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CEO Narcissism, Divestitures and Shareholder Value

A Study on the Nordic Market

by

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Abstract

Title	CEO Narcissism, Divestitures, and Shareholder Value: A Study on the Nordic Market
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Keywords	Narcissism, Divestitures, event-study, CAR, BHAR
Purpose	This study aims to investigate whether <i>CEO Narcissism</i> impact the quantum of shareholder value created through divestitures on the Nordic market.
Methodology	The study follows a quantitative approach and it has a hypothetical-deductive structure. It includes the establishing of a hypothesis and testing it through an event study using the market model.
Theoretical perspectives	The study is based on previous literature on the interdependence between shareholder value and divestitures. With the addition of introducing <i>CEO Narcissism</i> to the topic of divestitures.
Empirical foundation	The data sample was gathered from Bloomberg Terminal. The final sample consisted of 251 and 225 observations, for the short-term and long-term assessments, respectively. The observations were listed companies on the Nordic Market between 2002-2008, and 2012-2018.
Conclusions	The study found insignificant results of an impact of <i>CEO Narcissism</i> on the quantum of shareholder value created through divestitures on the Nordic market. Thus, the study could not confirm any evidence supporting this relationship.

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Alan Alfat

Christian Erlandsson

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1 Introduction

The initial Chapter presents the background of the study, in order to illuminate the reader of the relevance of the topic. This will be followed by an elaboration of the purpose, the research question, and the contribution of the study, after which the limitations and the disposition of the study will be laid out.

1.1 Background

Narcissism, first introduced in academia by Sigmund Freud back in 1914, was a prominent notion in psychology during the last part of the 20th century (Emmos, 1987). During this period, significant contributions could be distinguished in the various fields of psychology, such as in the field of clinical psychology. However, by the end of the century, focus on narcissism could increasingly be seen in other related fields. Modern studies have confirmed the importance of psychological aspects within finance, showing that these aspects contribute to the understanding of how market participants behave in the classic economic models (Ritter, 2003). For instance, plenty of studies have shown that executives' personalities significantly impact decision making in firms (Chen & Zhu, 2015).

The aforementioned is often referred to as behavioral finance. Within this contemporary field of finance, many of the classical notions from psychology have been introduced, in order to explain some of the big unanswered questions. One notable mention is the study by Roll (1986). In Roll's pioneering study, he introduced the concept of hubris in conjunction with investing. He found that managers, due to hubris, an exaggerated state of optimism, often overestimate the potential of specific investment opportunities, leading to an increased frequency of value-destroying investments. Narcissism, closely related to hubris, is one of the most recent concepts introduced into the field of finance (Owen & Davidson, 2009).

According to Chen & Zhu (2015), narcissism is one of the essential concepts explaining the patterns of how a Chief executive officer (CEO) behaves. They showed that firms with narcissistic CEOs are more risk-prone and thus more likely to engage in extreme and unstable

investments than those with no narcissistic personality traits. Additionally, they proposed that due to attention from external parties, managers tend to conduct activities based on self-fulfilling purposes.

The above demonstrates the importance of incorporating the concept of *CEO Narcissism* when assessing the value effect gained through investment activities. The interdependence between *CEO Narcissism* and the quantum of created (destroyed) shareholder value in divestitures is a relationship that has not been investigated in any established studies. There is a consensus that divestitures create value for shareholders in the short-run. The explanations are manifold and differ across the various studies. One highlighted notion, justifying the activities are the inconsistencies in opinions and interests embedded within organizations (Cho & Cohen, 1997). By introducing Narcissism into the field of divestitures, the ambition is to investigate whether this can shed further light on how divestitures create value for shareholders.

1.2 Research Question

This study aims to investigate the effects *CEO Narcissism* has on the shareholder value created through divestitures. The study solely assesses the effect on the shareholders of the parent companies. The assessment examines the Nordic market during the periods 2002-2018, adjusted for both the "dot com" bubble and the financial crisis. The approach is twofold, as it assesses the immediate short term, and the long-term effects. The ambition is to get a nuanced view of how *CEO Narcissism* impacts the quantum of created shareholder value when conducting divestitures. Following the previously stated, the research question of this study is the following:

Do *CEO Narcissism* impact the quantum of shareholder value created through divestitures on the Nordic market?

Following are the sub-question in which relates to the research question:

What are the quantum of shareholder value created through divestitures in the Nordic Market?

1.3 Research Purpose

This study will contribute to the existing literature by providing answers on how *CEO Narcissism* relates to the corporate value of companies engaged in divestitures. Managerial Narcissism lies within the field of behavioral finance, and so far, the studies conducted on this topic is limited. Even though there have been a couple of studies examining the relationship between narcissism and firm performance in Mergers & Acquisition (M&A), there is no known research concerning narcissism and divestitures. Thereby, this study is the first of its kind to look at *CEO Narcissism* in the context of divestitures. By assessing the relationship between *CEO Narcissism* and the subsequent stock return of divestitures, the ambition is to distinguish whether Narcissistic CEOs are considered as valuable assets or a financial burden for divesting companies.

Owen & Davidson (2009) highlighted narcissism as a central notion in corporate finance, as it relates to agency problems. Seemingly, the value effect created through divestitures can explain why narcissism relates to corporate value. In this study, the variable *CEO Narcissism* was introduced. The variable is derived from the principal-agent theory (Aktas, Bodt, Bollaert & Roll, 2016). By introducing the aforementioned variable, the aim is to shed further light on the impact *CEO Narcissism* poses on the shareholder quantum of created shareholder value in parent companies engaged in divestitures.

During recent decades, there has been extensive research on divestitures. Various studies have proven them to be value enhancing activities. However, these studies differ in various aspects. First, there is a consensus that divestitures create value in the short-term; however, the findings concerning the value effect in the long-run are somewhat more diverse. Second, many of the existing contributions differ in terms of geographical scope. In the study by Spliid (2013), he concluded that the foundations on the Nordic market differ from other economies. In particular, the Nordic market differentiates itself, particularly in terms of managerial incentives. While managers in the U.S. puts great emphasis on economic benefits, the Nordic agents tend to attribute value to nonfinancial aspects to a greater extent; such as loyalty, equality, and overall consensus. The previously mentioned highlights the differences in the level of agency problems observed in the markets, which, according to Spliid (2013), can indicate performance discrepancy on the Nordic market. Since there are limited studies of divestitures in the Nordic Market, there is a current need to filling this information gap.

Based on those mentioned above, the study contributes by providing some answers on how Narcissism relates to the corporate value of companies engaged in divestitures; that is, by introducing the variable *CEO Narcissism*, the study will shed light on the relationship between Narcissism and shareholder value created through divestitures on the Nordic Market. Furthermore, it provides additional support to the results concerning the long-term perspective of divestitures. Moreover, it adds to the existing studies of divestitures by reducing the current information gap on the Nordic market. By contributing to the existing knowledge base, both business and academic individuals will gain valuable information, which they can use to make more accurate, precise, and informed decisions in issues regarding divestitures.

1.4 Scope

The scope of this study is restricted to two divestment forms: asset sell-offs and spin-offs. These two forms are considered as opposites, and thus, by incorporating them both, it enables a more nuanced view of how the value effect of divestments is impacted by *CEO Narcissism*. Which subsequently will provide indications on how narcissism relates to the enlarged shareholder value of firms. A spin-off is a form in which the control is retained within the company, whereas in the event of sell-offs, the ownership is distributed over to the acquirer. Neither of the forms require any equity issuance, and thus, the wealth distribution is restricted to the internal investors (Slovin, Sushka & Ferraro, 1995).

The geographical scope of the study is restricted to the Nordic market. The research on divestitures in this market is scarce, and according to Spliid (2013), the Nordic market's characteristics diverge from other economies, which justifies the geographical scope of the study. In this study, the Nordic market includes Sweden, Denmark, Finland and Norway. Iceland was excluded due to its comparatively negligible size and the restriction of available data. These markets are relatively commensurate in terms of economic, social, and political measures. One highlighted trait is the similarities in governance structure across these countries, showing a tendency of concentrated ownership in the markets (Sinani, Stafsudd, Thomsen, Edling & Randø, 2008).

The time scope of the study is the period between the years 2002-2018. During the shift to the new millennium, the market was impacted by the IT-bubble, which burst in March 2000. If markets are exposed to post-crisis biases, studies will incorporate biased data and will be

misrepresentative (Bussiere & Fratzscher, 2006). The starting point for this study was set to the year in which the market had re-stabilized, which according to the Thomson Reuters Eikon Database was 2002. The timeframe was further adjusted for the financial crisis that occurred in September 2008, based on market data from Thomson Reuters Eikon Database, the stabilization of the market occurred 2012. Thereby, the period between the years 2008-2012 was adjusted for in the study.

1.5 Outline of the Thesis

The structure of the thesis will be laid out in the following manner:

Chapter 2, Theory, presents a foundation for the analysis and a conceptual framework. This chapter will also elaborate on the different theories, concepts, and notions. It will end with a review of the literature. Chapter 3, presents the selected methodology, the motivation behind it, and its potential drawbacks or limitations. This will be followed by a description of the data, and an assessment of the validity and reliability of the data sample. The Chapter ends with an elaboration of the different limitations of the study. Chapter 4, will present the results from the regressions, it will further elaborate on the different diagnostics used to assure the robustness of the results. It will also include an analysis and critical assessment of the results. Chapter 5, will conclude with a broader reflection of the results, the contribution and some concluding remarks. Lastly, some suggestions for further research will be highlighted.

2 Theoretical Background and Hypothesis

This Chapter will initiate by describing the main concepts of the study, after which, it will present various underlying theories of divestitures. This will be followed by an assessment of former literature conducted within the topic. The Chapter is concluded with the presentation of the hypothesis.

2.1 Narcissism

For the purpose of this thesis, Narcissism is defined as a personal disorder possessed by personas who has "[a] pervasive pattern of grandiosity (in fantasy or behavior), need for admiration, and lack of empathy, beginning by early adulthood and present in a variety of contexts" (APA, 1994, p. 717).

Owen & Davidson (2009), conducted a study based on the hubris hypothesis established by Roll (1986). They argued that the concept of narcissism is closely related to hubris. They further showed that some of the different criteria defining narcissistic personality disorder can also be distinguished in the corresponding description of the hubris personality trait. However, irrespectively of the similarities, they concluded that the definition of the two notions differs to some extent, as they include various unique aspects. Thus they supported that narcissism indeed diverges from hubris syndrome, which supports the need of investigating them independently. While there are extensive studies on hubris, the research of narcissism in the field of corporate finance, is still limited to some extent.

Aktas et al. (2016), investigated the concept of narcissism and put it into an economic context. In their study, they highlighted that higher levels of narcissism increase the likelihood of takeovers. Furthermore, they found evidence supporting higher bid premiums and shorter negotiation processes, for the companies with high levels of *CEO Narcissism*, which indicates that Narcissistic CEOs are more efficient negotiators. They concluded that higher levels of *CEO Narcissism* in the target company lead to a lower value for the acquirer. Implying that, the return

for the target company, which in this case is the divesting firm, is positively impacted by the level of *CEO Narcissism*.

Ham, Seybert & Wang (2018) contributed to the topic by shedding further light on how narcissism relates to the investment activities and performance of firms. Their findings confirmed that narcissism impacts the frequency of high-exposure investments. Further, supporting that, high levels of *CEO Narcissism* deteriorate firm performance. This could be linked to divesting firms, as it implies that firms with high levels of *CEO Narcissism* will benefit more when disposing of their bad performing units. Both of the latter studies showed evidence of narcissism being a relevant aspect when assessing the created shareholder value in divestitures.

2.2 Divestitures

Divestiture is a generic term for activities, in which companies engage when disposing parts of, or whole units (Anslinger, Klepper & Subramaniam, 1999). The three common forms, and their differences are described below (also see Table 1):

First, an asset sale is when an organization sells a single or multiple assets to another company, and the risk and control are entirely transferred over to the acquirer (Anslinger, Klepper & Subramaniam, 1999). Asset sales can be both voluntary and involuntary. Furthermore, when the management of a company deliberately decides on divesting an asset, the probability of gaining excess value for the assets is higher as opposed to when conducted involuntarily (Khan & Mehta, 1996). Companies exposed to financial constraints can be forced by external financial institutions to dispose of their assets as a preventive action for potential financial holdups (Khan & Mehta, 1996). In general, when an external party compels an asset sale, the value effects are less likely to have the same impact as if done voluntarily (Khan & Mehta, 1996).

Second and third, spin-offs and equity carve-outs differ from sell-offs in the matter that the control of the assets remains by the shareholders in the parent company. Further, in most cases, they receive the majority of interest in the divested unit (Anslinger, Klepper & Subramaniam, 1999). Common for both spin-offs and equity carve-outs is that an entire unit is disposed to form an autonomous entity. Furthermore, they differ in the ownership distribution, for spin-offs the shares in the new entity are distributed to the owners of the parent on a pro-rata basis

(Anslinger, Klepper & Subramaniam, 1999). Equity carve-outs is the notion in which, often a majority stake of the new business unit is distributed to the current owner, while the remaining minority position is sold on the open market through an IPO (Anslinger, Klepper & Subramaniam, 1999). Usually, carve-outs are followed by a second event, in which, the residue is either sold to the market through an additional IPO or distributed to the current shareholders by conducting a spin-off (Anslinger, Klepper & Subramaniam, 1999).

Table 1: Different characteristics of the three divestment forms

Carachteristics	Asset sell-offs	Spin-offs	Equity Carve-outs
Capital infusions	Yes	No	Yes
Change in ownership	Yes	No	Yes
Issuing of new shares	No	Yes	Yes
Parent retains control	No	No	Yes
Taxable gains	Yes	No	Yes
Establishment of new entity	No	Yes	Yes

** In general these holds, deviations can exist.*

2.3 Underlying Theories

The concept of value enhancements can be distinguished as a primary reason why companies engage in divestitures. Present in the corporate world is several theories explaining the implications company need to account for in their operations. To enable a rigorous and nuanced assessment, relevant theories will be presented below to provide the necessary context in which the argumentation of the motives will follow.

2.3.1 Efficient Market Theory

Modigliani and Miller (1958) introduced a theory stating that no transaction or information costs are present in fully efficient markets. Highlighting capital structure and pay-out policies as insignificant variables when determining firm value. Derived from this theory, the business aspects; that is, the investments and the operations conducted by the firm, have a direct relationship, whereas the impact of the financial decisions are negligible. By assuming that this theory applies, divestitures cannot be utilized to create excess value. Another study, neglecting

the possibility of creating value from divestitures is the random walk theory (Fama, 1965). According to the theory, stock prices cannot be predicted and instead should be acknowledged as entirely random.

In practice, these theories do not hold; instead, the market is better described as semi-strong efficient, meaning that all the publicly available information impacts the value of a firm at a particular time (Givoly & Lakonishok, 1979). As opposed to the former mentioned, the semi-efficient market theory assumes that all public information available is factored by the market (Givoly & Lakonishok, 1979). Following the semi-strong efficient markets, costs associated with transactions and information discrepancy is key variables explaining the value of firms. By linking this theory to the topic, announcements of divestitures could be considered as strategic tools, used to signal future value enhancements to the market. Giving further support that the announcement of divestitures, indeed impacts the stock price of the parent company.

2.3.2 Theory of Capital Efficiency

The underlying argument justifying divestments is the ambition of gaining excess value for the shareholders. Divestitures are characterized as investments, in which the success of the outcome should be determined by the net present value of the divestment (Brealey, Myers & Allen, 2008). Given that the agents' acts rational and the assessment of the activity is correct, a divestment should be conducted if the NPV exceeds the NPV of retaining the particular asset (Brealey, Myers & Allen, 2008). Those, as mentioned above, can be linked to the aspect of corporate efficiency. An efficient firm could be referred to as an organization pursuing optimal value for its shareholders. Capital efficiency is thus, interlinked with the firm's ability to distinguishing whether an asset should be divested based on correct NPV calculations. Corporate efficiency in this context should therefore be perceived as one of the ultimate goal to pursue for companies engaged in divestitures.

2.3.3 Principal Agent Theory

Principal-agent theory elaborates on the relationship between the principals (owners) and the agents (management) of firms. Furthermore it shows that the role of the agents have a direct impact on the value the principals' receive (Jensen & Fama 1983). The theory acknowledges the problem of opportunistic behavior; that is, people acting with self-fulfilling purposes instead

of doing what is considered as optimal for the company as whole (Jensen & Fama 1983). The underlying problem occurs due to inconsistencies between the parties described above; both have different incentives for maximizing their corresponding benefits, which makes these problems recurrent concerns amongst firms (Jensen & Fama 1983). The explanations behind these problems are threefold; divergence in control and ownership, interest inconsistencies, and distorted information distribution (Hendrikse, 2003). The theory highlights monitoring capabilities as one of the crucial aspects of a company's governance structure. When principals find themselves brought behind the light by the agents, it assumes that the governance structure is lacking.

Jensen & Fama (1983) refers to the problems above as agency problems, further highlighting the events as direct harmful for firms, stressing the need for proper monitoring and incentivizing to mitigate these risks. Further, the costs that emerge subsequently with the agency problems are referred to as agency costs. In the optimum, there are no agency costs present. However, in practice, companies need to account for the substantial trade-off between the agency costs and the additional resources needed to monitor the agents and mitigate the risk of opportunism (Jensen & Fama, 1983). When the costs associated with the incentivizing and monitoring exceeds the agency costs, the governance structure becomes inefficient (Jensen & Fama, 1983). There is no predefined structure for eliminating agency costs. Instead, each organization needs to customize the most optimal structure in accordance with their specific situation (Jensen & Fama, 1983).

The importance of discouraging opportunism is the subsequent events that might occur if agents act undesirably. Enhanced status and higher payroll incentivizes managers to act opportunistically. Furthermore, restricted monitoring capabilities allow managers to pursue individualistic benefits at the company's expense (Jensen, 1986). The aforementioned can consequently result into empire building, which refers to the notion in which managers pursue company growth to strengthen their position in the organization rather than implementing techniques to enhance shareholder value (Jensen, 1986). Another recurrent issue associated with opportunistic behavior is the notion of management entrenchment. It is referring to projects advocated by managers, designated to generate individualistic benefits rather than creating excess value for the shareholders (Jensen, 1986). For instance, investments in projects or businesses in which the managers have valuable knowledge or experience, making them more

valuable for the shareholders and prevents them from being replaced (Brealey, Myers & Allen, 2008).

In the study by Cho & Cohen (1997), they found evidence supporting agency costs, and more specifically, opportunism as determinants for the likelihood of divestitures. They showed that managers tend to neglect divestments based on self-fulfilling purposes. Stressing that divestments can be perceived as signs of failure, which causes the managers to hang on to the assets to protect their reputation. According to their findings, managers will advocate a divestment only when the overall performance of the firm is lacking, namely when the poor performance exceeds the reputational effect caused by the divestment. The findings of Dranikoff, Koller & Schneider (2002), further supported this notion, as their study proposed that divestitures are discouraged and delayed by managers until the problems are so evident that the divestment is inevitable.

2.3.4 Theory of Asymmetric Information

The theory of Asymmetric information is derived from the principal-agent theory. Information asymmetry refers to the notion in which the parties engaged in a specific activity possess different levels of knowledge and information about the concerned topic (Akerlof, 1970). By linking this to divestitures, one can distinguish the material impact asymmetric information poses on the activities. The ability of efficient information distribution is dependent on the structure of the organization. Which was exemplified in the study by Krishnaswami & Subramaniam (1999) as they found evidence supporting highly diversified firms as more exposed to information asymmetry. Veld & Veld-Merkoulova (2009) further showed that dispersed firms are more complex, stressing industrial divergence as an obstacle limiting the senior managements' working capabilities. Further, Krishnaswami & Subramaniam (1999) confirmed that companies exposed to high levels of asymmetric information were more probable to engage in divestments. When organizations are complex and have units spread out in different industries, the assessment of the market value becomes more complicated. Further, it becomes problematic when companies are turning to the external capital markets to attain capital inflows due to the state of asymmetric information give rise to valuation gaps (Anslinger, Klepper & Subramaniam, 1999). By divesting assets and units partially or wholly, the company can mitigate the risk of under-valuation as the increased transparency will simplify

the process for external parties to assess the fundamental value of the company (Anslinger, Klepper & Subramaniam, 1999).

Anslinger, Klepper & Subramaniam (1999), highlighted divestitures, and in particular spin-offs and carve-outs as efficient tools for mitigating information asymmetry. Further, when wholly divesting a business unit, the act will increase the number of marketable securities as well it will decrease the complexity within the parent company (Anslinger, Klepper & Subramaniam, 1999). The previous event increase the company's market exposure. Regardless of form, a divestment will increase the analyst coverage as the complexity decreases, which consequently attracts new investors and both mitigates the risk of under-valuation as well as it strengthens the companies' ability to secure capital for external sources (Anslinger, Klepper & Subramaniam, 1999).

2.3.5 Efficient Deployment Theory

In the study by Hite, Owers & Rogers (1987), the authors found evidence supporting assets sales as efficiency-enhancing activities. Divestment of assets can distribute the control of the assets to a more suitable owner, granting benefits for both parties. Lang, Poulsen & Stultz (1995) investigated the previous studies conducted on sell-offs, and in their study, they established a new theory, the efficient deployment hypothesis. According to the theory, companies solely preserve their asset internally if it provides a competitive advantage, further stressing that when another company has more efficient gains from the particular assets, a distribution in ownership should be anticipated. The theory assumes that management acts rational and always pursue the optimization of shareholder value (Lang, Poulsen & Stultz, 1995).

Further stating that this should hold regardless of the financial situation, as the benefits will be equivalent irrespectively if the capital gained through the divestment is used to fund future investments or distributed to the shareholders as a dividend. The theory acknowledges that the acquiring firm must pay a premium when securing the asset, and given that these assumptions hold, all assets on the open market will be distributed to its corresponding optimal owner (Lang, Poulsen & Stultz, 1995). The bottom line of the efficient deployment hypothesis thus, is that companies should divest their assets when another party can realize higher efficient gains (Lang, Poulsen & Stultz, 1995).

2.3.6 Refocusing Theory

Diversification strategies gained increasing attention during the mid-1900s, an era characterized by the establishment of many conglomerates. Organizations emphasized rapid growth through a broad portfolio of entities. During the recent decades, there has been an opposing shift in this emphasis, since the 80's the trend rather points towards refocusing through divestitures (Kaplan & Weisbach, 1992). Frequently used by larger organizations, these activities enable increased focus on core activities and could subsequently enhance shareholder wealth (Anslinger, Klepper & Subramaniam, 1999).

One of the critical motives justifying divestitures is, thus, the increase in focus that aligns with the activities. By disposing of unrelated units, an organization can attain focus on its core operations. This notion is often referred to as the refocusing hypothesis (Kaplan & Weisbach, 1992). In the study conducted by Markides (1992) the author found evidence supporting corporate refocusing as one key determinant behind divestitures, he found that in general, there is a significant relationship between increased focus and shareholder value in the proceedings of divestitures. The notion of refocusing oppose diversification strategies, referring to strategies supporting diversified companies as more capable of realizing economies of scope and synergies (Rumelt, 1982). However, various former studies acknowledge highly diversified organization as less profitable than their more specialized counter-peers (Lang & Stultz, 1994). It was further supported by the study of Berger & Ofek (1999) as they showed that diversified organizations are much more likely to divest units that deviate from the core operations. An additional aspect explaining the justification of divesting unrelated assets is the substantial discount diversified companies are exposed off (Matuska & Nanda 2002). The discount derives from the inefficient internal distribution of capital within the organizations. Further deteriorated by the complexity that aligns with the diversification, making it more complicated for the market to assess the intrinsic value of the diversified firms (Matuska & Nanda 2002). The findings mentioned above support divestments as value creating, stressing the refocusing aspect as a crucial motive behind the activities. It further aligns with the overall ambition of increasing the efficiency of an organization.

2.3.7 Financing Hypothesis Theory

When firms lack internal funding and have unfavorable terms when securing capital from external sources, an equity carve-out or sell-off can be an efficient alternative (Lang, Poulsen

& Stultz, 1995). The underlying notion is that firms need to conduct investments in order to proceed with their operations and create future value investments (Myers, 1977). The required capital can be expensive to reach through equity or debt offerings, as deteriorated share price or increased indebtedness increases the cost associated with the transactions. Further, when firms have a too high debt structure, the debt holders suspects that the companies forgo value enhancing activities, which subsequently increases the cost of debt, as a compensation for the lacking investments (Myers, 1977). During distress, a shift in focus occurs, which directly harms shareholder value as the emphasis shifts to overcoming the financial issues rather than continuing with the core operations (Opler & Titman, 1994). When exposed of financial distress the companies lose their ability of choice and must act with all needs to stay alive; that is, during this stage, all divestitures should be characterized as involuntary (Shleifer & Vishny, 2011). The costs of financial distress aggravate when debt increases, these costs derive from the likelihood and the costs that align when companies are facing financial distress. This further explains the continuous trade-off that needs to be accounted for when deciding on investments (Kraus & Litzenger, 1973).

Accordingly, the financing perspectives shed some light on why companies decide to divest their assets, and it further explains why some companies prefer divestments over increased debt when firms are highly leveraged, and vice versa. Seemingly, leverage is an essential factor when deciding whether to divest, as it corresponds to an organization's ability to create value and improve corporate efficiency.

2.4 Literature review

The motives why companies engage in divestitures could be categorized into three different categories; strategic motives, financial motives & corporate governance-related motives. The three different groups of motives differ in terms of characteristics and the underlying theories within the categories alters to some extent. The structure of the review will initiate with an elaboration on the different groups of motives, after which they will be connected to relevant theories, and lastly different implications will be provided. The first part will present qualitative findings from previous literature. After which, a more quantitative approach will follow, presenting the empirical findings in financial terms.

2.4.1 Strategic motives

The strategic motives are dynamic and further tightly interlinked with the overall strategy of the firm.

Many of the earlier studies on the topic have described divestitures as signs of failed investments or acquisitions (Jensen & Ruback, 1983). However, more recent studies have found contradicting results, instead showing that these activities are efficient tools for enhancing corporate value and efficiency. In the study by Boone & Mulherin (2000), the authors focused on determining whether divestitures are efficient defense mechanisms for changes in the external environment or if they act as imperfect reactive tools for corporate failure. Their findings supported divestitures as value-creating activities, leading to increased corporate efficiency. This was further supported in the study by John & Ofek (1999), as their findings proved that divestitures conducted to retain focus on the core operations improved operating performance. Further highlighting a significant relationship between the signalling of increased performance and the stock returns during the announcements.

Berger & Ofek (1999) investigated divestitures from a strategic perspective. They found evidence supporting relatedness within the organizations as determinants of the likelihood of divestments. Units differentiating from the core operations were more probable to be disposed of, which could be explained by the lack of synergies realized for these unrelated units. The findings supported higher returns for unrelated firms, stressing that the increase in focus justifies the divestments.

Hite, Owers & Rogers (1987) conducted a study in light of the efficient deployment hypothesis. They proposed that divestments are merely tools for transferring ownership, neglecting the activities as reactive tools for undervaluation. Their findings showed significant evidence of divestitures being value creating. Furthermore, they highlighted the distribution in ownership to higher-valued users as the underlying notion explaining the value gains.

Lang & Stulz (1994) investigated divestitures with the refocusing hypothesis in mind, and found that conglomerates tend to be traded at discounts due to their diversification strategy, showing that diversification harms corporate value. Colak & Whited (2007) elaborated on the topic and found that the discount of conglomerates derives from their inefficient investment activities. The relationship between shareholder value and diversification was further explained by the study of Markides (1992). The author highlighted that diversification generates benefits

to a certain extent, after which it becomes directly value-destroying. He described divestitures as reactive tools used to transfer highly diversified companies closer to optimal levels, which subsequently generates efficiency enhancements.

Another relevant aspect of divestitures is industrial relatedness. In the study by Daley, Mehrotra & Sivakumar (1997), the authors' proposed that divestments of cross-industrial units create more value than divestments of units closely related to the core industry of the firm. Their findings distinguished a positive value effect associated with the cross-industrial spin-offs, whereas no significant impact could be seen for the units within the same industry as the parent. The findings align with the refocusing theory, stressing that the value creation derives from the improvement in focus, by deducting unrelated units, managers subsequently get better opportunities to govern the core operations of the firm.

2.4.2 Financial motives

The financial motives presented below are, to some extent, interlinked with the aforementioned strategic motives, and thus, the concept of value creation and corporate efficiency. However, many previous studies have proven, that the underlying motives supporting divestitures vary depending on the companies' financial state (Lang, Poulsen & Stultz, 1995). Thereby a discrepancy of the two groups is justified.

In the study by Chen & Guo (2005), the authors' investigated the capital structures of companies engaged in divestitures. Their proposition suggested that financially constrained firms divest their assets in order to mitigate the risk of default. According to the proposition, divestments act as techniques companies can utilize to pay down their debt, and thus, lower the costs associated with financial distress. Their findings ultimately confirmed that companies divest to relieve their financial situation.

Lang, Poulsen & Stultz (1995), supported divestitures as funding tools for companies in need of capital, neglecting efficiency enhancements as the sole motive. Their findings showed that companies divest their assets when other capital sources are costly or inaccessible. Furthermore, Allen & McConnell (1998), showed that highly leveraged companies are more likely to engage in divestitures. Consistent with the financing hypothesis, they found that the value effect was significantly higher for companies utilizing the capital to decrease their

indebtedness. Consistent with the findings above, Shin (2008) gave further support to the relationship between leverage and value creation in divestitures.

All the above mentioned studies support divestments conducted under distress as value enhancing. However, in the study of Brown, James & Mooradian (1994), the authors showed that divestitures conducted with the ambition to decrease indebtedness generated significantly lower returns compared to divestments aimed to preserve the secured capital within the firm. According to Shleifer & Vishny (2011), highly leveraged firms often operate under financial distress. This financial state can force a company to divest assets far under market value in order to decrease their indebtedness. These sales are often referred to as fire sales, which subsequently destroy value for the selling firm. Coval & Stafford (2007) argues that fire sales occur due to liquidity shocks in specific industries. This can further be linked to the findings of Schlingemann, Stultz & Walking (2002), which highlighted the liquidity of markets as a critical aspect in the divestment decision. They found evidence supporting segments located on liquid markets as more likely to be divested, contributing to the understanding of why unrelated units tend to be disposed of more frequently.

Seemingly, leverage, liquidity of markets, and voluntariness are essential notions that contribute to the explanation of why companies divest based on financial motives. In general, financial motives provide rational arguments for divestitures. However, as divestitures are ambiguous activities, an assessment of the motives from all groups need to be conducted to enable a nuanced interpretation of why companies divest. The following Section will elaborate on the corporate governance-related motives.

2.4.3 Corporate governance motives

Corporate governance refers to the divergence between ownership and control (Shleifer & Vishny, 1997). Further, managerial incentives, board structures, legal frameworks, and other notions are tools companies utilize to assure the company is governed in a beneficial direction. The underlying purpose of adopting a specific corporate governance structure is to assure that the financiers earn returns on their investments (Shleifer & Vishny, 1997). Corporate governance is thus a way for the shareholders to assure that the company operates according to their interest. The following paragraphs will elaborate on the various governance related motives companies need to consider for when deciding upon divestitures.

Boot (1992) conducted a study in which they acknowledged the implication of managerial entrenchment. The author made the proposition that companies prolong the divestment of poorly performing units due to agency problems. Highlighting that managers are reluctant to divest as it could be interpreted by others as a sign of failure; that is, revealing their incapability of conducting profitable investments. His findings confirm that managers neglect value enhancing divestitures due to the reputational effect they might pose; this confirms that the agency problems have a direct impact on the divestment decision. This was further supported in the study by Cho & Cohen (1997), as they found additional support for Boot's proposition. They proposed that managers hold on to underperforming units until the effect reveals itself on an organizational level. Further, they showed that the incentives to divest emerge first when the reputational effect from the performance of the company as a whole exceeds the drawbacks of the announcement. Their findings supported that the divesting companies were underperforming compared to their industry peers, confirming managerial entrenchment as an underlying reason behind the prolonging of the divestment. They concluded by showing that the created value was due to the reduction of agency costs.

Furthermore, Hanson & Song (2000), proposed that the value creation subsequent of divestitures depends on the efficiency of the firm's internal controls. Their findings showed that managerial ownership and board structure have a significant impact on the value created for shareholders.

Roll (1986) pioneered by introducing the concept of hubris to the behavioral field of finance. The author made the proposition that hubris, an exaggerated state of optimism, impacted the likelihood of acquisitions. He concluded that managers, due to hubris, often overestimate the potential of specific investment opportunities, leading to an increased frequency of value-destroying investments. Roll's findings was further supported by Heaton (2002) who found consistent results. Furthermore, in the study by Boone & Mulherin (2000), the authors' established a non-synergistic model, which incorporated the concept of hubris, aligned with two closely related aspects; empire building and managerial entrenchment. They highlighted that even if the concepts differ to some extent, they all overlap with each other, providing a better understanding of why agency problems relate to the value effect of divestitures. Aktas et al. (2016) further acknowledged that narcissism is closely related to the concept of hubris, and thus, also empire building and managerial entrenchment. The authors' made a proposition inspired by the hubris hypothesis, in which they assumed that higher levels of narcissism

increase the likelihood of takeovers. Further, stressing that higher levels of narcissism in the target company decrease the returns associated with the takeover announcement. Their findings supported narcissistic managers as more likely to engage in takeovers. Further highlighting that high levels of narcissism are related to shorter negotiation processes and higher bid premiums. They confirmed that target companies with high levels had a significant negative impact on the acquiring firms' shareholders value effect. They concluded their study by showing that *CEO Narcissism* could not be confirmed as a negative trait for shareholders; that is, they could not find evidence supporting Narcissistic CEOs as more likely to destroy value for shareholders.

According to Ham, Seybert & Wang (2018), narcissism has an impact on the likelihood of over-investment in M&A and Research & Developments. Their findings showed that narcissism impacts the frequency of high-exposure investments, further highlighting that irrespectively of the negative impact narcissism poses on firm performance, CEOs with high levels of narcissism gain higher compensations. Their contribution shed further light on how narcissism relates to the investment activities and performance of firms.

Anslinger, Klepper & Subramaniam (1999), conducted a study in which they acknowledged the complexity that aligns with highly diversified organizations. The authors' highlighted information asymmetry as one of the key notions explaining why highly diversified firms are constrained by their organization structure. Complex organization structures complicate the assessment of companies, leading to an asymmetric relationship between internal and external parties. They assumed that due to this asymmetric state, the market tends to under-value diversified firms. The authors' showed that divestitures increase the analyst coverage, market exposure and investor attraction, which subsequently leads to a reduction in the valuation gap. Further, highlighting spin-offs as particularly efficient due to the increase of marketable securities that aligns with the activity. They concluded by arguing that the value effect of divestments is partly explained by the mitigation of information asymmetry.

The study by Kirshanswami & Subramaniam (1999) gave further support to divestitures as efficient mechanisms for mitigating information asymmetry. The authors' showed that companies exposed to high levels of asymmetric information are more likely to divest through spin-offs. Their findings confirmed that the level of information asymmetry has a significant positive effect on the value effect generated from the divestment; that is, the impact on shareholder value is stronger for companies with higher levels of asymmetric information.

2.5 Motive Summary

Table 2 presents a summary of the motives mentioned in the Sections above. The theories in this Section will be used to analyze and discuss the data in Chapter 4 and 5.

Table 2: Motive Summary

Group	Motive	Theory	Study
Strategic	Reactive tools for changes in external environment	Efficient Deployment Theory	Boone & Mulherin (2000), Hite, Owers & Rogers (1987).
	Disposing unrelated units to attain focus on core operation	Refocusing Hypothesis	Berger & Ofek (1999), Daley, Mehrotra & Sivakumar (1997), Lang & Stulz (1994), Markides (1992).
Financial	Distressed companies divest to mitigate the risk of default	Financing Hypothesis Theory	Allen & McConnell (1998), Brown, James & Mooradian (1994), Shleifer & Vishny (2011), Shin (2008).
	Divesting when other source of fundings are costly or inaccessible	Financing Hypothesis Theory	Chen & Guo (2005), Lang, Poulsen & Stultz (1995).
	Divesting assets on liquid markets	Financing Hypothesis Theory	Schlingeman, Stultz & Walking (2002).
Corporate Governance	Divesting to reduce agency costs, empire building and entrenchments	Principal Agent Theory	Boot (1992), Cho & Cohen (1997), Hanson & Song (2000).
	Mitigate value destroying investments caused by managers	Principal Agent Theory	Aktas et al. (2016), Ham, Song & Wang (2018), Heaton (2002), Mulherin & Boone (2000).
	Resolve under-valuation problem	Asymmetry Information Theory	Anslinger, Klepper & Subramaniam (1999), Kirshanswami & Subramaniam (1999).

2.6 Summary of Empirical Findings from Previous Literature

2.6.1 Short-term Empirical Findings

The previous Sections clearly illustrated that there is a lack in consensus of why companies divest. The various studies highlight different aspects, from different fields of corporate finance, as crucial determinants justifying the divestments, implying that there is no universal explanation for why companies conduct the activities. Seemingly, every decision is unique and is subsequently based on the specific context in which the company operates in. However, one common denominator is that the majority of the studies acknowledge that divestitures have a

direct impact on corporate value. Consistent with the studies by Kirshanswami & Subramaniam (1999), Hanson & Song (2000), John & Ofek (1999), divestitures, in all its forms, create value for shareholders in the short-run. However, many of the findings, regarding the value effect, differs in terms of magnitude. One possible explanation is the size of the divestments. In the study by Hearsh & Zaima (1984), the authors' found evidence supporting that companies divesting units with larger relative size gained significantly higher returns compared to industrial peers divesting similar smaller units. Other reasonable explanations are differences in the structure of the prior studies. They all differ in terms of scope and methodology. Some authors' investigates specific industries, other particular markets, and the time frame of these studies varies substantially. Nonetheless, irrespectively of the divergence in scope and methodology, there is a proven consensus that divestitures, in general, create value for shareholders in the immediate days during the announcement. Table 3 summarize the findings concerning the short-term announcement effects from different studies within the topic.

Table 3: Previous Empirical Findings of Short-Term Value Effects

<i>Spin-offs</i>	Timeframe	# Obs	Event Window	CAAR
McNeil & Moore (2005)	1980-1996	153	(-1, +1)	3.5%***
Krishnaswami & Subramaniam (1999)	1979-1993	118	(-1, +1)	3.3%***
Mulherin & Boone (2000)	1990-1998	106	(-1, +1)	4.5%***
<i>Sell-offs</i>				
Hanson & Song (2000)	1981-1995	326	(-1, +1)	0.6%**
Lang et al. (1995)	1984-1989	151	(-1, +1)	2.6%***
Shin (2008)	2000-2006	308	(-1, +1)	2.6%***

* Significant at 10%, ** Significant at 5%, *** Significant at 1%

The value effect following the announcement is measured as the Cumulative Abnormal Average Return (CAAR). Based on the results illustrated in the Table 3, one can distinguish a tendency, supporting Spin-offs as more likely to provide the highest effect on shareholder value (Bowman, Singh, Useem & Bhadury, 1999). Sell-offs seems to have less impact on corporate value in the two days surrounding the announcement. The event windows are constant throughout the provided studies, which arguably enables the findings to be compared against each other. Further, the table supports both divestment forms as value enhancing, irrespectively of the timeframe and the number of observations. Although, the findings differ in terms of magnitude, they are all positive and significant, which supports the assumption that divestitures, in general, create value for shareholders. The difference in magnitude between the two forms should not be interpreted as proof that spin-offs are associated with the most substantial impact

in short-term. Instead, one should regard it as a tendency, supporting that the value effect might vary depending on the particular divestment form the company utilizes (Bowman et al. 1999).

2.6.2 Long-term Empirical Findings

Concerning the long-term effect, the results are somewhat more inconsistent. Desai & Jain (1999) investigated the subsequent long-term performance of parent companies engaged in spin-offs. By looking at the activities impact on stock returns, they tried to distinguish whether spin-offs creates value for the shareholders in the long run. They measured the value effect by looking at the companies' buy-and-hold returns (BAHR). Although, their findings showed positive results of 6.51%, 10.58%, and 15.18%, in the holding periods of 12, 24, and 36 months, only spin-offs conducted to increase focus, with the holding period of three years, could be distinguished as positive and significant. Their findings confirmed a BAHR of 25.37%** for a holding period of 36 months, starting 2 months after the month of the announcement.

Moreover, Comment & Jarrell (1995) investigated the long-run performance of companies engaged in asset sales. They found that sell-offs have a significant impact on shareholder return. Their findings showed that companies divesting their assets gained 13% during the first year, whereas the stock return over the two years preceding the activity was 15%. As opposed to the findings mentioned above, Kruse (2002) found evidence supporting divestitures as value destroying in the long run. The study elaborated on divesting firms with declining performance. Their findings showed significant negative abnormal returns of 36%*** for the period of 24 months surrounding the announcement. The findings above demonstrate the divergence in the results concerning divestitures long-term effect on shareholder value. Accordingly, this study will add to the existing literature by providing further answers to the question whether divestitures creates value in the long-run.

2.7 Hypothesis

As discussed in the previous Sections, *CEO Narcissism* is related to agency problems and should be considered as one of the notions giving rise to these issues. Based on previous studies and relevant theories concerning narcissism, various findings have supported that this notion has a direct impact on the performance of firms. For instance, target companies with high levels

of *CEO Narcissism* are more likely to negotiate higher bid premiums, and thus, create value for their shareholders. Furthermore, Narcissistic CEOs are more efficient in the negotiation process leading to shorter and less costly transactions (Aktas et al. 2016). However, Ham, Seybert & Wang (2018), found evidence supporting that high levels of *CEO Narcissism* is associated with lower financial performance. The latter contradicts the findings of Aktas et al. (2016), implying that Narcissistic CEOs instead destroys shareholder value. The findings above underlines the importance of reaching a consensus on the matter of how *CEO Narcissism* relates to shareholder value. As no former study has elaborated on Narcissism in the context of divestitures, this perspective might provide some answers to the question.

Based on the discussion in the previous Sections, it is clear that announcements of divestitures generate significant immediate positive returns for the shareholders of the parent companies. The significant excess returns can be distinguished in various studies across different markets and periods. However, the driving factors behind this efficiency increase is somewhat inconsistent. Based on the aforesaid, *CEO Narcissism* seems to be of high relevance within divestitures. Implying that there might be a relationship between levels of *CEO Narcissism*, and the value effect gained through divestments. Thereby, the hypothesis of the study is as follows:

H0: CEO Narcissism has no impact on the quantum of shareholder value created through divestitures on the Nordic market?

H1: CEO Narcissism has an impact on the quantum of shareholder value created through divestitures on the Nordic market?

The methodology used to test the hypothesis will be based on the method established by Raskin & Shaw (1988). The unobtrusive measurement first-person singular pronouns are the indicator used to estimate the levels of *CEO Narcissism*. By weighing pronouns expressed by CEOs, first-person singular pronouns against overall first-person pronouns, proportions can be approximated, acting as estimators of *CEO Narcissism*. If the variable has a statistically significant impact on the value effect, the null hypothesis is rejected. The other variables are extracted from previous studies and used to provide more nuanced results. Although they are all of high relevance, they are not fully interlinked with the hypothesis.

3 Methodology & Data Description

In this Chapter the methodology of the study will be introduced, after which the measurement model will be described. This will be followed by an assessment of the independent variable and furthermore the various control variables used in the study will be presented. Furthermore, the Chapter will present a description of the data, after which an assessment of the reliability and validity of the study will be laid out. The Chapter ends with an elaboration of the limitations in study.

3.1 Event Study

Events such as the announcements of stock splits are often associated with increases in dividends. This is acknowledged by the market, which subsequently causes investors to change their expectations of future returns (Fama, Fischer, Jensen & Roll, 1969). Subsequently, this change in expectation will soon be reflected in the stock price within a short period. Since the market is almost entirely efficient, there is an apace reaction to any additional information that is provided (Fama, Fischer, Jensen & Roll, 1969). The former presumes that the announcement of a divestiture, like in the case of stock splits, signals future improvements, which will be rapidly reflected in the divesting firm's share price.

This study investigates the announcement effects of divestitures, the assessments thereby target specific events and their corresponding effect on the stock return, which motivates the use of event study as the methodology (MacKinlay, 1997). In event studies, the return is measured through an event window, which should align with the time perspective of the share performance assessment. Further, longer assessments require broader event windows and vice versa (MacKinlay, 1997). McWilliams & Siegel (1997) showed that shorter event windows provide more significant results, further highlighting the risk of alternative events skewing the results when assessing longer event windows. However, in specific events, such as spin-offs, significant time lags between the information distribution and the market reactions have been distinguished. Further, supporting that abnormal returns can be traced back to the event up to several years after the announcement (Kothari & Warner, 1997). The delaying effect of stock

returns was further acknowledged in the study by Womack (1996). His findings supported drifts in the reaction patterns across time. Further, he concluded that reactions vary depending on the characteristics of the event, highlighting the type and size of the announcement as key determinants. Vijh (1994) studied the completion date of divestitures; that is, the date when the divestment becomes certain and is formally declared by the board. The announcement date and the completion date is identical for some firms; however, there is often an extensive time-lag between these two events (Vijh, 1994). His findings supported significant excess returns of 0.79% on the completion date and 1.35% in the period between the announcement dates and the completion dates. In line with the previous arguments, this study will measure the short-term announcement effect by using a short event window, as it can provide more significant results. Further, to assure that the effect of the completion date, and the period in-between the two events, are also included in the assessment, a broader event window will be used as support when assessing the effect *CEO Narcissism* has on the long-term stock return of divestitures. In the next paragraph, a description of how the event study was constructed in this study will be presented.

Defining the event of interest is the first stage of conducting an event study. The event of interest of in this study is the announcement of the divestiture. The next stage is setting the period where the stock price of the parent company is examined. The aforesaid will here forth be called "event window." The announcement date of the divestiture is defined as day 0 in the event window. In order to capture the effect of potential information leakages, the event window will initiate before day 0 (MacKinlay, 1997). The event study will approximate the abnormal of the announcement by using an event window of maximum 3 days post the announcement for the short-term assessment, and 1-, 2- and 3-months for the long-term assessment. The event window will be stretched to 3 days before the announcement, as this will enable the control of potential information leakages (McWilliams & Siegel, 1997). This is done for both the short- and long-term assessment. The normal return is estimated during the selected event window, which subsequently is used to assess the abnormal returns. The normal return is described as the return which would have been present if the announcement would not occur. The estimation of the normal return requires the definition of the estimation window. The estimation window initiates 150 days and ends 30 days prior to the announcement. MacKinlay (1997) suggested that estimation windows should be 120 days, thus, the length of the estimation window in this study is consistent with his methodology. Further, he highlighted that the estimation window should not overlap with the event window. Therefore, the endpoint of the estimation window

was set 30 days prior to the announcement. This was further supported by McAfee & Williams (1988) who used a similar endpoint for their estimation window. Figure 1 illustrates the timeline of the event study.

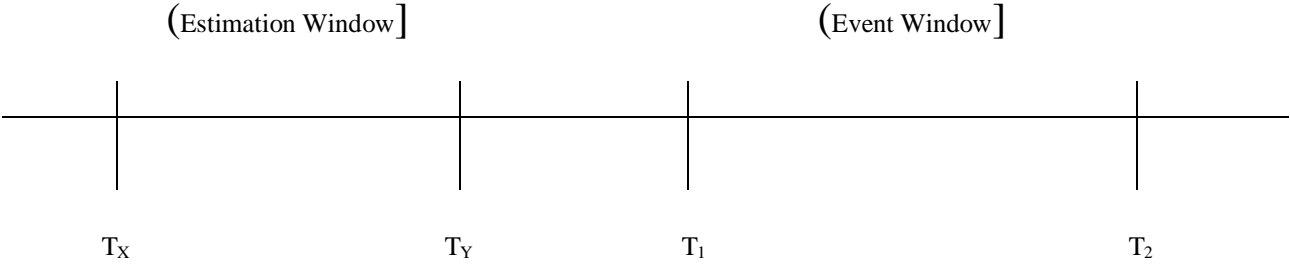


Figure 1. Event Study Timeline

Where T_X and T_Y illustrate the start and end of the estimation period, respectively, while T_1 and T_2 illustrate the start and end of the event window, respectively.

3.2 Market Model

The market model was first introduced by Markowitz (1959). The model enables the estimation of expected returns of an event, by benchmarking a specific instrument's movement to the performance of the market. MacKinlay (1997) acknowledged the market model as one of the most common methods to measure stock performance in event studies. Although more sophisticated economic models exist, such as the Capital Asset Pricing Model (CAPM), there are only marginal benefits to gain by using them instead of the statistical models. Further, the market model is a one-factor model, whereas CAPM, is an example of a multifactor model, requiring extensive data availability (MacKinlay, 1997). As the benefits of using multifactor models are merely translated into marginal reductions in the variance of the abnormal returns, and that the data required to use these models was restricted, the choice of model is justified.

Thus the market model will be used to approximate the normal return. The Market model formula, based on the study by MacKinlay (1997), is as follows:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \epsilon_{i,t} \quad (1)$$

With:

$$E[\epsilon_{i,t}] = 0 \text{ and } VAR[\epsilon_{i,t}] = \sigma_\epsilon^2 \quad (2)$$

$R_{i,t}$ represents the actual return for the stock of company i on the day t , whereas R_{mt} represents the market returns of the market index of the company i on the day t . ϵ_{it} zero mean disturbance error term which will depict the abnormal return. α , β and σ^2 are the parameters. (MacKinlay, 1997). As stated before, when the normal return has been estimated, the abnormal return can subsequently be approximated. The following model, drawn on the study by MacKinlay (1997), is used approximate the abnormal return:

$$\epsilon_{i,t} = R_{i,t} - [\alpha_i + \beta_i R_{m,t}] \quad (3)$$

Motivation of measurements

Fama (1998) elaborated on the two methods frequently used to estimate the abnormal returns, namely Cumulative Abnormal Return (CAR) and the Buy and Hold Abnormal Return (BAHR). CAR was highlighted as the most robust method, whereas BAHR was considered as less powerful from a statistical perspective. Mitchell & Stafford (2000) further contributed to this topic, showing that BHAR often leads to misrepresentative results when assessing stock performance. Kothari & Warner (1997), proposed an opposing standpoint, instead highlighting BAHR as more reliable when assessing long-term stock returns. Further, acknowledging CAR as statistically stronger in short-term assessments. This was further supported in the study of Barber & Lyon (1997). Based on the previous arguments, BAHR seems to be more reliable in the long-run, thereby BAHR will be used for the long-term assessment. However, the standpoint regarding which measurement is the most reliable in the short-term diverges. Thus, CAR will be used to assess the short-term stock returns, whereas BAHR will be introduced as a benchmark to control the robustness of the results.

Cumulative abnormal returns

Abnormal returns are approximated through deducting the normal returns from the actual returns which have occurred during the event (MacKinlay, 1997). CAR is obtained by summing up the abnormal returns during the event window after, and as for CAAR similar method is used, which is summing up the average abnormal returns during the event window. The following model is based on the study by MacKinlay (1997) which is used to approximate the Cumulative Abnormal Return (CAR):

$$CAR_i = \sum_{t=T_1}^{T_2} AR_{i,t} \quad (4)$$

T_1 and T_2 are the starting and ending dates of the event window, respectively, while AR is the abnormal return of company i at the time period t . To enable the estimation of the Cumulative Average Abnormal Return (CAAR), the following model, drawn on the study by MacKinlay (1997), was used:

$$\overline{CAR}_i = \sum_{t=T_1}^{T_2} \overline{AR}_t \quad (5)$$

Buy and Hold Abnormal Return

As stated above, the Buy and Hold Abnormal Returns (BHAR) approach was also used. BHAR calculates the returns from the moment of purchase (beginning of the event date) until the end of the event date, after which, the normal return for the same period is subtracted. The following model is drawn from the study by Barber & Lyon (1997):

$$BHAR_{i,t} = \prod_{t=T_1}^{T_2} (1 + R_{i,t}) - \prod_{t=T_1}^{T_2} [1 + E(R_{i,t})] \quad (6)$$

Where $BHAR_{i,t}$ is the buy and hold abnormal return for a company i over time t . $R_{i,t}$ is the return for a company i over the period t while $E(R_{i,t})$ is the expected return (normal return) for a company i over the period t .

Similar to the CAR measure, BHAR is based on individual observation, and with the numerous observations, an average result needs to be derived. The following model are drawn from Barber & Lyon (1997) which is used to derive average buy and hold abnormal return:

$$\overline{BHAR}_t = \frac{1}{N} \sum_{i=1}^N BHAR_{i,t} \quad (7)$$

Where \overline{BHAR}_t is the average buy and hold abnormal return on shares over time t . N is the number of companies and $BHAR_{i,t}$ is the same as mentioned above.

While the CAR measure is more descriptive in nature due to being an arithmetic sum, BHAR is a geometric sum which many find to be a better approach in principle for longer horizon event windows (Kothari & Warner, 1997).

Both of the above mentioned abnormal return measurement methods are tested for significance against the null hypothesis. Null hypothesis is the BHAR or CAR equals to zero during the event window. This is conducted by utilizing the following formula which is drawn from Barber & Lyon (1997):

$$tCAR = \overline{CAR}_t / \left(\frac{\sigma(CAR_t)}{\sqrt{n}} \right) \quad (8)$$

and

$$tBHAR = \overline{BHAR}_t / \left(\frac{\sigma(BHAR_t)}{\sqrt{n}} \right) \quad (9)$$

Where $\sigma BHAR_t$ and σCAR_t stand for cross-sectional standard deviation.

Univariable

The following formulas will identify the impacts *CEO Narcissism* has on the quantum of shareholder value creation with the use of CAR for shorter-term event windows and BHAR for long-term event windows.

$$CAR = \alpha + \beta_1 CEO Narcissism \quad (10)$$

and

$$BHAR = \alpha + \beta_1 CEO Narcissism \quad (11)$$

Multivariable

The following formulas will identify the effects of *CEO Narcissism* on value creation when other established variables are controlled for. Thus the control variables enables the isolation of the effect *CEO Narcissism* has on shareholder value.

$$CAR = \alpha + \beta_1 CEO Narcissism + \beta_2 Relative Size + \beta_3 Current Ratio + \beta_4 Operating Margin + \beta_5 Debt to Equity + \beta_6 Price to Book + \beta_7 Industry Relatedness \quad (12)$$

And

$$BHAR = \alpha + \beta_1 CEO Narcissism + \beta_2 Relative Size + \beta_3 Current Ratio + \beta_4 Operating Margin + \beta_5 Debt to Equity + \beta_6 Price to Book + \beta_7 Industry Relatedness \quad (13)$$

The variables above will be presented and further elaborated on in the following Sections.

3.3 Narcissism variable

Raskin & Hall (1979) established a framework called the Narcissistic Personality Inventory (NPI). The framework incorporates different characteristics and highlights specific notions as related to personality traits amongst narcissists. Since it was founded, it has become one of the most frequently used frameworks to distinguishing narcissism traits on a non-clinical level. Raskin & Shaw (1988) established an improved and more manageable model that was based on the NPI framework. The model assesses the frequency of first-person singular pronouns and

weigh them against the overall first-person pronouns, after which a ratio is extracted. This ratio acts as an indicator used to distinguish whether a persona possess Narcissistic personality traits. Although, the model was a simplified version of the NPI framework, Raskin & Shaw (1988) showed that it provides results with similar accuracy as the NPI framework. The findings supported the correlation persisting, irrespectively of differences in age, gender, and content. Based on the aforesaid, the methodology presented by Raskin & Shaw (1988) is rooted from relevant theory, and thereby the model is assumed to be applicable when utilized to assess the variable of managerial narcissism.

The independent variable *CEO Narcissism* will be estimated by following the model of Raskin & Shaw (1988). Aligned with the study by Aktas et al. (2016), the study will use the pronouns presented by Chatterjee & Hambrick (2007). By measuring the amount of first-person singular pronouns and first-person plural pronouns, and then comparing those to the magnitude of overall first-person pronouns, the sum of singular and plural first-person pronouns can be extracted. Based on these pronouns, a proportion can be calculated which act as an indicator of CEO Narcissism. The variable will be extracted by calculating the proportions of pronouns from publicly available information provided by the companies, this information is henceforth referred to as a communicational source.

Table 4 portrays the discrepancy between first-person singular pronouns, plural pronouns, and overall first-person pronouns. The pronouns are drawn on the study by Chatterjee & Hambrick (2007).

Table 4: Table of Different Groups of Pronouns

Singular pronouns	Plural pronouns
<i>I</i>	<i>We</i>
<i>Me</i>	<i>Us</i>
<i>My</i>	<i>Our</i>
<i>Mine</i>	<i>Ours</i>
<i>Myself</i>	<i>Ourselves</i>

⋮

Overall first-person pronouns

Raskin & Shaw (1988) found evidence supporting that the correlation between the results from the NPI framework and the proportion of pronouns is significant and robust after controlling for content. Thereby, the sample will not be adjusted for, instead it will be assumed that the estimator of narcissism will be valid regardless of the content of the communicational source.

The *CEO Narcissism* variable is exerted through the following formula:

$$O_p = S_p + P_p \quad (14)$$

Where O_p is overall first-person pronouns, S_p is singular first-person pronouns, and P_p is plural first-person pronouns.

$$X = \frac{S_p}{O_p} \quad (15)$$

Where X is the Proportion estimating the *CEO Narcissism* variable.

For companies with multiple sources, the ratios were pooled together to extract the average proportions.

3.4 Control variables

Control variables are included in the model to provide more accuracy to the findings. These variables mitigate potential error terms and improve the statistical power of the results. By implementing controls, the validity of the study will be strengthened (Becker, 2005). The paragraphs below will elaborate on the various control variables used in this study.

Industry Relatedness

Markides (1992), Berger & Ofek (1999), and Lang & Stulz (1994) found support showing that the relatedness of the divested unit has an impact on the value effect. Their findings supported significantly higher abnormal returns for units unrelated to the core operations of the parent company. The studies all acknowledge the increase in focus as the main driver behind the activities. To avoid that the value effect associated with this notion is captured by the independent variable *CEO Narcissism*, *Industry Relatedness* is controlled for in the model. Based on the method of Krishanswami & Subramaniam (1999), industrial relatedness is measured by looking at the firms specific SIC classifications. By differentiating the companies

with the same SIC classification as their spin-offed unit or acquirer (for Sell-offs), to the parents with different SIC classification as the corresponding unit, the dummy variable of *Industry Relatedness* is provided.

Price to Book Ratio

Anslinger, Klepper & Subramaniam (1999), and Chen & Guo (2005) acknowledges that information asymmetry in companies gives rise to substantial under-valuation problems. Complexity aligns with increased diversification, which makes it complicated for the market to assess the intrinsic value of the company. Both studies found evidence supporting that the levels of information asymmetry decreased after conducting divestitures, proposing the reduction as one of the drivers behind the value effect. Book to market ratio (B/M) is used by Chen & Guo (2005) as a measure to assess whether the companies are undervalued. Their findings support companies with higher B/M as more likely to conduct divestitures. To control for the value effect associated with the mitigation of information asymmetry, Drawn on the study by Chen & Guo (2005), the *Price to Book* variable was introduced in the model. The ratio is equivalent to *B/M* and should thereby be characterized as an adequate proxy for undervaluation. *P/B* is measured by dividing the price per share with the book value per share; that is, total assets – total liabilities divided by total outstanding shares.

Debt to Equity Ratio

Lang, Poulsen & Stultz (1995), McConnel (1998), Shin (2008), and Shleifer & Vishny (2011), studied divestitures in the light of the financing hypothesis. Highlighting highly leveraged firms as more likely to engage in divestitures. The studies above are all are consistent in the view that extensive indebtedness give rise to financial distress costs, further acknowledging divestitures as reactive tools to decrease leverage. Their findings support higher abnormal returns for companies that use the proceeds of asset sales to pay down their debt. Although spin-offs do not provide any cash infusions, Krishanswami & Subramaniam (1999) proposed that highly levered firms conduct the activity to increase the transparency of the market value, which subsequently enables the company to raise more external capital after the separation. The previous studies support that leverage has an impact on the value effects gained through divestitures. To assure that this effect is not captured in the *CEO Narcissism*, the control variable Debt to Equity Ratio (*D/E*) is introduced. The formula of *D/E* is as follows; total liabilities divided by total shareholders' equity.

Relative Size

Hearth & Zaima (1984) found evidence supporting the size of the divestment as a determinant of the value effect gained through the activities. Their findings supported higher abnormal returns for divestments with larger *Relative Size*, whereas divestments of smaller *Relative Size*, gained significantly lower returns. In line with previous research, such as the study by Boone & Mulherin (2000), *Relative Size* is introduced as a control variable to strengthen the validity of the model. *Relative Size* is measured by dividing the value of the divested asset with the market value of the parent company.

Current Ratio

Khan & Mehta (1996) used the *Current Ratio* as a measure for liquidity, which consequently acts as a proxy of financial leverage. They found evidence supporting that voluntary divestments are more likely to be conducted when companies are highly leveraged and exposed to financial constraints. Thus, the findings imply that companies with restricted liquidity use divestments to mitigate the costs associated with debt. Shin (2008), further found evidence supporting that highly levered firms that divest to decrease their indebtedness generates significantly higher abnormal returns. In line with the previous studies, *Current Ratio* is introduced in as a control variable in the multivariable regression. *Current Ratio* is calculated by dividing current assets with current liabilities.

Operating Margin

John & Ofek (1995) highlighted improved focus on core operations as the key value driver in divestitures. According to their study, focus-increasing divestments increase operating profitability, which generates positive market reactions. By using the *Operating Margin* as an estimator for profitability, their findings showed that divestitures improve shareholder value for parent companies. Based on the aforesaid, the variable *Operating Margin* is introduced to control for the value effect associated with the signaling of expected future performance improvements.

3.5 Data and Descriptive Statistics

Descriptive of observations and stock returns

The deal lists for the divestitures was acquired from Bloomberg Terminal through the M&A section. A set of criteria for the observations was used for gathering the data. The announcements of the divestments was required to happen during the years 2002-2018 while the events which occurred during the 2008 housing bubble crisis or dot com bubble were manually adjusted for. Furthermore, for the observations with estimation windows that were overlapping with the time period of the financial crisis were also adjusted for. The above mentioned criteria were introduced to avoid any biases that would occur due to the financial crisis. According to Bussiere & Fratzscher (2006) observations during a financial crisis can be impacted by post-crisis biases. Thus, to avoid post-crisis biases, the starting period was chosen at the particular date after which the market had fully recovered from the crisis. Furthermore, the deals had to be completed, uncompleted announcements were excluded in the sample. Additionally, a geographical criterion was introduced, solely observations on the Nordic market were gathered. In addition to the geographical criteria, the parent company was required to be publicly traded in one of the Nordic stock exchanges. Lastly, the deal size had to be larger than €25 million. To summarize, the criteria are the following:

- Timeframe: 2002-2018 (Excluding financial crisis)
- Deal status: Completed
- Geographical location: Nordic
- Public companies
- Stock Exchange in the Nordic
- Deal-Size had to be larger than €25 million.

Since the research question aims to answer whether *CEO Narcissism* impacts the Quantum of created shareholder value in divestitures on the Nordic market, the focus is solely on the Nordic market, which justifies the geographical criteria stated above.

This is further supported by the differences in the managerial incentives, as managers on the Nordic market tend to put less emphasis on economic benefits compared to other economies

(Spliid, 2013). These divergences give rise to divergences in performance, which further highlights the need of the geographical criteria.

If a company announced multiple divestitures on the same date, while fulfilling all of the aforementioned criteria, all the announcements on the date would be treated as a single observation. When multiple announcements occurred during an adjacent time period, the event window of an announcement could overlap with another observation's estimation window. In those cases, the previous event window would be removed.

The initial sample consisted of 513 observations, after which, the sample was adjusted for the various above mentioned criteria. This granted a sample of 268 observations for the short-term value assessment and 237 observations for the long-term value assessment. When introducing the control variables, 17 and 12 observations were omitted for the short-term and long-term assessment, respectively. This was due to restriction in the data used for quantifying the historical variables. The final sample consisted of 251 observations for the Multivariable short-term assessment, and 225 observations for the Multivariable long-term assessment (Also see Table 5).

Table 5: Initial and Final Sample

Observations	Initial #	ST #	LT #	MV ST #	MV LT #
Asset-Sell	353	164	141	153	134
Spin-off	160	104	96	98	91
Total	513	268	237	251	225

Furthermore, data of share prices for all observations was gathered. The stock returns were collected from DataStream. Each company's stock returns were paired with the corresponding market returns, which was also sourced from DataStream. The market returns were extracted from different market indices. OMXS30, OSEBX, OMXH25, and OMXC20 were used for the Swedish, Norwegian, Finnish and Danish companies, respectively.

Lastly, data concerning the announcements and the completion of the divestments were collected. These dates were gathered from Bloomberg Terminal. According to Vijh (1994) companies earn additional positive returns on the completion date of divestments. Implying that the markets reacts positively when the completion is announced. Thereby, the different dates

were gathered to discern the time lag between the two events. A mean of 56.73 days and a median of 29 days could be distinguished; that is, on average, the divestitures were completed within 60 days after the announcement. To assure that the post completion effect mentioned above was captured, the long-term assessment adopted event windows of 1-, 2 & 3 months respectively. Although, the given event windows did not capture the completion effect for all companies, the above event windows were still justified as longer windows will increase the risk of additional announcements occurring during the event window, which consequently would lower the validity of the results (McWilliams & Siegel, 1997).

Descriptive of CEO Narcissism

The sample was sourced from three different types of communicational sources:

- Interviews; video, radio and television interviews
- Reports; annual reports and quarterly reports.
- Other documents; PMs, Conference call transcripts and news articles.

When gathering the sources, the first criteria was that the CEO had to be the same as during the announcement date. Further, all sources were gathered as close to the announcement as possible to assure the validity of the data, with a maximum of 12 months prior to the announcement. In the case of multiple sources on the same date, the source least likely to be scripted was selected.

Further, in many of the sources, there were various personas from the management present. For instance, typically for conference call transcripts, the CEO is accompanied by the CFO and the investor relations officer. This study solely focuses on communication from the CEO when determining the narcissistic indicator. Thereby, in those cases, the pronouns expressed by the CEO was manually counted while the correspondence from the other managers was neglected.

According to Aktas et al. (2016), some correspondence is more likely to generate unspontaneous and pre-rehearsed responses. In line with the previous argument, the parts of the sources in which the CEO presented the company, was not included in the assessment. For instance, in conference call transcripts, solely, the Q&A section was included in the data.

Table 6: Communicational Sources

<i>Source</i>	#	%
<i>Reports</i>	141	58%
<i>Interviews</i>	54	22%
<i>Other documents</i>	48	20%
<i>Total</i>	243	100%

Table portraying the amount of different communicational sources

The number of sources, categorized into the three different groups, are presented in Table 6. From the sample, the amount of singular first-person pronouns discourses and the plural pronouns mentions were manually sourced. These were combined to calculate the overall first-person pronouns. After which, they were weighted against the first-person singular pronouns to estimate the ratio. The average, median, max & min values for the singular, plural & total sample are provided in Table 7.

Table 7: Pronoun Descriptive Statistics

<i>Narcissism</i>	<i>Ratio</i>	<i>Singular</i>	<i>Plural</i>	<i>Total</i>
<i>Mean</i>	0.20	5.12	23.06	28.19
<i>Median</i>	0.14	3.00	17.00	20.00
<i>Max</i>	0.89	39.00	125.00	155.00
<i>Min</i>	0.00	0.00	1.00	3.00

Table above illustrates the quantified narcissistic pronouns and their descriptive statistics

Overall descriptive of variables

The multivariable regressions includes the dependent and the independent variable. Further, it also includes the following control variables: Debt to Equity (*D/E*), Price to Book (*P/B*), *Relative Size* of the divestiture, *Current Ratio*, *Operating Margin* and the dummy *Industry Relatedness*, which was used to identify if the divestiture was cross-industrial. Table 8 illustrates the data used for the multivariable regressions.

Table 8: Data Descriptive of Variables

	Return	Market Return	Narcissism	Relative Size	Current Ratio	Op. Margin	D/E	P/B
Mean	0.0028	0.0004	0.1891	0.0743	1.5594	0.1157	1.3293	6.5585
Median	0	0.0004	0.1429	0.0140	1.2315	0.0795	0.7209	1.5388
Std. Dev.	2.4295	0.0159	0.1688	0.1915	2.9327	0.8525	2.3201	94.0031
Max	3012.889	4	0.8125	4.1321	90.5823	1.911	16.3055	1950.89
Min	-1	-0.1903	0	0.0001	0	-19.2184	0	0.0463

Table above illustrates the data descriptive statistics of the initial data pool.

As seen in Table 8, the data contains extremes values. The outliers of the data were treated with winsorising 1th and 99th percentile. Appendix A illustrates the data descriptive of variables post winsorising. The difference between the mean and median values are much narrower while still indicating some extreme values. However, these were not substantial enough to increase the magnitude of the winsorising treatment.

3.6 Validity and Reliability

Reliability refers to the notion in which extent, a study could be replicated with similar results in the future (Bryman & Bell, 2015). Further, high reliability can be achieved if the study is comparable with those in the already established studies (Bryman & Bell, 2015). The choice of variables, statistical tests, and methodology should thereby be inspired by the recent knowledge body to assure high reliability (Bryman & Bell, 2015). This study has been inspired by various studies conducted within the topic (Boone & Mulherin, 2000), (Hanson & Song, 2000), (Aktas et al. 2016), (Ham et al. (2018)). The selected methodology is recurring in various studies across different fields of corporate finance. The variables are all rooted from prior research and relevant theories. Based on the aforesaid, the reliability of the study should be considered as high.

Furthermore, to assure the reliability of the dataset, the sourcing was based on as few sources as possible (Bryman & Bell, 2015). With the exception of the data gathered to estimate the *CEO Narcissism* variable, only Bloomberg Terminal and Thomson Reuters DataStream was used as sources. In general, the data from these sources should be considered as reliable. Both are legitimate institutes, and their data is based on official documents and reports provided by

various credible actors. However, to further support the reliability of the data, various random tests were conducted. For instance, the announcement dates gathered from the Bloomberg Terminal was verified by looking at some of the annual reports from the companies, to ensure that the announcement dates provided by the source were consistent. This was also done with Human errors kept in mind, as many of the steps required manually data processing, there was a risk of self-causing errors present in the study.

Bryman & Bell (2015) acknowledge the importance of stability in studies. One aspect that might lower the reliability of the study is the question whether the selected variables varies over time. The key concern is if the chosen time scope has an impact on the results. One potential source of error, is the post-crisis biases that might have had a skewing effect on the results. To normalize this effect, a longer time-frame could have been implemented. However as the data before 2002 was limited to some extent, and that the post-crisis biasness was controlled for by looking at market indexes in Thomson Reuters DataStream, the chosen scope was motivated.

Validity, is another important aspect when assessing the strength of a study. This notion refers to which extent the study aligns with its purpose (Bryman & Bell, 2015). In order to assure high validity, all variables should be considered as legitimate and accurate according to the context of the study. There should be no measurement errors present, and the selection of method and variables should be based on previous studies and relevant theories (Bryman & Bell, 2015). The choice of event study and the utilization of market model to estimate the value effect is well rooted in prior research. Further, the selection of the independent variables, and the methods used to estimate them, are recurring throughout the former studies within the topic. Concerning the variable *CEO Narcissism*, there are no known research within the topic of divestitures that have followed the method used in this study. However, the methodology used is well rooted from relevant theories, and have been used various times in other fields of corporate finance, for instance, in studies concerning M&As (Aktas et al. 2018). Thereby, it can be assumed that this study is comparable with previous studies irrespectively of the introduction of the variable. Accordingly, the study contributes with a unique edge, while still being highly valid.

3.7 Limitations

The study was restricted in terms of scope, and thereby, there are various aspects that were not treated in the assessment. First, the study was restricted to the assessment of parent companies; that is, the impact *CEO Narcissism* had on the counterpart was not assessed. Second, the study was restricted to market-internal divestments; that is, divestments of assets to outside markets were neglected. Third, the study was restricted to publicly traded companies only. Fourth, only completed divestments were included in the study, announcements that result in uncompleted events were deducted from the sample. Last, the assessment was restricted to two divestment forms; Sell-offs and Spin-offs.

Although some of the above mentioned aspects could have been included in the study, it should be noted that due to the time constraints of the study, the current scope was justified. Concerning the omission of outside-market transactions, the geographical scope of the study restricted the assessment to the Nordic market, which justified the mere focus of market-internal divestments. Furthermore, only completed announcements were included as the post announcement completion effect was considered as an important aspect in the study. This effect is not present in the uncompleted announcements, which indicates that the inclusion of these observations, could provide confounding model estimates.

Moreover, the data for equity carve-outs was restricted, which supported why it was neglected from the study. Equity carve-outs, which is one of the most common divestment forms, is considered as a combination of the two, distributing some ownership to external parties, whereas a majority stake is retained within the parent company (Anslinger, Klepper & Subramaniam, 1999). However, as the study treated sell-offs and spin-offs, which are considered as the two most extreme forms of divestitures, they to some extent, captures the effect from the other forms lying in-between the extremes, including equity carve-outs (Anslinger, Klepper & Subramaniam, 1999). Which further supports why equity carve-outs were omitted from the study.

Furthermore, the current scope solely investigates the relationship between *CEO Narcissism* and shareholder value on publicly traded companies. Therefore, the findings should not be considered as robust for private companies. The data of stock returns for private companies is limited, and the scarce information that is provided, is often restricted to internal actors.

Another limitation of the study is the potential of measurement errors present in the estimation of the indicator of *CEO Narcissism*. The framework used in this study was established by Raskin & Shaw (1988) and is a simplified diagnostic method based on the NPI framework by Raskin & Hall (1979). Although both frameworks provide similar results, the accuracy is not perfectly correlated. However, as the NPI framework is based on interviews, the scope and timeframe of this study restricted the possibility of using the NPI to estimate *CEO Narcissism*.

Furthermore, this study used a combination of communicational sources, which according to Aktas et al. (2016) could indicate that the method was subject to biases and confounding effects. By following the method of Aktas et al. (2016), conference calls should be used as the sole source when estimating *CEO Narcissism*. However, the availability of conference calls was restricted to some extent, and those that were provided were lengthy and extensive, thus, the use of multiple communicational sources was justified. As opposed to Aktas et al. (2016), the variables were extracted by manually calculate the data from the communicational sources. Therefore, as mentioned in the previous section, there is a risk of human errors present in the study. Although, programs enabling atomized quantifications of the data are present, these were restricted and unavailable. Thus, the manual data processing was inevitable in the study.

An additional limitation of the study is the lack of previous studies conducted on the topic. This study is the first of its kind to elaborate on the relationship between *CEO Narcissism* and divestitures. Thereby, there is a great need of further research on this topic. In line with the aforesaid, the limitations of this study, particularly concerning the restriction in scope, will be further elaborated on in the Section Suggestion for Further Research in Chapter 5.

4 Results and Analysis

Herein, the results of the study will be laid out. The Chapter will initiate with an elaboration of the various diagnostic tests used in the study. Further, it will present the results from the assessment of the sole value effects. After which, the results from the univariable regressions will be portrayed. The following step will elaborate on the results provided after the control variables were introduced. The Chapter will ultimately be concluded with an overall assessment of the results.

4.1 Value Effects of Divestitures

OLS assumptions were tested for and no violation of them were detected, therefore it should be assumed that the OLS criteria were met. It should be noted that heteroscedasticity was present in the data, which was detected by conducting Breusch-pagan and White tests. To adjust for this notion, robust regressions were conducted, to minimize the biases. Additionally, to test whether multicollinearity existed in the data set, a correlation matrix was conducted (see Appendix A). The matrix gave no evidence for the presence of multicollinearity. The previous tests were conducted for the data used in all regressions.

Short-term assessment

The initial regressions provides the mere value effects of divestitures. Table 9 depicts the different abnormal returns found during the event window.

Table 9: Daily Abnormal Returns

Divestitures				
Day	AAR	T-Value	P-Value	Robust std. Err.
-3	0,0003074	0,21	0,831	0.0014392
-2	-0,0019039	-1,13	0,258	0.0016786
-1	0,001476	0,86	0,389	0.0017109
0	0,0097623	2,92	0,004***	0.0033463
1	0,002502	1,08	0,282	0.0023231
2	-0,0078921	-2,06	0,040**	0.0038265
3	-0,0010413	-0,62	0,534	0.0016713

Robust standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table above illustrates the coefficient of average abnormal returns and their significances for each day.

Table 9 presents the different average abnormal returns, showing various significant results during the event window. It should be noted that the results in Table 9 are adjusted for extreme values. By using the winsoriser, the extreme values were treated. According to Dixon (1950), the reduction of extreme values can generate different results. Further highlighting that if extremes of both ends are known, methods that adjust for both opposites generates more robust results. In line with this argument, both 1th and 99th percentiles were adjusted for in the regressions. Thus, this provided more reliable findings, providing further strength to the study.

Table 9 conveys that divestitures have a significant and positive impact on shareholder value on the announcement date. As depicted in Table 9, the average abnormal returns are 0.98% on day 0. In line with former studies, such as the one by Krishanswami & Subramaniam (1999), the event window initiates three days before the announcement to enable to capture the potential information leakages associated with the divestments. As there could not be found any significant results prior to the announcement, the effect of information leakages could not be confirmed. Although no significant results could be distinguished for the first preceding day after the announcement, there is a significant return on day 2. This finding aligns with the results from previous studies, showing that there are significant returns in the immediate days. The

efficient market theory by Miller and Modigliani (1958), propose that all public information is factored by the market and will thus, be reflected immediately in the stock price. As there are significant returns on the 2 day after the announcement, the finding contradict this theory, showing that there is a time-lag present, supporting that the market is in fact, not fully efficient.

Table 10 presents different combinations of the cumulative abnormal returns during the event window. It depicts the cumulative value effect divestitures have on shareholder value in the short-term.

Table 10: Short-Term Value Effects

Days	CAR	Days	CAR	Days	CAR
-1 to 1	0.0112*** (0.00372)	0 to 1	0.0124*** (0.00413)	-1 to 0	0.0112*** (0.00372)
-2 to 2	0.00405 (0.00593)	0 to 2	0.00444 (0.00556)	-2 to 0	0.00950** (0.00393)
-3 to 3	0.00336 (0.00630)	0 to 3	0.00354 (0.00574)	-3 to 0	0.00962** (0.00435)
Observations	268		268		268
R-squared	0.000		0.000		0.000
Robust standard errors in parentheses					
*** p<0.01, ** p<0.05, * p<0.1					

Table above illustrates the value effects gained in short-term event window through the use of CAR. Event window length is combination of maximum -3 to + 3 days (3 days prior- and post the announcement).

One can distinguish several significant cumulative abnormal returns from Table 10. The interval between days -1 to +1 is significant with a CAR of 1.12%. Further significant returns can be seen for the event windows of 0 to 1, -1 to 0, -2 to 0, and -3 to 0. Based on these results, there is a tendency showing that the market reaction is strongest in the immediate days of the announcements. Although the event windows initiating prior to the announcements are all significant, this should not be considered as evidence supporting that divestitures create value in the preceding days of the announcement. Referring back to Table 9, the abnormal returns prior to the announcement were insignificant, which further support this argument. The findings

in Table 10 highlights divestitures as value-creating activities for shareholders, in the short-run. The results are highly significant, which gives further strength to the results. The aforementioned, is in line with the findings of Fama et al. (1969), showing that the announcements of activities such as divestitures, conveys a potential performance increase in the upcoming events. Brealey, Myers & Allen (2008), argued that investments are considered successful if they produce positive net present value for the firms. Thereby, given that divestments are conducted rationally, the value of the activity should exceed the cost associated with the divestment process. This notion is acknowledged by the market, as they expect that the companies will benefit from the activities, subsequently leading to positive market reactions.

To give further strength to the findings, a robustness test was conducted, to see whether the results still hold after using an alternative method. As argued in the previous Chapter, buy and hold return is a similar method compared to the cumulative abnormal returns when assessing the short-term value effects of the announcements of divestitures.

The test confirm the robustness of the initial regression (see Appendix C). All of the significant results were still highly significant after conducting the test. It should further be added that the buy and hold average abnormal returns only differs marginally compared to the cumulative average abnormal returns in the initial regression. This could be interpreted as the robustness test had a successful outcome, which further supports the strength of the previously stated findings.

BAHR long-term assessment

To capture the effect of the completion date, additional regressions were conducted with event windows of 1, 2, and 3 months respectively. The regressions were conducted by measuring the cumulative buy and hold average abnormal returns. Table 11 illustrates the findings from the assessment of the long-term value effects of divestitures.

Table 11: Value Effects for the Long-Term

	1 Month	2 Month	3 Month
	BHAR	BHAR	BHAR
	-0.0178*	-0.0368**	-0.0393 ¹
	(0.0102)	(0.0160)	(0.0244)
Observations	237	237	237
R-squared	0.000	0.000	0.000
Robust standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

Table above illustrates the value effects of divestitures for the long-term event windows of 1-, 2- and 3-months.

One can distinguish various findings from the Table 11. During the event window of 1 month, and 2 months there is a negative and significant BAHR of -0.0178, and -0.0388 respectively. The period of 3 months provides a weakly significant negative BAHR of -0.0393. These findings support that the return of the divestments is -1.78, -3.88% and 3.93% respectively for the different periods subsequent of the announcement.

All findings provide negative cumulative BAHR, which supports divestitures as value destroying in the long-term perspective. The negative returns further seem to aggravate over time, as the negative value effect is more substantial in the 3 months event window compared to the 1-month assessment.

The results align with the findings of the previous study conducted by Kruse (2002). The author confirmed that divestitures as value destroying in the long run. However, Desai & Jain (1999), Comment & Jarrell (1995), found evidence supporting that divestitures generate positive and significant cumulative BAHR. Thus, the results of this study contradict the latter mentioned studies.

4.2 *CEO Narcissism* Impact on Shareholder Value

Herein, the independent variable is introduced in the base model. The paragraphs below will assess the findings from the various univariable regressions to determine whether *CEO Narcissism* has a significant impact on the quantum of the created shareholder value in divestitures. The results from the univariable regression are illustrated provided in Table 12.

Table 12: Univariable findings of *CEO Narcissism* on Value Effects

	Cumulative Abnormal Return					
	-1 to 1	-2 to 2	-3 to 3	0 to 1	0 to 2	0 to 3
<i>CEO Narcissism</i>	0.0358 (0.0267)	-0.0272 (0.0350)	-0.0226 (0.0376)	0.0272 (0.0247)	-0.0384 (0.0325)	-0.0358 (0.0334)
Constant	0.00689 (0.00687)	0.00902 (0.00900)	0.00705 (0.00966)	0.00734 (0.00634)	0.0118 (0.00835)	0.0102 (0.00860)
Observations	268	268	268	268	268	268
R-squared	0.007	0.002	0.001	0.005	0.005	0.004
	-1 to 0			-2 to 0		
<i>CEO Narcissism</i>		0.0558** (0.0221)	0.0594** (0.0232)	0.0627** (0.0261)		
Constant		0.000475 (0.00568)	-0.00207 (0.00597)	-0.00243 (0.00671)		
Observations		268	268	268		
R-squared		0.024	0.024	0.022		
Robust standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Table above illustrates the univariable findings of *CEO Narcissism* for value effects gained on short-term event window through the use of CAR. Event window length is combination of maximum -3 to +3 days prior to and post the announcement.

Table 12 depicts the impact *CEO Narcissism* poses on the cumulative abnormal returns in various event windows. Significant results can be distinguished for the event dates; -1 to 0, -2 to 0, and -3 to 0. The coefficients of the variable are 0.0558, 0.0594, and 0.0627 respectively. The coefficient conveys that the variable explains 5.6%, 5.9% and 6.3% of one point increase in CAAR, respectively. Thus, it means that the independent variable explains approximately 6% of the returns from the announcements.

The results from the univariable regression support that *CEO Narcissism* has a positive impact on the value effects shareholders in parent companies gain subsequent to the announcement of divestitures. Insignificant results could be seen for the preceding days after the announcement, which aligns with the former discussion, highlighting the immediate effect as the most substantial. The findings support a small, but significant and positive relationship between *CEO Narcissism* and cumulative abnormal returns. As mentioned in previous Chapters, the variable is related to agency problems. Thus, the findings in Table 12 align with the results in the studies by Boot (1992), Cho & Cohen (1997), and Boone & Mulherin (2000), showing that the reduction of agency costs is one of the drivers behind the returns gained through divestitures.

The results further, aligns to some extent with the findings by Aktas et al. (2016), showing that high levels of *CEO Narcissism* in target companies destroy value for the acquiring firm. In the case of divestitures, the divesting firm could be interpreted as the target company. Thus, the positive coefficient distinguished in Table 12 supports that high levels of *CEO Narcissism* in the divesting firms destroy value for the acquirer, and consequently, the divesting firm reaps the benefit from this value destruction.

Long-term univariable regression

Table 13: Univariable Regressions; CEO Narcissism in Long-Term

	1 Month BHAR	2 Month BHAR	3 Month BHAR
<i>CEO Narcissism</i>	0.0417 (0.0587)	0.0711 (0.0921)	0.113 (0.141)
Constant	-0.0262* (0.0156)	-0.0509** (0.0245)	-0.0615 (0.0374)
Observations	237	237	237
R-squared	0.002	0.003	0.003
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1			

Table above illustrates the univariable findings of CEO Narcissism for value effects gained on long-term event window through the use of BHAR. Event window length depicted are 1-, 2-, 3-months post-announcement day.

Table 13 illustrates the findings from the long-term assessment of whether *CEO Narcissism* impacts the shareholder value effect gained through divestitures. As opposed to the short-term assessment, there could not be distinguished any significant results. Thereby, there are no indications that *CEO Narcissism* relates to the value effect of divestitures in the long-term perspective.

4.3 Results from Multivariable Regressions

Herein we introduce additional variables into the regressions, to control for the effects other variables might pose on the dependent variable. These controls are implemented to investigate whether the results from the univariable regression hold; that is, if the prior results are robust, after controlling for other embedded notions (See Table 14).

Table 14: Multivariable Findings of CEO Narcissism on Value Effects

CAAR			
Event Window	-1 to 1	-2 to 2	-3 to 3
<i>CEO Narcissism</i>	0.0233 (0.0449)	-0.0168 (0.0533)	-0.00639 (0.0543)
<i>Relative Size</i>	0.0224* (0.0135)	0.000731 (0.0143)	0.00788 (0.0138)
<i>Current Ratio</i>	-0.000513 (0.000397)	-0.00333 (0.00308)	-0.00321 (0.00310)
<i>Operating Margin</i>	-0.00422 (0.00288)	-0.00409 (0.00301)	-0.00148 (0.00667)
<i>D/E</i>	0.000383 (0.00153)	0.000987 (0.00181)	0.000239 (0.00179)
<i>P/B</i>	-6.83e-06** (2.95e-06)	-4.05e-06 (4.06e-06)	-1.03e-06 (4.71e-06)
<i>Industry Relatedness</i>	-0.00600 (0.00943)	0.00544 (0.0122)	0.00843 (0.0131)
<i>Constant</i>	0.0108 (0.0106)	0.0104 (0.0127)	0.00556 (0.0131)
Observations	251	251	251
R-squared	0.024	0.062	0.048

Robust standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table above illustrates the multivariable findings of CEO Narcissism on value effects for short-term event windows of -1 to 1, -2 to 2 and -3 to 3 when controlled for other established known value creation variables.

When introducing the control variables, the coefficient of the *CEO Narcissism* variable diminishes into insignificant levels. Thus, the prior findings from the univariable regression, supporting a relationship between the variable and returns of the announcement, does not hold when controlling for the other notions. Although no significant results could be distinguished for *CEO Narcissism*, a couple of significant results can be seen in Table 14. The variable *Relative Size* is significant in the event windows of -1 to 1, showing a coefficient of 0.0224. This implies that the *Relative Size* of the divestiture explains 2.24% of each increase in CAAR. This finding aligns with the results in the study by Hearth & Zaima (1984), showing that the size of the divested asset has a direct impact on the value effect gained through the activity.

Further, the *P/B* variable is significant with a coefficient of $-6.83e-06$ during the period of -1 to 1. Although this finding is significant from a statistical perspective, the coefficient implies merely a marginal impact, and thus, the economic significance of the variable is minuscule. Thereby, the results can be interpreted as evidence, supporting a relationship between the variable *P/B* and the cumulative abnormal returns. However, whether this is negative or positive cannot be confirmed based on the minuscule coefficient portrayed in Table 14. This finding aligns with the studies of Anslinger, Klepper & Subramaniam (1999), Kirshanswami & Subramaniam (1999), and Chen & Guo (2005), showing that companies exposed of high levels of information asymmetry are more likely to be miss-valued. Further highlighting divestitures as efficient tools for mitigating the gap between market value and the intrinsic value of companies.

Markides (1992), Lang & Stultz (1994), and Berger & Ofek (1999) found that divestitures of unrelated assets are more likely to create value for the shareholders. Their studies were conducted in light of the refocusing and efficient deployment hypotheses. They highlighted improved corporate focus, best ownership, and asset specificity as underlying notions explaining the value effect of divestitures. The findings from the multivariable regression do not confirm the results from the aforementioned studies. Insignificant coefficients for the variable Industry Relatedness could be distinguished. Thus the results cannot confirm that operational focus has a significant impact on the returns gained through the announcement of divestitures.

Further, the coefficient of the leverage proxy *D/E* was insignificant; that is, the findings do not support leverage as a determinant of the shareholder value effect in divestitures. Thereby, the findings could not confirm the results of the prior literature by Lang, Poulsen & Stultz (1995), Shin (2008), and Shleifer & Vishny (2011), who highlighted the financing hypothesis, and more specifically the mitigation of financial constraints, as one of the explanatory notions behind the value effect. Further, Khan & Mehta (1996) highlighted illiquid firms as more likely to be exposed to financial constraints, supporting the mitigation of the costs associated with debt as one of the value drivers of divestitures. However, the results in the multivariable regressions showed insignificant results for the *Current Ratio* variable. Accordingly, a relationship between liquidity and the shareholder value effect of divestitures could not be confirmed.

The coefficients from the *Operating Margin* control variable were all insignificant. Therefore the results did not prove a relationship between profitability and the magnitude of

announcements effects. The findings could not confirm the proposition made by John & Ofek (1995), who showed that the divestment of bad performing units generates significantly higher returns for shareholders.

To check the reliability of the results from the previous regressions, a robustness test was conducted (see Appendix D). By measuring the value effect with Buy and hold average abnormal returns, instead of estimating the results with the cumulative average abnormal return, the ambition was to see whether the results still hold. The test illustrated similar findings with merely minor differences. Based on the result from the robustness test, the variable CEO Narcissism is still insignificant, thus a significant relationship could once again not be confirmed. Further, the impact of *P/B* is still significant during the event window -1 to 1. However, the variable *Relative Size* diminished to insignificant levels, with a p-value of 0.114. This result is weak from a statistical point of view, and thereby, after conducting the robustness test, a relationship between *Relative Size* and the shareholder value effect could not be confirmed.

Long-term multivariable regressions

To assess the long-term effects of divestitures, multivariable regressions with the event windows of 1, 2, and 3 months, respectively, were conducted. The results from the long-term assessments are portrayed in Table 15.

Table 15: Multivariable Findings of CEO Narcissism on Value Effects for Long-Term

BHAR			
Event Window	1 Month	2 Month	3 Month
<i>CEO Narcissism</i>	0.0493 (0.0679)	0.0853 (0.105)	0.136 (0.184)
<i>Relative Size</i>	0.0436 (0.0306)	0.0194 (0.0512)	0.0637 (0.0905)
<i>Current Ratio</i>	-0.00222 (0.00283)	-0.00448 (0.00437)	-0.00402 (0.00490)
<i>Operating Margin</i>	0.00674 (0.0172)	0.0125 (0.0409)	0.00745 (0.0685)
<i>D/E</i>	0.00355 (0.00309)	0.00510 (0.00451)	0.00423 (0.00616)
<i>P/B</i>	-3.29e-05*** (8.97e-06)	-2.58e-05** (1.25e-05)	-2.54e-05 (1.82e-05)
<i>Industry Relatedness</i>	-0.00710 (0.0197)	-0.00199 (0.0301)	-0.0224 (0.0470)
<i>Constant</i>	-0.0263 (0.0177)	-0.0540** (0.0269)	-0.0661* (0.0386)
Observations	225	225	225
R-squared	0.030	0.030	0.015

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table above illustrates the multivariable findings of CEO Narcissism on value effects for long-term event windows of 1-, 2- and 3-months when controlled for other established known value creation variables.

The findings in Table 15 illustrates similar results as in the prior multivariable regressions. The independent variable *CEO Narcissism* is insignificant in all of the event windows. Thereby, the findings fail to confirm any significant relationship between *CEO Narcissism* and shareholder value effects in the long-term perspective. The results concerning the control variables are relatively similar; most of them are insignificant, like in Table 15. However, there is two major exception; firstly, the *Relative Size* is insignificant in all of the longer event windows. Secondly, the significance of *P/B* is stronger, and also present in two event windows, namely during the 1 month and 2 months event windows. Further, the coefficient of the variables indicates a stronger negative relationship on shareholder value compared to the short-term results. Although they are highly significant and have stronger negative impacts, the coefficient still remains minuscule, and should therefore be considered as economically insignificant. By referring back to the previous discussion, the findings and supporting arguments concerning the rest of the variables applies in the long-term perspective as well, ceteris paribus.

4.4 General Findings

In event studies, the main endogeneity issues lie with the announcements of other explanatory events within the event windows. These issues should be considered as minimal for the shorter event windows, as the likelihood of an additional occurrence is low. As the event windows stretches into time, the probability of substantial information distribution aggravates, which consequently can pose endogenous problems. Thus, this can alter the findings. However, as mentioned in the data Section in Chapter 3, the endogeneity problems were mitigated by removing the known announcements which had occurred during the estimation period. Accordingly, the limitation of the findings caused by endogenous problems could thereby be considered as minimal.

The findings outlaid in the previous Chapter showed evidence of divestitures having a significant impact on shareholder value in parent companies. The results confirm the activities as value enhancing in the immediate days during the announcement. However, the long-term assessment gave support for divestitures being value destroying in the subsequent months of the announcements. By referring back to the sub-research question, the answer to the former question is divergent. The immediate effect of divestitures hovers around 1.0%; that is, the announcement of divestitures generates returns of 1.0% on average. For the long-term effects, there is an adverse market reaction of -1.8% during the preceding first month after the announcement, after which, it accumulates to -3.9% during the period of 3 months subsequent the announcement.

The short-term univariable regressions supported that *CEO Narcissism* had a strong significant and positive impact on the shareholder value effects gained through divestitures in parent companies. It should be noted that this effect could only be distinguished on the announcement date. However, when assessing the relationship in the long-term perspective, the results diminished to insignificant levels. Thus, the impact could not be confirmed for periods subsequent of the immediate days of the announcement.

Moreover, to assure that alternative notions were not reflected in the findings of the univariable regressions, various control variables were introduced. The multivariable regression, in which the control variables were included, could not confirm any significant affiliations between shareholder value and *CEO Narcissism*. This held true for both the short-term and the long-

term assessments. Although no significant results could be distinguished for *CEO Narcissism*, the control variable *P/B* showed a significant impact on both assessments. The results were significant for the immediate days during the announcement, and the periods of 1 and 2 months preceding the announcement. One notable mention is that *Relative Size* initially had a significant impact on the value effect. However, after conducting the robustness test, this relationship could no longer be confirmed.

To conclude, the above mentioned conveys that the study fails to reject the null hypothesis. Thus there is no evidence supporting that *CEO Narcissism* has an impact on the value effect shareholders in the parent companies gain through divestitures.

5 Discussion and Conclusions

This Chapter initiates with a discussion. This will be followed by some concluding remarks, after which, the Chapter will wrap up with some suggestions for further research.

5.1 Discussion

The former studies within the topic of divestitures are consistent in the conviction that the immediate effects of divestitures create value for shareholders in parent companies (Kirshanswami & Subramaniam 1999), (Hanson & Song, 2000), (John & Ofek, 1999). Concerning the long-term effects, the findings have been somewhat diverged (Kruse 2002), (Desai & Jain 1999).

Although extensive support is available, showing that divestitures create value during the immediate days of the announcement, the underlying explanations why this occurs are somewhat more diffuse. Various concepts are highlighted as directly related to the value effect, whereas they could all be categorized into three different groups, namely; strategic notions, financing notions and corporate governance notions. This study contributes foremost by looking deeper into the governance-related aspects of divestitures. By introducing the variable for the first time into the field of divestitures, the study shed further light on how *CEO Narcissism* relates to the value effect gained through divestitures.

Further, the study adds to the limited studies conducted on the Nordic market, a market characterized by divergence in the exposure of agency problems (Spliid, 2013). Based on the results of the previous studies, it is clear that these results should not be considered as universal when put into the context of smaller economies such as the Nordic region. Thereby, this study contributes by decreasing the information gap of divestitures in the Nordic market.

The findings align with the former research such as the studies by Kirshanswami & Subramaniam (1999), Hanson & Song (2000), and John & Ofek (1999). It provides further strength to the assumption that divestitures are value creating in short-term. The findings from

the long-term assessment oppose the findings by Comment & Jarrell (1995) and Desai & Jain (1999). Their findings supported divestitures as value creating in the long-run. However, based on the result it can be confirmed that this notion does not hold for divestitures conducted on the Nordic market. Instead, it aligns with the study by Kruse (2002), highlighting divestitures as value destroying in the long-run. The initial results from the univariable regression supported the findings by Boot (1992), Cho & Cohen (1997), and Boone & Mulherin (2000). It showed a significant and positive relationship between *CEO Narcissism* and shareholder value. This aligns with the proposition of the latter studies, highlighting the mitigation of agency problems as the primary value driver of divestitures.

The findings also align with the study by Ham, Seybert & Wang (2018). They proposed that narcissistic CEOs are more likely to destroy value for shareholders. Although, the study investigated a different topic of corporate finance, namely M&As, the findings can still be linked to the topic of divestitures. Their results confirm that high levels of *CEO Narcissism* were associated with lower financial productivity. Thus, it can be interpreted as highly narcissistic CEOs are more likely to oppose divestments, even when the activities are justified based on rational arguments. Further, when companies ultimately announce the divestment of a bad performing asset, the market will react positively on the news, which consequently will be reflected in the share price of the parent company.

Aktas et al. (2016), confirmed that target companies with high levels of *CEO Narcissism* were more likely to negotiate higher bid premiums and that the level of *CEO Narcissism* had a significant negative impact on the value effect for the acquiring firm's shareholders. In the case of M&As, the divestment firm is considered as the target company. Thus, the results from the studies above can be interpreted as support, showing a tendency of a positive relationship between *CEO Narcissism* and the value creation gained through divestitures.

However, when introducing the various control variables, the coefficient of the variable diminished into insignificant levels. Even though the results pinpoint a tendency of *CEO Narcissism* having an impact on the shareholder value creation through divestitures on the Nordic market, the results were not statistically significant, and thus, a conclusion regarding this relationship could not be drawn.

Despite the fact that no significant relationship could be confirmed, the purpose of this study is arguably still fulfilled. It contributes by providing the foundations for further research within

the topic. Further, it shed some light on how *CEO Narcissism* relates to the shareholder value creation in divestitures. Lastly, it should be further noted that the introduction of contemporary aspects into finance, such as *CEO Narcissism*, are crucial for reaching developments within the field.

5.2 Concluding Remarks

The purpose of this study was to investigate whether *CEO Narcissism* has an impact on the quantum of shareholder value created through divestitures on the Nordic market. The findings confirm divestitures as value creating activities during the immediate days surrounding the announcements. Further, the results gave initial support for a significant relationship between *CEO Narcissism* and stock returns during the announcement date. When adjusting for other notions, this relationship diminished into insignificant levels. Although a positive coefficient for the short-term, and a negative coefficient for the long-run assessments could be distinguished, the results were not statistically significant. Thus, the study fails to confirm the presence of a relationship between *CEO Narcissism* and stock returns for divestitures on the Nordic market.

5.3 Suggestions for future research

The scope of this research was restricted, and moreover, due to the lack of the research in this area, further research is needed to confirm the proposition of this thesis. Since this thesis was the first of its kind, it has laid the foundation for future studies.

In line with the study by Aktas et al. (2016), one recommendation for reaching improvements is to extract the *CEO Narcissism* variable from a consistent type of communicational sources. Aktas et al. (2016) highlighted conference calls as the source most likely to provide unrehearsed and scripted content, whereas they pinpointed documents such as transcripts of annual general meetings as less accurate. By following the methodology of Aktas et al. (2016), one might shed further light on the relationship between shareholder value and *CEO Narcissism* in divestitures.

Another recommendation is to control for overconfidence. According to Aktas et al. (2016), indicators of *CEO Narcissism* can capture some of the effects of CEO overconfidence. Although the theory confirms the notions as autonomous, the control is highlighted as a tool to assure the reliability of the *CEO Narcissism* estimation. This notion could be controlled for by using a similar technique as in the estimation of the *CEO Narcissism*, but with the utilization of other keywords. Further, by including equity carve-outs in the data sample, the assessments of how *CEO Narcissism* impact the shareholder value effect in divestitures could provide more nuanced results.

In line with the study by Hanson & Song (2000), further research could elaborate on how internal governance mechanisms relate to the relationship between value creation and *CEO Narcissism*. Their findings confirmed that higher proportions of unaffiliated directors have a significant and positive impact on the value creation realized from divestitures. Thus, it should be considered as relevant to take into account how board structures impact the value effect, and how this notion interrelates to the relationship between *CEO Narcissism* and shareholder value in parent companies.

Moreover, Aktas et al. (2016) found evidence supporting that *CEO Narcissism* of the target company has a significant impact on the magnitude of the bid premium in acquisitions. This finding implies that the negotiation skills of the CEO could explain the value effect gained through divestitures, and consequently, how these skills are related to *CEO Narcissism*. Thus, by looking at the bid premiums of divestitures, mostly applicable to sell-offs, future studies can explain some of the unanswered question of the topic.

To conclude, the purpose of this Section was to convey the necessity of reaching an answer on whether *CEO Narcissism* impacts the quantum of the shareholder value creation in divestitures. When this is achieved, the assumption is that divestitures will become more transparent and efficient, which will allow companies to divest when it is considered as appropriate.

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Appendix A. Winsorised Data Descriptive Statistics

The Table illustrates the data descriptive statistics after adjusting for extreme values through winsorising 1th and 99th percentile.

	Return	Market Return	Narcissism	Relative Size	Current Ratio	Op. Margin	D/E	P/B	AR	CAR	BHAR
Mean	0.0002	0.0004	0.1838	0.0569	1.3019	0.1788	1.1052	1.8191	0.0046	0.0125	0.0125
Median	0	0.0004	0.1429	0.0141	1.2315	0.0795	0.7210	1.5388	0.0006	0.0034	0.0030
Std. Dev.	0.0176	0.0121	0.1685	0.1023	0.9549	0.2150	1.3198	1.0547	0.0413	0.0697	0.0701
Max	0.0371	0.0240	0.5652	0.3954	3.8096	0.6754	5.5498	4.4122	0.5442	0.5033	0.5535
Min	-0.0360	-0.0242	0	0.0005	0	-0.0722	0	0.5214	-0.2373	-0.2965	-0.2933

Appendix B. Correlation Matrix

Table below illustrates the correlation of every variable used in the study

	Return	Market Return	Narcissism	Relative Size	Current Ratio	Op. Margin	D/E	P/B	Ind. Rel.	AR	CAR	BHAR
Return	1.0000											
Market Return	0.2378	1.0000										
Narcissism	0.0548	0.0751	1.0000									
Relative Size	0.0549	0.0390	-0.0161	1.0000								
Current Ratio	-0.0140	0.0130	0.1475	0.0124	1.0000							
Op. Margin	-0.0627	0.0713	-0.1544	-0.0058	-0.0946	1.0000						
D/E	0.0117	0.0384	-0.0064	-0.0955	-0.1222	0.1032	1.0000					
P/B	-0.0133	0.0138	-0.0509	-0.0184	-0.0090	0.0012	-0.0274	1.0000				
Ind. Rel.	-0.0265	0.0608	-0.0879	-0.0188	0.0385	0.0053	-0.0745	0.0621	1.0000			
AR	0.9723	0.0532	0.0383	0.0570	-0.0206	-0.0519	0.0009	-0.0111	-0.0324	1.0000		
CAR	0.5640	0.0259	0.0647	0.0963	-0.0349	-0.0877	0.0015	-0.0188	-0.0549	0.5913	1.0000	
BHAR	0.5625	0.0253	0.0611	0.0959	-0.0380	-0.0887	0.0052	-0.0186	-0.0543	0.5903	0.9983	1.0000

Appendix C. Robustness Test for Short-Term Value Effects

Table above illustrates the robustness test of value effects gained in short-term event window through the use of BHAR. Event window length is combination of maximum -3 to +3 days (3 days prior to- and post the announcement).

Days	BHAR	Days	BHAR	Days	BHAR
-1 to 1	0.0137*** (0.00451)	0 to 1	0.0125*** (0.00416)	-1 to 0	0.0112*** (0.00376)
-2 to 2	0.00372 (0.00589)	0 to 2	0.00439 (0.00548)	-2 to 0	0.00934** (0.00395)
-3 to 3	0.00276 (0.00632)	0 to 3	0.00334 (0.00563)	-3 to 0	0.00964** (0.00444)
Observations	268		268		268
R-squared	0.000		0.000		0.000
Robust standard errors in parentheses					
*** p<0.01, ** p<0.05, * p<0.1					

Appendix D. Robustness test for short-term Multivariable Regressions

The Table below illustrates the multivariable findings of CEO Narcissism on value effects for short-term event windows of -1 to 1, -2 to 2 and -3 to 3 when controlled for other known value creation variables.

BHAR			
Event Window	-1 to 1	-2 to 2	-3 to 3
<i>CEO Narcissism</i>	0.0221 (0.0437)	-0.0224 (0.0516)	-0.0135 (0.0529)
<i>Relative Size</i>	0.0227 (0.0143)	-0.00188 (0.0141)	0.00440 (0.0142)
<i>Current Ratio</i>	-0.000545 (0.000396)	-0.00338 (0.00312)	-0.00325 (0.00314)
<i>Operating Margin</i>	-0.00439 (0.00312)	-0.00393 (0.00317)	-0.00141 (0.00695)
<i>D/E</i>	0.000508 (0.00158)	0.000981 (0.00180)	0.000218 (0.00177)
<i>P/B</i>	-6.92e-06** (2.95e-06)	-4.56e-06 (4.02e-06)	-1.78e-06 (4.72e-06)
<i>Industry relatedness</i>	-0.00604 (0.00958)	0.00520 (0.0121)	0.00857 (0.0131)
<i>Constant</i>	0.0111 (0.0106)	0.0117 (0.0124)	0.00684 (0.0129)
<i>Observations</i>	251	251	251
<i>R-squared</i>	0.024	0.065	0.050
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1			