as that by Devers et al., (2007), suggest that CEOs tend to earn more

under weak governance structures characterized by a high proportion of inside directors. However, it is important to note that this finding may not directly translate to the context of family firms, as these entities often employ additional governance mechanisms. For instance, strict family discipline, as proposed by Casson, (1999), serves as a complementary mechanism in family firms. In Finnish listed family firms, approximately 29.50% of board positions are occupied by family members (Ikäheimo & Lumijärvi, 2018). Despite this presence, a majority of board positions are held by outsiders, indicating a relatively high level of board independence in listed Finnish family firms' boards.

One might assume that firms with higher levels of family ownership would exhibit lower levels of board independence and consequently be more prone to entrenchment. However, the results regarding CEO compensation in this thesis do not support such a correlation, suggesting that other governance mechanisms effectively ensure monitoring and accountability.

In fact, family owners are often credited with possessing superior monitoring capabilities compared to non-family owners (Croci et al., 2012). This enhanced monitoring capability diminishes the necessity for excessive performance-based pay to supplement governance oversight, which in turn may lead to higher CEO compensation levels. The findings in section 6.3.2 further corroborate this notion, as family firms were found to offer lower levels of short-term incentives relative to fixed compensation. However, conclusions regarding long-term incentives in section 6.3.3 remain inconclusive.

7.2.2 Institutional investors and timeframe

Another distinguishing factor for Finland lies in the presence of institutional investors, which can significantly influence family firm compensation dynamics. Research indicates that institutional investors tend to increase CEO compensation in family firms, particularly when they are international institutions (Croci et al., 2012). However, the prevalence of foreign institutional investors in Finnish listed companies is relatively low. Instead, domestic pension insurance investors hold a majority stake in many listed firms. Instances where foreign entities enter the Finnish stock market often result in full takeovers and the delisting of the company, rendering them inaccessible for studies focusing on listed companies.

Moreover, the time period under consideration can also significantly impact the findings, particularly when comparing them to previous studies conducted within the same geographic

context. The data utilized in this thesis spans from 2020 to 2022, capturing a period that includes the implementation of the EU directive SHRD II. This directive, aimed at enhancing shareholder protection, brought about changes in remuneration practices, particularly through increased transparency and shareholder involvement in CEO remuneration decisions. In Finland, these changes were incorporated into the updated Finnish Corporate Governance Code of 2020.

While minority shareholders in Finnish listed companies have limited opportunities to directly influence CEO compensation decisions in general meetings, the transparency requirements introduced by SHRD II are likely to have a significant impact. Since 2020, Finnish listed companies have been mandated to publish detailed remuneration reports outlining the compensation components paid to the CEO and the board. This represents a notable shift from the previous practice, where only a concise "Salary and bonus statement" was required, often lacking detailed breakdowns of compensation items. Notably, the previous statements did not necessitate a separation between short- and long-term incentives, whereas the current remuneration reports mandate such itemization.

The increased transparency in CEO compensation is likely to have the most significant impact on firms with highly concentrated ownership and facing horizontal agency problems. Research on the 2000 largest US firms by R. C. Anderson et al., (2009) suggests that transparent founder- or heir-controlled family firms tend to outperform less transparent counterparts, indicating that transparency can mitigate value-destructive minority shareholder expropriation and enhance shareholder protection. Therefore, the enhanced shareholder protection provided by detailed remuneration reporting is expected to diminish family entrenchment, particularly in firms with high levels of family ownership where opportunities for expropriation are most pronounced. The results in section 6.3.1 show a statistically significant negative relationship between all levels of family ownership and CEO total compensation. This contrasts with the findings of Ikäheimo & Lumijärvi, (2018), who found no statistically significant relationship between high family ownership and CEO total compensation in the years 2017 to 2007. One plausible explanation for the disparity in results could be the improved transparency surrounding CEO remuneration over time, which may moderate the influence of aggressive compensation practices. While further research would be needed to confirm this relationship, it would not be unexpected for such a trend to emerge in the future.

7.2.3 Alternative explanations

Certainly, it is important to acknowledge that factors beyond those previously mentioned may have influenced the results or affected their interpretation. A notable consideration is the relatively low presence of family CEOs in the Finnish sample compared to other studies. As indicated in table 4 of section 5.2, family CEOs accounted for only 14% of CEOs in family firms, contrasting with figures of nearly 40% in continental Europe (Croci et al., 2012) and approximately 44% in Israeli listed family firms (Cohen & Lauterbach, 2008). The lower prevalence of family CEOs in Finland could be attributed to cultural differences or a strategic preference to hire professional executives with more experience, rather than exerting tight familial control over the firm.

However, it is also plausible that Finnish family firms seek control through professional CEOs by cultivating loyalty, as theorized by Barontini & Bozzi, (2010). Yet, the results of this thesis do not support this premise, as both family and non-family CEOs in family firms are shown to receive lower compensation compared to non-family firms.

Another aspect to consider is the nature of family firms themselves. In Europe, family firms are often associated with being managed by founders or heirs (Barontini & Bozzi, 2010), a trend also observed in a significant portion of S&P 500 companies in the US (R. C. Anderson et al., 2009). In contrast, Finnish family firms may emerge when families or individuals acquire substantial shares in existing companies, with many not founded by them. In such cases, the emotional ties to the firm may be less substantial, potentially weakening the effects of socioemotional wealth. If Finland indeed has a higher proportion of non-founder family firms, the moderating effects on CEO compensation may primarily stem from superior monitoring capabilities rather than deeply ingrained familial values.

8 Conclusion

8.1 Research summary and contribution

This thesis has employed an extensive array of theories and regression analyses to investigate the two research questions brought forward in section 1.2. More specifically, it explores the differences in CEO remuneration between family firms and non-family firms, as well as the distinct role family CEOs have in this context. Not only has this thesis focused its interest on the disparities in compensation but it delves deeper into the underlying factors contributing to these differences. The empirical and theoretical contributions of this research add to prior literature and studies regarding family firm governance and CEO compensation, enhancing our understanding of their dynamics. The theoretical framework in this thesis incorporates a comprehensive range of perspectives, including agency theories, family firm characteristics such as socioemotional wealth, entrenchment theory, alignment theory, and a multitude of theories and previous findings on CEO compensation. The thesis underscores the heterogeneity within family firms as an ownership type and underscores the critical role of context in family firm research, which has often been characterized by disparate and sometimes conflicting findings (Villalonga et al., 2015).

Based on the evidence presented in this thesis Finnish listed family firms pay their CEOs systematically less than non-family firms do. Additionally, evidence is provided that family firms pay a lower proportion of short-term incentives to their CEOs compared to fixed payments. The effects are amplified further when the family firm is managed by a family CEO. The impact of family presence on total compensation is most pronounced at medium and high levels of family ownership, suggesting that the extent of family influence directly correlates with the magnitude of these effects. The findings suggest that Finnish family firms are highly aligned and restrain from minority shareholder expropriation. Moreover, the lower proportion of short-term incentives suggests that Finnish family firms focus less on short-term goals than non-family firms. The results are robust even when controlling for other more exposed forms of concentrated ownership, which in the Finnish context mostly includes state ownership and pension insurance funds.

The findings outlined in this thesis regarding CEO compensation indicate that, within the Finnish family firm context, horizontal agency costs are lower than what conventional agency theory would anticipate. Given the limitations of agency theory, particularly its inability to distinguish between various forms of concentrated ownership, additional theories

play a vital role in addressing these gaps (Schulze et al., 2002). More family firm specific theories such as socioemotional wealth helps to explain family firm characteristics affecting family firm governance and agency costs. Characteristics such as family influence, emotional attachment to the firm and maintaining family dynasty significantly shape family firm governance, often to a greater extent than commonly assumed (Berrone et al., 2012). Whether the effect of these characteristics and pursuit of SEW goals result to better governance, depends on the context of the firm. An aligned family firm likely has quite the same before mentioned SEW goals as an entrenched family firm, but how the goals are reached must differ. In the context of listed Finnish firms, there is no evidence suggesting that these goals are achieved through the expropriation of minority shareholders as suggested by the results of this thesis. On the contrary, Finnish family firms exhibit tendencies of paying lower CEO compensation compared to other firms with concentrated ownership structures, indicating a higher level of monitoring effectiveness within Finnish family firms.

This thesis has highlighted multiple theories around family firm governance and contributes to the field by providing them empirical evidence from a less investigated Finnish context. The thesis puts forward a perspective which emphasizes context as a main explanatory factor for seemingly competing theories. Based on this concept neither alignment theory nor entrenchment theory are superior in their own right, but are rather dependent on factors such as geography, timeframe, culture, and industry landscape. This contests a widespread practise where these theories are considered equally regardless of the context of the study, but rather focusing on which of the theories has had more success empirically. Such practise may result in a misleading approach as most prominent studies are conducted in areas of high economic development and shareholder protection creating a possible bias towards alignment theory.

The setting of this study has also in a way contributed to previous studies and literature. Many firm samples in previous studies have included a very large amount of family CEOs whereas in the sample of this study family CEOs are scarce. This study has highlighted that the nuances of family governance become visible even without extensive formal family presence in the firm. The study also contributes to research in terms of providing fresh results on CEO compensation, which is a highly evolving area of research due to constantly changing compensation practises.

The findings of this thesis offer valuable insights into family firm governance for Finnish regulators. The alignment of listed family firms in Finland with the interests of minority shareholders mitigates concerns regarding expropriation and the necessity for more stringent regulation regarding family firms. At the firm level, the research furnishes up-to-date data for benchmarking CEO compensation and sheds light on frequently overlooked factors influencing compensation levels. From an investor standpoint, this research illustrates that Finnish family firms are aligned with the needs of minority shareholders and demonstrate long-term vision, rendering them appealing investment opportunities for individual investors with similar investment horizons.

8.2 Limitations and future research

The literature lacks a universally accepted definition for a family firm, though the most prevalent definition typically requires a family to hold at least 25% of the voting power in the company for it to qualify as such. However, in this study, a minimum 10% share requirement is employed, consistent with some previous Finnish studies on family firms such as by Ikäheimo & Lumijärvi, (2018). Given the assumption that the effects of family firm characteristics correlate with the level of family ownership in the firm, it could be argued that less concentrated family firms bear similarities to non-family firms. While a 10% shareholding requirement may appear relatively low compared to 25%, in many cases a 10% ownership positions the family as the single largest shareholder. While this research has effectively addressed the issue of family ownership levels by employing distinct categories, there remains potential for future research to delve deeper into the heterogeneity of family firms. One avenue for exploration could involve introducing variables that differentiate between founder-led and heir-led family firms or assessing the presence of other major family owners within the firm. This would allow for a more nuanced understanding of how the dynamics and characteristics of family firms vary based on their leadership and generational structure. By incorporating such variables, future studies could provide valuable insights into the unique challenges and opportunities faced by different types of family firms, thereby enriching our understanding of this complex organizational landscape.

Incorporating stock options into future studies holds potential significance for advancing the understanding of executive compensation practices. While stock options were partly excluded from consideration in this thesis due to challenges in assessing their value when reported solely as the number of stocks and their relative insignificance to total compensation

in Finland, their inclusion in future studies could enrich the analysis and offer a more comprehensive perspective on compensation structures. Linked to this what remains somewhat unexplored in general is family firm CEOs share ownership of the firm. This subject has interesting theoretical predictions that should be tested empirically.

The empirical portion of this thesis, similar to many other studies, primarily examines average levels of CEO compensation. While a higher total level of CEO compensation may suggest at managerial entrenchment, it may overlook the most blatant forms of minority shareholder expropriation. Future research endeavours could thus delve into CEO compensation from alternative perspectives, such as through exploring variation in compensation. Oftentimes, studies like this thesis may smoothen the most extreme outliers, inadvertently overlooking instances that could exemplify the phenomenon being studied. Additionally, the transparency surrounding the payment-setting process in family firms, due to their opaque nature, remains relatively unexplored. Conducting more qualitative studies on CEO remuneration in family firms, perhaps through interviews, could prove pivotal in unravelling the secretive nature of these entities. Such endeavours could shed light on the intricacies of family firm dynamics and unveil insights that quantitative analyses alone may overlook.

In conclusion, this thesis has examined CEO compensation within Finnish family firms, blending theoretical frameworks with empirical analyses. It sheds light on the differences in CEO pay between family and non-family firms, emphasizing the role of context and challenging traditional agency theory assumptions. The findings suggest that Finnish family firms prioritize alignment with minority shareholders and exhibit a long-term focus. This research contributes valuable insights for regulators, investors, and practitioners, enriching our understanding of family firm governance dynamics and their impact on CEO compensation. While contributing valuable insights on multiple areas of interest, this thesis still leaves many possible new avenues for future research in the family firm CEO compensation context.

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Appendices

Appendix 1: Regression 0 – Control variables of CEO total compensation

Source	SS	df	MS	Number of obs	=	379
				F(19, 359)	=	25.69
Model	219.220673	19	11.5379301	Prob > F	=	0.0000
Residual	161.22414	359	.449092311	R-squared	=	0.5762
				Adj R-squared	=	0.5538
Total	380.444812	378	1.00646776	Root MSE	=	.67014

Log_Total_comp	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
Log_Sales	.3167807	.020508	15.45	0.000	.2764497	.3571116
Log_Firm_Age	.0568925	.04552	1.25	0.212	-.0326268	.1464118
Dept_to_Equitypercent	-.0001227	.0004164	-0.29	0.768	-.0009416	.0006962
Sales_growth	.0005518	.000597	0.92	0.356	-.0006223	.001726
DR_DLow	.1755986	.0965967	1.82	0.070	-.0143679	.365565
DR_DMed	.2285442	.0970289	2.36	0.019	.0377279	.4193606
DR_DHigh	.8069697	.147172	5.48	0.000	.5175421	1.096397
ROApercent	-.005699	.0027134	-2.10	0.036	-.0110353	-.0003628
D2021	-.0041087	.0830422	-0.05	0.961	-.167419	.1592015
D2020	-.0406635	.0869079	-0.47	0.640	-.211576	.1302491
DBasic_materials	.3350531	.1624429	2.06	0.040	.0155939	.6545122
DConsumer_goods	.1537202	.1413883	1.09	0.278	-.1243332	.4317735
DConsumer_Services	.1753502	.1022605	1.71	0.087	-.0257546	.3764551
DEnergy	-.1857066	.4035307	-0.46	0.646	-.9792877	.6078744
DHealthCare	.0803573	.1396756	0.58	0.565	-.1943279	.3550426
DRealEstate	.3981386	.1992431	2.00	0.046	.0063083	.789969
DTechnology	.1119187	.111179	1.01	0.315	-.1067253	.3305626
DTelecommunications	.1328265	.2410542	0.55	0.582	-.3412291	.6068822
DUtilities	-.2066878	.2534947	-0.82	0.415	-.7052089	.2918334
_cons	6.824659	.3717277	18.36	0.000	6.093622	7.555696

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. vif
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Variable	VIF	1/VIF
Log_Sales	1.95	0.514003
DR_DLow	1.47	0.680891
Log_Firm_Age	1.46	0.687014
DConsumer~es	1.44	0.693263
ROApercent	1.44	0.695516
DTechnology	1.39	0.719428
DR_DMed	1.38	0.723447
DR_DHigh	1.33	0.750547
D2021	1.32	0.757018
D2020	1.32	0.757528
DHealthCare	1.24	0.808710
DBasic_mat~s	1.22	0.821264
DConsumer~ds	1.19	0.838845
Dept_to_Eq~t	1.16	0.860085
DTelecommu~s	1.14	0.879633
Sales_growth	1.13	0.886302
DUtilities	1.12	0.892428
DRealEstate	1.11	0.901122
DEnergy	1.08	0.926643
Mean VIF	1.31	


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Appendix 2: Regression 1.1 - Family ownership and CEO total compensation

Source	SS	df	MS		
Model	225.156113	21	10.7217197	Number of obs	= 379
Residual	155.2887	357	.434982352	F(21, 357)	= 24.65
				Prob > F	= 0.0000
Total	380.444812	378	1.00646776	R-squared	= 0.5918
				Adj R-squared	= 0.5678
				Root MSE	= .65953

Log_Total_comp	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
Log_Sales	.3086762	.0203022	15.20	0.000	.2687492	.3486032
Log_Firm_Age	.0166572	.0461045	0.36	0.718	-.0740133	.1073277
Dept_to_Equitypercent	-.0001787	.0004101	-0.44	0.663	-.0009853	.0006279
Sales_growth	.0003443	.0005915	0.58	0.561	-.0008189	.0015075
DR_DLow	.1205775	.0974999	1.24	0.217	-.0711689	.3123238
DR_DMed	.2331785	.0955439	2.44	0.015	.0452789	.4210782
DR_DHigh	.7613502	.1453803	5.24	0.000	.4754408	1.04726
ROApercent	-.0053855	.0026727	-2.01	0.045	-.0106417	-.0001293
D2021	-.0081274	.0817346	-0.10	0.921	-.1688691	.1526144
D2020	-.0390271	.0855524	-0.46	0.649	-.2072773	.129223
DBasic_materials	.3375147	.1606309	2.10	0.036	.0216129	.6534165
DConsumer_goods	.0349205	.1443069	0.24	0.809	-.248878	.318719
DConsumer_Services	.1745639	.1022834	1.71	0.089	-.0265898	.3757176
DEnergy	-.2281357	.4020349	-0.57	0.571	-1.01879	.5625186
DHealthCare	-.0206761	.1401936	-0.15	0.883	-.2963852	.2550329
DRealEstate	.3185557	.1986529	1.60	0.110	-.0721214	.7092327
DTechnology	.0682185	.1101923	0.62	0.536	-.1484891	.2849262
DTelecommunications	.0872507	.2379838	0.37	0.714	-.3807757	.5552771
DUtilities	-.2657582	.2517579	-1.06	0.292	-.7608731	.2293567
DFam	-.2657643	.0827551	-3.21	0.001	-.428513	-.1030156
DOwnership_concentration	-.1213048	.0716139	-1.69	0.091	-.2621429	.0195333
_cons	7.404479	.3983458	18.59	0.000	6.62108	8.187879

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. vif
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Variable	VIF	1/VIF
Log_Sales	1.97	0.507998
DR_DLow	1.54	0.647336
Log_Firm_Age	1.54	0.648664
DConsumer~es	1.49	0.671181
ROApercent	1.44	0.694359
DTechnology	1.41	0.709359
DR_DMed	1.38	0.722667
DFam	1.34	0.743668
DR_DHigh	1.34	0.744995
D2021	1.32	0.756882
D2020	1.32	0.757161
DHealthCare	1.29	0.777524
DConsumer~ds	1.28	0.779957
DBasic_mat~s	1.23	0.813508
Dept_to_Eq~t	1.16	0.858673
DTelecommu~s	1.14	0.874121
Sales_growth	1.14	0.874706
DUtilities	1.14	0.876357
DRealEstate	1.14	0.878004
DEnergy	1.11	0.904220
DOwnership~n	1.09	0.915870
Mean VIF	1.33	

Appendix 3: Regression 1.1 - Family ownership and CEO total compensation

Source	SS	df	MS	Number of obs	=	379
				F(23, 355)	=	22.86
Model	227.097535	23	9.87380588	Prob > F	=	0.0000
Residual	153.347277	355	.431964161	R-squared	=	0.5969
				Adj R-squared	=	0.5708
Total	380.444812	378	1.00646776	Root MSE	=	.65724

Log_Total_comp	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
Log_Sales	.3027406	.0205168	14.76	0.000	.2623908	.3430904
Log_Firm_Age	.0249061	.0461114	0.54	0.589	-.0657798	.1155919
Dept_to_Equitypercent	-.000192	.0004091	-0.47	0.639	-.0009966	.0006127
Sales_growth	.0002766	.0005934	0.47	0.641	-.0008905	.0014436
DR_DLow	.1165533	.0971941	1.20	0.231	-.0745953	.3077019
DR_DMed	.2312857	.0952268	2.43	0.016	.044006	.4185653
DR_DHigh	.7247824	.1460095	4.96	0.000	.4376301	1.011935
ROApercent	-.0044257	.0027179	-1.63	0.104	-.0097709	.0009194
D2021	-.0098271	.0814554	-0.12	0.904	-.1700229	.1503686
D2020	-.0398609	.0852564	-0.47	0.640	-.2075321	.1278103
DBasic_materials	.3098291	.1617117	1.92	0.056	-.0082043	.6278626
DConsumer_goods	.0247156	.1449821	0.17	0.865	-.2604161	.3098473
DConsumer_Services	.1684169	.1027467	1.64	0.102	-.0336518	.3704855
DEnergy	-.2642221	.4019565	-0.66	0.511	-1.054737	.5262933
DHealthCare	-.0602573	.1422712	-0.42	0.672	-.3400577	.2195431
DRealEstate	.3141337	.198746	1.58	0.115	-.0767338	.7050012
DTechnology	.0491736	.1106299	0.44	0.657	-.1683986	.2667459
DTelecommunications	.1116635	.2379697	0.47	0.639	-.3563442	.5796711
DUtilities	-.2432407	.2524178	-0.96	0.336	-.7396628	.2531815
DLow_fam	-.1862443	.0916987	-2.03	0.043	-.3665852	-.0059035
DMed_fam	-.3993073	.1042179	-3.83	0.000	-.6042693	-.1943453
DHigh_fam	-.2781906	.1502684	-1.85	0.065	-.5737188	.0173376
DOwnership_concentration	-.0691925	.0772057	-0.90	0.371	-.2210307	.0826456
_cons	7.484312	.3998072	18.72	0.000	6.698023	8.2706

. vif

Variable	VIF	1/VIF
Log_Sales	2.02	0.493975
DMed_fam	1.70	0.588609
DLow_fam	1.67	0.597159
Log_Firm_Age	1.55	0.643970
DR_DLow	1.55	0.646896
DConsumer~es	1.51	0.660527
ROApercent	1.50	0.666815
DTechnology	1.43	0.698876
DHigh_fam	1.40	0.714308
DR_DMed	1.38	0.722440
DR_DHigh	1.36	0.733463
DHealthCare	1.33	0.749742
D2021	1.32	0.756792
D2020	1.32	0.757137
DConsumer~ds	1.30	0.767348
DOwnership~n	1.28	0.782538
DBasic_mat~s	1.25	0.797100
Dept_to_Eq~t	1.17	0.856928
Sales_growth	1.16	0.862980
DUtilities	1.16	0.865731
DTelecommu~s	1.15	0.868159
DRealEstate	1.15	0.871096
DEnergy	1.11	0.898296
Mean VIF	1.38	

Appendix 4: Regression 1.2 – Family ownership variables and CEO total compensation

Source	SS	df	MS	Number of obs	=	379
				F(24, 354)	=	23.16
Model	232.431496	24	9.68464566	Prob > F	=	0.0000
Residual	148.013317	354	.418116714	R-squared	=	0.6109
				Adj R-squared	=	0.5846
Total	380.444812	378	1.00646776	Root MSE	=	.64662

Log_Total_comp	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
Log_Sales	.2884271	.0205793	14.02	0.000	.2479541	.3289
Log_Firm_Age	.0067198	.0456511	0.15	0.883	-.0830618	.0965013
Dept_to_Equitypercent	-.0002949	.0004036	-0.73	0.465	-.0010885	.0004988
Sales_growth	.0004575	.000586	0.78	0.435	-.000695	.00161
DR_DLow	.1238505	.0956453	1.29	0.196	-.064254	.3119551
DR_DMed	.272426	.0943935	2.89	0.004	.0867836	.4580685
DR_DHigh	.7436655	.1437474	5.17	0.000	.4609593	1.026372
ROApercent	-.0037638	.0026804	-1.40	0.161	-.0090352	.0015077
D2021	-.0079573	.0801408	-0.10	0.921	-.1655693	.1496547
D2020	-.0394112	.0838789	-0.47	0.639	-.2043747	.1255524
DBasic_materials	.3130932	.1591013	1.97	0.050	.0001906	.6259957
DConsumer_goods	.0586711	.1429557	0.41	0.682	-.2224783	.3398204
DConsumer_Services	.205209	.1016099	2.02	0.044	.0053741	.4050439
DEnergy	-.2003004	.395866	-0.51	0.613	-.9788453	.5782446
DHealthCare	-.1128858	.1407457	-0.80	0.423	-.3896887	.163917
DRealEstate	.3011799	.1955681	1.54	0.124	-.0834414	.6858013
DTechnology	.0339921	.1089251	0.31	0.755	-.1802297	.2482138
DTelecommunications	.1378703	.2342393	0.59	0.557	-.3228053	.5985459
DUtilities	-.2344359	.2483512	-0.94	0.346	-.7228652	.2539933
DLow_fam	-.135827	.0913145	-1.49	0.138	-.3154142	.0437602
DMed_fam	-.3479525	.103537	-3.36	0.001	-.5515774	-.1443275
DHigh_fam	-.2679825	.1478678	-1.81	0.071	-.5587924	.0228274
DOwnership_concentration	-.071499	.0759609	-0.94	0.347	-.2208904	.0778925
DFamily_CEO	-.4460901	.1248954	-3.57	0.000	-.6917204	-.2004598
_cons	7.820296	.4044384	19.34	0.000	7.024892	8.6157

. vif

Variable	VIF	1/VIF
Log_Sales	2.10	0.475243
DMed_fam	1.73	0.577258
DLow_fam	1.72	0.582889
Log_Firm_Age	1.57	0.635958
DR_DLow	1.55	0.646601
DConsumer~es	1.53	0.653738
ROApercent	1.51	0.663627
DTechnology	1.43	0.697812
DR_DMed	1.41	0.711683
DHigh_fam	1.40	0.714041
DR_DHigh	1.37	0.732471
DHealthCare	1.35	0.741525
D2021	1.32	0.756760
D2020	1.32	0.757136
DConsumer~ds	1.31	0.763954
DOwnership~n	1.28	0.782481
DBasic_mat~s	1.25	0.797074
DFamily_CEO	1.22	0.822711
Dept_to_Eq~t	1.17	0.852562
Sales_growth	1.17	0.856531
DUtilities	1.16	0.865646
DTelecommu~s	1.15	0.867307
DRealEstate	1.15	0.870796
DEnergy	1.12	0.896461
Mean VIF	1.39	

Appendix 5: Regression 2.1 – Family ownership variables and proportion of short-term incentives

STI_tofixed_percentage	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
DFam	-13.29211	3.51941	-3.78	0.000	-20.21573	-6.368489
DOwnership_concentration	3.238633	3.073512	1.05	0.293	-2.807788	9.285053
Log_Sales	6.087163	.9186832	6.63	0.000	4.279867	7.894458
Log_Firm_Age	-3.248756	1.971999	-1.65	0.100	-7.128205	.6306929
Dept_to_Equitypercent	-.0268549	.0191542	-1.40	0.162	-.0645363	.0108265
Salesgrowth	.0663925	.0288252	2.30	0.022	.0096857	.1230992
DR_DLow	-8.179348	4.157719	-1.97	0.050	-16.35869	-2.78e-06
DR_DMed	2.581692	4.055225	0.64	0.525	-5.396021	10.5594
DR_DHigh	16.88234	6.138816	2.75	0.006	4.805642	28.95903
ROAPercent	-.0112909	.134777	-0.08	0.933	-.2764334	.2538516
D2021	-4.106596	3.472459	-1.18	0.238	-10.93785	2.724659
D2020	-5.721342	3.615409	-1.58	0.115	-12.83382	1.391136
DBasic_materials	7.669823	6.617675	1.16	0.247	-5.348913	20.68856
DConsumer_goods	-5.45161	6.613827	-0.82	0.410	-18.46278	7.559556
DConsumer_Services	1.703963	4.35135	0.39	0.696	-6.856306	10.26423
DEnergy	-25.58943	16.56745	-1.54	0.123	-58.18203	7.003177
DHealthCare	-2.234758	6.260008	-0.36	0.721	-14.54987	10.08035
DRealEstate	2.68099	8.219182	0.33	0.744	-13.48834	18.85032
DTechnology	.2669173	4.758186	0.06	0.955	-9.093707	9.627542
DTelecommunications	28.08379	9.801738	2.87	0.004	8.801153	47.36643
DUtilities	-22.2632	10.35332	-2.15	0.032	-42.63095	-1.895453
_cons	-67.93014	18.45192	-3.68	0.000	-104.23	-31.63028

. vif

Variable	VIF	1/VIF
Log_Sales	1.79	0.558030
DR_DLow	1.62	0.618109
DConsumer~es	1.50	0.668826
DTechnology	1.45	0.689747
DR_DMed	1.40	0.713753
Log_Firm_Age	1.39	0.718532
DR_DHigh	1.39	0.721847
DFam	1.37	0.728867
DConsumer~ds	1.35	0.739845
D2020	1.32	0.758691
D2021	1.31	0.765854
DHealthCare	1.26	0.795262
DBasic_mat~s	1.25	0.801220
ROAPercent	1.23	0.813490
Dept_to_Eq~t	1.18	0.849925
DRealEstate	1.17	0.855377
DTelecommu~s	1.16	0.858528
DUtilities	1.16	0.863127
DEnergy	1.13	0.885832
Salesgrowth	1.13	0.888353
DOwnership~n	1.10	0.908747
Mean VIF	1.32	

Appendix 6: Regression 2.1 – Family ownership variables and proportion of short-term incentives

Source	SS	df	MS	Number of obs	=	348
				F(23, 324)	=	5.89
Model	95524.8378	23	4153.25382	Prob > F	=	0.0000
Residual	228282.413	324	704.575349	R-squared	=	0.2950
				Adj R-squared	=	0.2450
Total	323807.251	347	933.162106	Root MSE	=	26.544

STI_tofixed_percentage	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
DLow_fam	-15.67376	3.821483	-4.10	0.000	-23.19181	-8.155709
DMed_fam	-13.62234	4.465377	-3.05	0.002	-22.40713	-4.837544
DHigh_fam	4.592657	6.506972	0.71	0.481	-8.208592	17.39391
DOwnership_concentration	.8621657	3.246637	0.27	0.791	-5.524986	7.249317
Log_Sales	5.959548	.9192857	6.48	0.000	4.151026	7.768071
Log_Firm_Age	-3.371394	1.961283	-1.72	0.087	-7.22985	.4870632
Dept_to_Equitypercent	-.0279459	.0189111	-1.48	0.140	-.0651499	.0092582
Salesgrowth	.0563442	.0287191	1.96	0.051	-.0001551	.1128436
DR_DLow	-8.642438	4.106485	-2.10	0.036	-16.72118	-.5636983
DR_DMed	2.106933	4.005512	0.53	0.599	-5.773162	9.987028
DR_DHigh	17.86741	6.121086	2.92	0.004	5.825319	29.9095
ROAPercent	-.0165171	.1340992	-0.12	0.902	-.2803322	.247298
D2021	-3.763219	3.42942	-1.10	0.273	-10.50996	2.983523
D2020	-5.367089	3.570418	-1.50	0.134	-12.39122	1.657041
DBasic_materials	10.56102	6.608566	1.60	0.111	-2.440094	23.56214
DConsumer_goods	-2.837343	6.59065	-0.43	0.667	-15.80321	10.12853
DConsumer_Services	4.173869	4.361667	0.96	0.339	-4.406895	12.75463
DEnergy	-21.30244	16.4179	-1.30	0.195	-53.60158	10.99671
DHealthCare	.4591003	6.265168	0.07	0.942	-11.86644	12.78464
DRealEstate	5.31553	8.153283	0.65	0.515	-10.72453	21.35559
DTechnology	2.530878	4.760123	0.53	0.595	-6.833772	11.89553
DTelecommunications	30.36275	9.713381	3.13	0.002	11.25349	49.47201
DUtilities	-18.60039	10.29811	-1.81	0.072	-38.85999	1.659207
_cons	-65.97603	18.32076	-3.60	0.000	-102.0187	-29.93336

. vif

Variable	VIF	1/VIF
Log_Sales	1.84	0.542990
DMed_fam	1.71	0.583891
DLow_fam	1.63	0.613658
DR_DLow	1.62	0.617360
DConsumer~es	1.54	0.648575
DTechnology	1.49	0.671491
DR_DHigh	1.41	0.707393
Log_Firm_Age	1.41	0.707755
DR_DMed	1.40	0.712797
DHigh_fam	1.39	0.717144
DConsumer~ds	1.38	0.725929
D2020	1.32	0.757958
D2021	1.31	0.765038
DHealthCare	1.29	0.773568
DBasic_mat~s	1.28	0.782802
DOwnership~n	1.26	0.793504
ROAPercent	1.25	0.800636
DRealEstate	1.18	0.846942
Dept_to_Eq~t	1.18	0.849532
DUtilities	1.18	0.850008
DTelecommu~s	1.17	0.851773
Salesgrowth	1.15	0.871951
DEnergy	1.14	0.878883
Mean VIF	1.37	

Appendix 7: Regression 2.2 – Family variables and proportion of short-term incentives

Source	SS	df	MS	Number of obs	=	348
				F(25, 322)	=	5.45
Model	96268.7471	25	3850.74988	Prob > F	=	0.0000
Residual	227538.504	322	706.641316	R-squared	=	0.2973
				Adj R-squared	=	0.2427
Total	323807.251	347	933.162106	Root MSE	=	26.583

STI_tofixed_percentage	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
DLow_fam	-14.74593	3.968659	-3.72	0.000	-22.55371	-6.938157
DMed_fam	-13.42606	4.480654	-3.00	0.003	-22.24111	-4.611007
DHigh_fam	4.475862	6.520072	0.69	0.493	-8.351458	17.30318
DFamily_CEO	-6.574113	6.407609	-1.03	0.306	-19.18018	6.031951
DOwnership_concentration	.6711474	3.268208	0.21	0.837	-5.75859	7.100885
Log_Sales	5.812175	.9938	5.85	0.000	3.857014	7.767336
Log_Firm_Age	-3.467109	1.967991	-1.76	0.079	-7.338854	.4046354
Dept_to_Equitypercent	-.0300192	.0190728	-1.57	0.116	-.0675422	.0075038
Salesgrowth	.0574509	.0288598	1.99	0.047	.0006735	.1142284
DR_DLow	-8.205203	4.143338	-1.98	0.049	-16.35663	-.0537725
DR_DMed	2.814905	4.075634	0.69	0.490	-5.203329	10.83314
DR_DHigh	18.01966	6.144522	2.93	0.004	5.93118	30.10814
ROAPercent	-.0158091	.1350084	-0.12	0.907	-.2814189	.2498008
D2021	-3.821077	3.439351	-1.11	0.267	-10.58751	2.945359
D2020	-5.461606	3.580553	-1.53	0.128	-12.50584	1.582625
DShareprogram	-.5787859	4.956042	-0.12	0.907	-10.3291	9.171526
DBasic_materials	10.46425	6.620764	1.58	0.115	-2.56117	23.48967
DConsumer_goods	-2.941817	6.612671	-0.44	0.657	-15.95131	10.06768
DConsumer_Services	4.666127	4.410166	1.06	0.291	-4.010251	13.3425
DEnergy	-20.73566	16.46345	-1.26	0.209	-53.12518	11.65385
DHealthCare	-.3118381	6.370577	-0.05	0.961	-12.84505	12.22137
DRealEstate	5.491193	8.302152	0.66	0.509	-10.84212	21.8245
DTechnology	2.414968	4.85106	0.50	0.619	-7.128807	11.95874
DTelecommunications	30.54365	9.731415	3.14	0.002	11.39847	49.68883
DUtilities	-18.3993	10.32344	-1.78	0.076	-38.70921	1.910614
_cons	-62.27154	18.90871	-3.29	0.001	-99.47176	-25.07133

. vif

Variable	VIF	1/VIF
Log_Sales	2.15	0.465979
DLow_fam	1.75	0.570656
DMed_fam	1.72	0.581617
DR_DLow	1.64	0.608205
DConsumer~es	1.57	0.636249
DTechnology	1.54	0.648447
DR_DMed	1.45	0.690499
DR_DHigh	1.42	0.704066
Log_Firm_Age	1.42	0.704999
DHigh_fam	1.40	0.716359
DShareprog~m	1.39	0.720682
DConsumer~ds	1.38	0.723216
DHealthCare	1.33	0.750375
D2020	1.32	0.755884
D2021	1.31	0.762857
DBasic_mat~s	1.28	0.782207
DOwnership~n	1.27	0.785360
ROAPercent	1.26	0.792206
DFamily_CEO	1.25	0.801263
DRealEstate	1.22	0.819235
Dept_to_Eq~t	1.19	0.837637
DUtilities	1.18	0.848321
DTelecommu~s	1.17	0.851107
Salesgrowth	1.15	0.866002
DEnergy	1.14	0.876589
Mean VIF	1.40	

Appendix 8: Regression 3 Family variables and proportion of long-term incentives

Source	SS	df	MS	Number of obs	=	348
				F(21, 326)	=	5.03
Model	372.599335	21	17.7428255	Prob > F	=	0.0000
Residual	1149.79367	326	3.52697446	R-squared	=	0.2447
				Adj R-squared	=	0.1961
Total	1522.39301	347	4.38729974	Root MSE	=	1.878

logLTI_tofixed_percent~n	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
DFam	-.1606078	.2457872	-0.65	0.514	-.644137	.3229214
DOwnership_concentration	-.073602	.2146467	-0.34	0.732	-.4958695	.3486656
Log_Sales	.4022246	.0641586	6.27	0.000	.2760074	.5284418
Log_Firm_Age	.0167138	.1377197	0.12	0.903	-.2542176	.2876452
Dept_to_Equitypercent	-.0011215	.0013377	-0.84	0.402	-.003753	.0015101
Salesgrowth	.0021292	.0020131	1.06	0.291	-.0018311	.0060894
DR_DLow	-.2461942	.2903651	-0.85	0.397	-.8174201	.3250317
DR_DMed	.1091831	.2832072	0.39	0.700	-.4479612	.6663275
DR_DHigh	1.144716	.4287203	2.67	0.008	.3013084	1.988123
ROAPercent	.0160199	.0094125	1.70	0.090	-.002497	.0345368
D2021	.1885956	.2425082	0.78	0.437	-.2884829	.6656741
D2020	.3300243	.2524915	1.31	0.192	-.1666942	.8267427
DBasic_materials	.8629228	.4621626	1.87	0.063	-.0462746	1.77212
DConsumer_goods	.6632202	.4618938	1.44	0.152	-.2454486	1.571889
DConsumer_Services	.1496864	.3038878	0.49	0.623	-.4481423	.747515
DEnergy	-.1158128	1.157031	-0.10	0.920	-2.392002	2.160377
DHealthCare	.1605495	.437184	0.37	0.714	-.6995084	1.020607
DRealEstate	1.927325	.574008	3.36	0.001	.7980978	3.056552
DTechnology	.3979177	.3323003	1.20	0.232	-.255806	1.051641
DTelecommunications	.8220583	.6845299	1.20	0.231	-.5245952	2.168712
DUtilities	.0481302	.7230511	0.07	0.947	-1.374305	1.470565
_cons	-6.538773	1.288638	-5.07	0.000	-9.073869	-4.003678

. vif

Variable	VIF	1/VIF
Log_Sales	1.79	0.558030
DR_DLow	1.62	0.618109
DConsumer~es	1.50	0.668826
DTechnology	1.45	0.689747
DR_DMed	1.40	0.713753
Log_Firm_Age	1.39	0.718532
DR_DHigh	1.39	0.721847
DFam	1.37	0.728867
DConsumer~ds	1.35	0.739845
D2020	1.32	0.758691
D2021	1.31	0.765854
DHealthCare	1.26	0.795262
DBasic_mat~s	1.25	0.801220
ROAPercent	1.23	0.813490
Dept_to_Eq~t	1.18	0.849925
DRealEstate	1.17	0.855377
DTelecommu~s	1.16	0.858528
DUtilities	1.16	0.863127
DEnergy	1.13	0.885832
Salesgrowth	1.13	0.888353
DOwnership~n	1.10	0.908747
Mean VIF	1.32	

Appendix 9: Regression 3 Family variables and proportion of long-term incentives

Source	SS	df	MS	Number of obs	=	348
				F(24, 323)	=	4.41
Model	375.659728	24	15.6524887	Prob > F	=	0.0000
Residual	1146.73328	323	3.55025783	R-squared	=	0.2468
				Adj R-squared	=	0.1908
Total	1522.39301	347	4.38729974	Root MSE	=	1.8842

logLTI_tofixed_percent~n	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
DLow_fam	-.0746007	.2776879	-0.27	0.788	-.620906	.4717045
DMed_fam	-.178558	.3171951	-0.56	0.574	-.8025872	.4454711
DHigh_fam	-.3377395	.4619946	-0.73	0.465	-1.246638	.571159
DFamily_CEO	-.3614341	.4507194	-0.80	0.423	-1.24815	.5252822
DOwnership_concentration	-.0531901	.230971	-0.23	0.818	-.5075875	.4012072
Log_Sales	.3915163	.0665189	5.89	0.000	.2606513	.5223813
Log_Firm_Age	.0157351	.1393476	0.11	0.910	-.2584083	.2898786
Dept_to_Equitypercent	-.0012341	.0013508	-0.91	0.362	-.0038916	.0014234
Salesgrowth	.0022746	.0020407	1.11	0.266	-.0017402	.0062895
DR_DLow	-.2192688	.292824	-0.75	0.455	-.7953518	.3568143
DR_DMed	.1512148	.2881744	0.52	0.600	-.415721	.7181506
DR_DHigh	1.132186	.4345657	2.61	0.010	.2772493	1.987123
ROAPercent	.016203	.0095192	1.70	0.090	-.0025245	.0349305
D2021	.182822	.2434507	0.75	0.453	-.2961272	.6617711
D2020	.3226955	.2534987	1.27	0.204	-.1760215	.8214124
DBasic_materials	.8236563	.4691752	1.76	0.080	-.0993688	1.746681
DConsumer_goods	.6252136	.4679508	1.34	0.182	-.2954027	1.54583
DConsumer_Services	.155351	.3117918	0.50	0.619	-.4580481	.7687502
DEnergy	-.1285634	1.166255	-0.11	0.912	-2.422978	2.165851
DHealthCare	.0801455	.4486856	0.18	0.858	-.8025697	.9628606
DRealEstate	1.901801	.5787603	3.29	0.001	.7631847	3.040416
DTechnology	.3602314	.3382364	1.07	0.288	-.3051932	1.025656
DTelecommunications	.8141875	.6895874	1.18	0.239	-.5424624	2.170837
DUtilities	.0276134	.7310852	0.04	0.970	-1.410676	1.465903
_cons	-6.314977	1.329647	-4.75	0.000	-8.930838	-3.699116

. vif

Variable	VIF	1/VIF
Log_Sales	1.91	0.522559
DMed_fam	1.72	0.583080
DLow_fam	1.71	0.585611
DR_DLow	1.63	0.611784
DConsumer~es	1.56	0.639541
DTechnology	1.49	0.670144
DR_DMed	1.44	0.693911
Log_Firm_Age	1.42	0.706475
DR_DHigh	1.41	0.707196
DHigh_fam	1.40	0.716841
DConsumer~ds	1.38	0.725575
D2020	1.32	0.757643
DHealthCare	1.32	0.759998
D2021	1.31	0.764953
DBasic_mat~s	1.28	0.782580
DOwnership~n	1.27	0.790013
ROAPercent	1.25	0.800601
DFamily_CEO	1.23	0.813608
Dept_to_Eq~t	1.19	0.838999
DRealEstate	1.18	0.846942
DUtilities	1.18	0.849834
DTelecommu~s	1.17	0.851566
Salesgrowth	1.15	0.870136
DEnergy	1.14	0.877631
Mean VIF	1.38	