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**The Impact of Nordic Spin-Off Announcements: A
Study on Short-Term Reactions and Long-Term Per-
formance**

School of Accounting and Finance
Master's Thesis in Finance
Master's Degree Programme in Finance

Vaasa 2023

UNIVERSITY OF VAASA**School of Accounting and Finance**

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Title of the thesis: The Impact of Nordic Spin-Off Announcements: A Study on Short-Term Reactions and Long-Term Performance
Degree: Master of Science in Economics and Business Administration
Discipline: Master's Degree Programme in Finance
Supervisor: John Kihn
Year: 2023 **Pages:** 80

ABSTRACT :

This study explores the impact of corporate spin-offs on companies listed in the Nordic stock markets, focusing on both the announcement date reactions and long-term returns of parent companies and their spun-off subsidiaries. Using a dataset covering Finland, Sweden, Norway, and Denmark, the research aims to contribute to the limited body of knowledge on the long-term effects of spin-offs in the Nordic context. The analysis includes 151 spin-off announcements spanning 1995 to 2022. The event study methodology is applied, considering abnormal returns during the announcement period, and long-term returns are evaluated over 12, 24, and 36 months. Results indicate significant positive abnormal returns on the announcement date, with a notable market response leading up to the announcement. Long-term assessments reveal that parent companies generally outperform their benchmarks, although statistical significance is not achieved. However, spin-offs consistently outperform their parent companies and benchmarks over the examined periods, with a particular emphasis on the superiority of focus-increasing spin-offs. Their outperformance is significant over 24- and 36-month periods. While the non-focusing spin-offs show outperformance relative to the benchmark, there is no statistical significance in the results.

KEYWORDS: Spin-off, Divestiture, Nordic stock markets, Announcement date reactions, Long-term returns, Focusing

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Tekijä:	Joonas Hynninen		
Tutkielman nimi:	The Impact of Nordic Spin-Off Announcements: A Study on Short-Term Reactions and Long-Term Performance		
Tutkinto:	Kauppätieteiden maisteri		
Oppiaine:	Rahoitus		
Työn ohjaaja:	John Kihn		
Valmistumisvuosi:	2023	Sivumäärä:	80

TIIVISTELMÄ:

Tämä tutkimus tutkii spin-offien vaikutusta pohjoismaisiin pörssilistattuihin yrityksiin, keskittyen sekä ilmoituspäivän reaktioihin että pitkän aikavälin tuottoihin emoyhtiöiden ja niistä divestoitujen tytäryhtiöiden osalta. Hyödyntäen aineistoa, joka kattaa Suomen, Ruotsin, Norjan ja Tanskan, tutkimuksen tavoitteena on edistää rajallista tietoa etenkin spin-offien pitkän aikavälin kehityksestä. Analyysi sisältää 151 spin-off-ilmoitusta vuosilta 1995–2022. Tutkimuksessa käytetään tapahtumatutkimusmenetelmää tunnistamaan mahdollisia markkinasta poikkeavia tuottoja tutkimusjakson aikana, joka kattaa ilmoituspäivän sekä ajanjaksot 12, 24 ja 36 kuukautta. Tulokset osoittavat merkittäviä positiivisia poikkeavia tuottoja ilmoituspäivän ympärillä. Pidemmän aikavälin tarkastelu osoittaa, että emoyhtiöt yleisesti ottaen suoriutuvat paremmin kuin vertailuindeksinsä, vaikka tilastollista merkitsevyyttä ei saavuteta. Kuitenkin spin-offit suoriutuvat johdonmukaisesti sekä emoyhtiöitä että vertailuindeksiä paremmin lähes kaikilla tarkastelluilla ajanjaksoilla. Tuloksissa korostuu erityisesti yhtiöiden positiivinen kehitys, jotka divestoiivat ydinliiketoimintaan kuulumattomia liiketoimintayksiköitä. Näiden spin-offien ylituotto suhteessa vertailuindeksiin on tilastollisesti merkitsevää 24 ja 36 kuukauden ajanjaksoilla. Ydinliiketoimintaan kuuluvat yhtiöt jotka divestoidaan pärjäävät vertailuindeksiä paremmin kaikilla ajanjaksoilla, mutta tulokset eivät ole tilastollisesti merkitseviä.

AVAINSANAT: Spin-off, Divestiture, Nordic stock markets, Announcement date reactions, Long-term returns, Focusing

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1 Introduction

Between the 1960s and 1980s, European and US financial markets experienced a wave of conglomerate expansion driven by acquisitions of diverse businesses to enhance scale and income diversification (Shleifer & Vishny, 1991). This led to the rise of mid- to large-sized conglomerates, rewarded with a "conglomerate premium" as investors sought their stocks. The premium is measured by comparing the sum of parts and the valuation of focused, single-line businesses operating in the same industries. However, by the 1980s, managing the complexities of these conglomerates' diverse asset portfolios proved challenging, causing the premium to flip into a "conglomerate discount", as separate business units were seen as more valuable individually (Davis et al, 1994). Simultaneously, financial markets became more accessible, allowing investors to diversify through specialized companies, making conglomerates less attractive. This shift fuelled a surge in divestitures, including corporate spin-offs.

Value creation is not solely about acquiring new assets; it can also involve letting go of existing ones. Divesting a company segment or subsidiary has the potential to refine the company's strategy, unlocking value by either recognizing a greater sum of the parts or enhancing operational efficiency.

The primary forms of divestitures are equity carve-outs, sell-offs, and spin-offs. In an equity carve-out, a company conducts a partial Initial Public Offering (IPO) of the subsidiary being divested. Spin-offs, on the other hand, differ by distributing shares of the divested company to its current shareholders. In a sell-off, a company privately transfers some or one of its assets to another firm in exchange for cash.

Given that spin-offs do not provide immediate cash flow to the company upon the spin-off's occurrence, they present a multi-phased aspect in value creation which makes them an interesting topic for an in-depth study. This delayed impact prompts a closer look at the stages involved in spin-offs and how they contribute to the overall value of the parent

company over time. Exploring the complexities of spin-offs allows to uncover the processes, long-term effects, and the relationship between the parent company and the spun-off entity. The initial wealth effect arises with the announcement of the spin-off, potentially impacting the company's overall value. Following the effective date, once the spin-off has occurred, the company can leverage its streamlined operations to secure funding or enhance its performance, ultimately positioning itself for increased value.

1.1 Purpose of the study

The purpose of this study is to examine the dynamics of corporate spin-offs within the Nordics and their impact on firm value. By investigating the relationship between spin-off transactions and their effects on information asymmetry, market perception, and shareholder value, this research aims to shed light on the factors influencing the decision to divest segments of multi-business companies. Additionally, the study seeks to explore how spin-offs can serve as a strategic tool to enhance transparency, signal value, and realign management incentives.

Through a theoretical framework and comprehensive analysis of empirical data, this research contributes to a deeper understanding of the motives and the consequences of corporate spin-offs. Most prior studies in this field have focused on the United States and generally examined shorter timeframes. There is a relative scarcity of research regarding long-term effects, particularly when analysing the difference between focus-increasing and non-focus-increasing spin-offs. This study fills this gap by providing a comprehensive analysis of both short-term and long-term effects of spin-off announcements in the Nordics.

1.2 Structure of the study

The introduction is followed by a walk-through of the three primary divestiture methods (carve-outs, sell-offs, and spin-offs), with particular emphasis on spin-offs as it is the topic of this thesis. Following the overview of divestiture methods, the theoretical framework applied in later parts of the study is presented. These theories not only lay the groundwork for the hypotheses but also offer a comprehensive understanding of the subject and the empirical results. Part four is a broader literature review discussing previous empirical findings which helps develop the main hypotheses for this study. Part five provides an in-depth examination of the data collection process and the chosen methodology. This section elaborates on the rationale behind the methodological decisions and offers a transparent depiction of the research process, encompassing data collection sources, selection criteria, and analysis methods. Subsequently, in part six, the empirical tests are conducted, and their implications are deliberated upon. Finally, part seven draws the study to a conclusion, summarizing the findings and their implications.

2 Types of Divestitures

Corporate restructuring encompasses a range of strategies including mergers, acquisitions, strategic alliances, leveraged buyouts, joint ventures, spin-offs, and share buy-backs. While M&A remains at the center of corporate restructuring (Cigola & Modesti, 2008), spin-offs have gained prominence in recent decades as a means for companies to streamline their operations by divesting one or more divisions. Spin-offs and other forms of demergers result in a reduction in the size of the company.

Furthermore, when a firm is claimed undervalued by company management or other industry experts, a spin-off can be an attractive approach. What makes it particularly appealing is that it doesn't disrupt the firm's cash inflows, given that it involves the segregation of a subsidiary rather than its outright sale. This underscores the strategic potential of spin-offs in unlocking value within undervalued segments of a company.

This chapter talks about corporate restructuring and divestitures in general. The three main types of divestitures (spin-offs, sell-offs, and carve-outs) are discussed to get an understanding of how they differ. As it is the emphasis of this study, spin-offs are discussed in more detail.

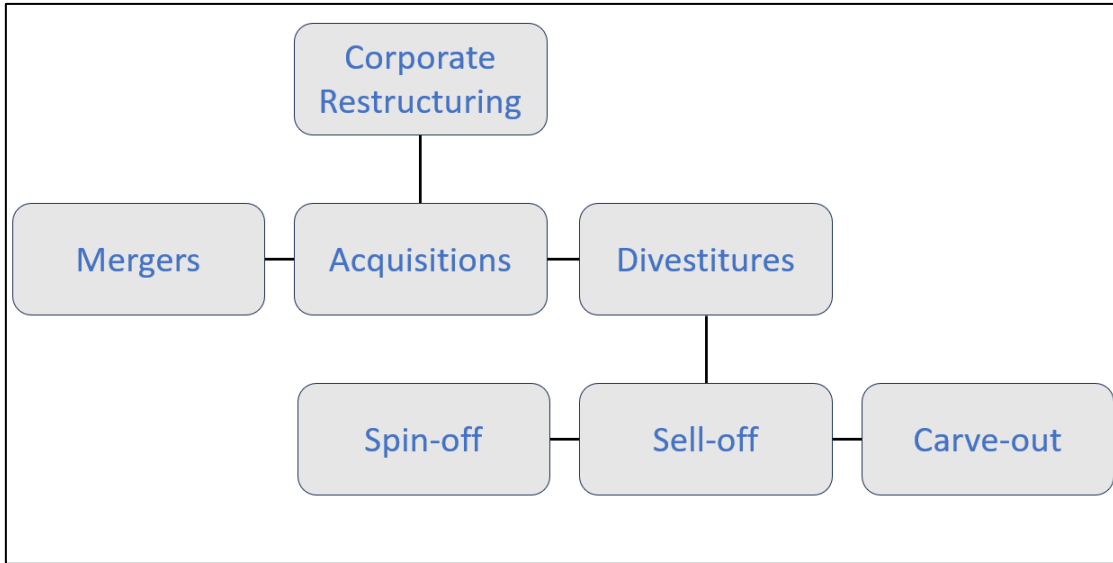


Figure 1. Types of Corporate Restructuring

A conglomerate/multi-business firm can be thought of as a portfolio of companies. Managing multiple businesses under one parent can be challenging, as each business unit has unique requirements for resources and attention. Sometimes, a subsidiary may not receive the necessary attention and funding from the parent company, leading to underperformance and underappreciation by external investors (Pearce & Patel, 2022). By spinning off a subsidiary, it becomes an independent entity, allowing it to showcase its potential and performance to investors without being overshadowed by the larger parent company. This can help increase the subsidiary's value by reducing information asymmetry in the market regarding its profitability, market potential, and operating efficiency.

It is not only the subsidiary that benefits from divestitures. By narrowing down operations, the parent company can focus on its core business. Ideally, focusing improves the efficiency of capital allocation (McKendrick et al., 2009). According to Milgrom (1988), rent-seeking behaviour exists in every organization with more than one division. Rent-seeking refers to a situation where the underperforming segments gain advantages from the more successful segments, without benefiting the overall company. This leads to the misallocation of funds, which in theory results in a suboptimal outcome. Internal capital markets and capital misallocation in conglomerates are studied by Scharfstein and Stein

(2000) and Rajan et al. (2000). Divesting can enhance the efficiency of a conglomerate by reducing its cost of capital, eliminating cross-subsidies, and streamlining and concentrating its investment choices. This can result in improved managerial and operational effectiveness, ultimately adding to the value of the company (Hollowell, 2009).

In addition to allocation improvements, divestments clarify the group's operations to outside investors. After cutting negative synergies and unrelated businesses, the possibly confusing structure of the group may appear more simple (Pearce & Patel, 2022). A diversified conglomerate can be difficult to assess from the outside, which can be solved by dividing the segments into separate listed companies. For example, a relatively small company with high growth potential might go unnoticed when operating within a larger corporation. This smaller unit remains concealed from external investors and faces difficulties in obtaining necessary funding since it cannot independently tap into capital markets, which it requires to achieve its full potential. Within the conglomerate, this smaller segment might appear insignificant and potentially get grouped alongside other less prominent segments, often not garnering the recognition it needs to thrive.

Finally, the selected approach for divestiture has the potential to diminish the information gap between company executives and external investors. The chosen method itself could unveil extra insights to outsiders, thus contributing to a reduction in information asymmetry (Frank & Harden, 2001). The divestiture may reveal the company's focus on specific markets or industries, providing investors with insights into its positioning and growth strategy. Moreover, understanding which businesses are retained can indicate which business operations the management perceives as core business operations helping investors assess its future prospects.

2.1 Carve-outs

In a carve-out, a part of the company is separated into its own entity and taken public through an IPO. Following the process, the newly formed entity trades independently

from the original parent company and has new shareholders. Selling shares to investors through an IPO generates new cash for the parent company. (Jain et al., 2011)

If the parent wishes to maintain control of the carved-out entity, it can control the number of shares offered for sale during the IPO (Frank & Harden, 2001). By retaining over 50% of the shares, the parent company secures a majority stake and is likely to share the same board of directors. With majority ownership, the carved-out subsidiary is consolidated into the parent company's financials. It is also likely that the same people will affect the financing and strategic decisions and possibly no real independence is granted.

Just like (Frank & Harden, 2001), (Slovin et al., 1995) find that generally, the carved-out company gains little or no autonomy because a controlling interest is maintained by the original parent company. Pearce and Patel (2022) find that typically less than 20 percent of the company shares are sold to new investors and the rest is kept with the parent. So are the voting rights and board nominations. With close ties, it is possible to name the executives, make long-term contracts, and influence the carve-out strategy. Findings of Schipper and Smith (1983), as well as those of Hite and Owers (1983), support the idea that firms expecting advantages from maintaining control over a subsidiary are more inclined to opt for a carve-out than other divestiture methods.

Alford and Berger (1999), Khan and Mehta (1996), and Maydew et al. (1999) provide reasons why a company would choose a carve-out instead of a spin-off. Their findings showcase that opposed to spin-off decisions; the choice is not as likely affected by strategic but rather liquidity issues. Carve-outs are a financing mechanism for financially constrained (usually high-growth) companies.

Slovin et al. (1995) and Nanda (1991) unanimously think that undervalued subsidiaries should be spun off and overvalued subsidiaries should be carved out. This will give the

maximum shareholder value for the existing owners. Spinning off an undervalued subsidiary may increase the wealth of existing shareholders. Carving out an overvalued, attractive subsidiary brings in more cash to the company and its shareholders.

Opposed to seasoned equity offerings (SEOs), Schipper and Smith (1986) find that the reactions to equity carve-outs are positive. This is attributed to the combined benefits of a divestiture and a public offering. Beyond the funds raised, divestitures bring forth managerial compensation linked to the spun-off entity's performance. Additionally, the public offering yields not only cash but also increased publicity through articles, analysts, and rating agencies, which can enhance understanding of the company's value (Slovin et al., 1995).

Companies with high dividend yield, lower information asymmetry, and which opt to divest units operating in diverse industries are more inclined to choose a carve-out as their exit strategy. As the shares of the carved-out unit are offered through a standard IPO process, the findings of Chen and Guo (2005) imply that divesting parents might leverage this procedure to attract interest and demand from new investors, especially for units operating in different industries.

2.2 Sell-offs

In a sell-off, a company sells specific assets to another company or an investor group. Unlike in a carve-out, the assets being sold do not become a separate listed entity as part of the transaction. A sell-off is a way of converting possibly illiquid assets to cash. They are usually done privately with little or no public information or details disclosed (Pearce & Patel, 2022).

Frank and Harden (2001) and Powers (2001) find that companies are more inclined to choose a sell-off as a divestment strategy in two main scenarios; in need of liquid funds or when the parent no longer sees significant advantages from controlling the subsidiary

in a particular industry. Lang et al. (1995) find that companies with higher leverage compared to peers are more likely to use asset sales than other forms of divestiture, and cash generated from sell-offs is used to relieve cash constraints. Assets that underperform relative to their full potential are more likely to be sold off, and, on average, companies engaging in sell-offs experience negative abnormal returns one year prior to the announcement of the sale (Prezas & Simonyan, 2015). Firms mainly use sell-offs to divest smaller units and other divestiture methods (carve-outs and spin-offs) to divest larger units (Chen & Guo, 2005).

Lang et al. (1995) find that sell-offs are not only used to streamline the business for operating efficiency but also for the cheapest funds. As the company's business might be struggling before a sell-off, the price of debt or equity financing can be costly. An asset sell-off can be seen as a way for the parent company to raise funds without going through the scrutiny and oversight that come with a public offering. This raises the possibility of agency problems, which are conflicts of interest between company management and shareholders. Therefore, the announcement effect on sell-offs should be less positive than other methods where the price is publicly disclosed, i.e., decided by the broader market.

According to Bergh et al. (2008), the market and demand for sell-offs can be very limited. In some industries, there might be just a few specialized companies, rivalries with each other, that can generate any return on the asset. These competitors often hold bargaining power and possess the expertise to leverage the asset for profit. This creates a complex trade-off for the seller, and they must carefully consider the strategic implications, competitive dynamics, and potential financial gains and losses associated with selling these assets. Especially when the seller needs quick funds, the buyer gains a negotiating advantage, particularly when the seller cannot afford to wait for an extended auction process.

Core business assets usually form the foundation of the company's competitive edge. Managers may hesitate to sell these valuable assets to an acquiring firm, a possible competitor. In some cases, such assets can be of a specialized nature, resulting in a limited resale market and fewer potential buyers in an auction or sell-off scenario. In turn, assets that are outside of the company's core business might for example serve as revenue hedges. For an acquiring firm, these assets might be more valuable, creating an incentive to utilize the possibly lower appreciation by the seller (Bergh et al., 2008). The seller should seek to incorporate multiple parties into asset auctions to boost competitive pricing.

Empirical evidence from Hite et al. (1987), and Jain (1985) shows that sell-off announcements are associated with positive stock-price reactions. One possible explanation is that the announcement of a successful asset sale is considered positive news, as it indicates that the firm received enough money to make the sale worthwhile. Findings of Lang et al. (1995) found an average positive return of 1.41 percent for the announcement date. However, there is a strong correlation between the stock price response and the intended use of the proceeds. Retaining the proceeds means reinvesting them back into the business. Breaking the full sample into two sub-samples, the results reveal that the positive average return is due to companies that payout the proceeds of the sell-off. The positive reaction for this subsample is 3.92 percent compared to a negative 0.48 percent for the subsample that chooses to reinvest the proceeds.

The median company engaging in sell-offs has high leverage, poorly performing core business with a net income of around zero. This results in a lagging stock price compared to the market one year prior to the sell-off (Lang et al., 1995). When the proceeds are not retained, the company may use them for purposes such as debt reduction or choose to distribute the proceeds to shareholders through dividend payments. As the companies engaging in sell-offs are usually struggling (compared to other companies choosing alternative divestiture methods), distributing the proceeds to shareholders is desired. If

there is no trust for the company management to reinvest them into positive present value projects, shareholders wish to make the allocation decision themselves.

Finally, regarding info asymmetry it has not been found to be the motive in sell-offs (Prezas & Simonyan, 2015). Sell-offs usually do not require to disclose any terms to the public as they happen as private transactions and therefore do not affect information asymmetry. As it is a transaction of assets to another company, there is no opinion of the broader public market determining the price.

2.3 Spin-offs

In a spin-off, a specific asset such as a unit, division, or subsidiary is separated from the parent company and established as its own publicly traded entity. Different from carve-outs, the shares of this newly formed company are distributed to existing shareholders of the parent company (Prezas & Simonyan, 2015). The shares of the parent continue trading in the stock exchange as they were, but the market cap, in theory, is reduced by the value of the spun-off asset. After the spin-off, the shareholders of the restructuring company are holders of two separate companies instead of one. The combined value of the parent and spun-off subsidiary should be equal to the pre-divestiture value according to value additivity and the law of conservation of value.

A spin-off does not generate new cash flow. Therefore, cash constraints or financing new investments cannot be said to be the direct motive. Instead, spin-offs often serve as strategic maneuvers that enhance the parent business's focus and operations (Krishnaswami & Subramaniam, 1999). It is important to note that while a spin-off does not immediately generate additional cash for the company, this does not imply that the company and its shareholders would not benefit from the process. The subsequent sections delve into the specific benefits, delineating advantages for both the parent company and the spin-off company.

2.3.1 Benefits for the parent company

The sought benefit from a spin-off on the parent level is the market's ability to appreciate the more focused company rather than a portfolio of non-synergic, dissimilar businesses (Cristo & Falk, 2006). Furthermore, following the spin-off, the parent company's financial obligations and managerial responsibilities towards the subsidiary come to an end.

Daley et al. (1997), and Desai and Jain (1999) observed notable improvement in operational performance just a year following spin-offs, which were motivated by a strategic focus. This enhanced focus is quantified through disparities in the standard industry codes (SIC) between the parent company and its subsidiary. By focusing, spin-offs improve transparency and efficiency of the parent company (Bergh et al., 2008).

The option of spinning off a subsidiary can also be appealing when the parent company desires to preserve a mutually beneficial long-term relationship with the subsidiary. This is more usually the case when the sectors of parent and subsidiary are related (Ito, 1995). Similarly, if the spun-off asset is an integral part of the parent's supply chain, such as a specialized manufacturing unit, the parent might choose to spin it off as a separate entity while ensuring continued collaboration for seamless supply chain operations.

The relationship can be as deep as where the conglomerate still owns a part of the spun-off entity or co-operates through a contract (Wallin & Dahlstrand, 2006). With major ownership, the parent can influence board seats, choose the management, and therefore affect strategic and financial decisions (McKendrick et al., 2009). Collaboration of the businesses continues but with improved efficiency across the companies.

2.3.2 Benefits for the spin-off company

Once the assets are separated as their own company, they can be valued as individual “pure play” investments (Allen, 2001). As an independent company, with independent reporting, it is easier for the investing public to gain a deeper understanding of the divested asset. Companies are legally required to share a lot of new information about themselves with regulatory agencies and the public (Cristo & Falk, 2006). For example, the detailed segment cost and profit information are revealed in quarterly and yearly financial statements (Krishnaswami & Subramaniam, 1999). This provides investors and the market with a greater understanding of the company's operations and potential (Prezas & Simonyan, 2015). Although companies separate some segments in their own financial statements pre-divestiture, there is still a problem of accuracy as some shared costs can be manipulated across divisions. Regulatory details are complemented by analysis from equity analysts and credit rating evaluations.

As a standalone entity, the company is better positioned to fund growth with direct access to capital markets and attract new investors. It can raise funds by a SEO or raise debt without it having to be a group-level decision. Research conducted by Krishnaswami and Subramaniam (1999) reveals that after spin-offs, companies demonstrate an increased tendency to raise capital compared to pre-divestiture levels. Notably, post-spin-off, firms increase their capital raised compared to pre-spin-off levels, with a mean equity (debt) increase of about 25 million USD (236 million USD), significant at the 5 percent (10 percent) level. This implies that while the parent company does not immediately generate funds during the spin-off, it effectively mitigates information asymmetry and secures capital for the spun-off entity at a potentially more favourable valuation. Moreover, the study identifies that companies opting for spin-offs exhibit a higher frequency of equity issuance within the initial two years following the spin-off, surpassing the corresponding frequency observed within the control group. Post-spin-off, these firms demonstrate a significant uptick in equity issuances, totalling 30 in the two years after the spin-off, compared to 20 in the preceding two years (significant at the 10 percent level). According to Nanda and Narayanan (1999), companies find outside equity expensive before a spin-off.

It is not always the case that the parent and the spin-off operate in completely different sectors; sometimes they are in different stages of their life cycle. If their growth trajectory differs significantly, it is beneficial for both to separate and function as their own independent companies (Parhankangas & Arenius, 2003). Krishnaswami and Subramaniam (1999) support this view by finding that the spun-off companies on average experience higher growth rates than the parent. According to Prezas and Simonyan (2015), the spun-off units are usually the better-performing assets while the measures in the return on assets (ROA) suggest a higher likelihood of selling off, rather than spinning off, assets that exhibit relative underperformance.

2.3.3 Spin-off characteristics

Empirical evidence by Prezas and Simonyan (2015) finds that undervalued firms (compared to size-matched industry peers) are more likely to spin off their assets rather than sell them. When the investor sentiment is low, spin-offs are more likely to be used over carve-outs because there is no necessity for IPO marketing and road shows, which are ideally carried out during high sentiment and optimism of investors (Chen & Guo, 2005). They measure investor sentiment using the market sentiment index constructed in Baker and Wurgler (2006).

Bergh et al. (2008) find that when companies face higher information asymmetry, their chosen divestiture strategy is more likely to be a spin-off. Consistent with others, Krishnaswami and Subramaniam (1999) find that companies that use spin-offs face higher information asymmetry compared to their size-matched industry peers which decreases significantly following the divestiture. The more information asymmetry a company faces, the more likely it is to divest through a spin-off rather than a sell-off (Prezas & Simonyan, 2015). Information asymmetry was measured by the number of analysts following the company and the standard deviation of analyst estimates.

There is a notable change in the analysts who track and provide analysis on the stocks of the companies involved in spin-offs. This means that there is significant turnover, indicating that new analysts start covering the spun-off entities while others may discontinue coverage of the parent company (Gilson et al., 2001). Connected to high analyst turnover, there is an improvement in the accuracy of analysts' earnings forecasts.

During periods of low investor sentiment, companies that have low revenue growth and low book-to-market ratios are more inclined to engage in spin-offs of larger business units (Chen & Guo, 2005). In other words, when investors are less optimistic and confidence in the market is low, these types of firms are more prone to separating significant portions of their business. This strategic decision allows them to address challenges related to slow revenue growth and low market valuation, potentially unlocking value and attracting investor interest.

Companies are more likely to spin off assets that are more related to the core business and sell off assets that are not related (Prezas & Simonyan, 2015). The degree of relatedness is quantified by a variable ranging from 0 to 4, indicating the number of digit matches between the SIC codes of the parent firm and its divested unit. Lower values of relatedness signify a greater lack of connection between the parent firm and its unit, making divestitures with lower values more focus-increasing for divesting firms. Firms divesting through spin-offs show a mean (median) relatedness of 2.02 (2), while those divesting through sell-offs have a mean (median) relatedness of 1.53 (1). The differences in means and medians are statistically significant at the 1% level, highlighting that sell-offs tend to be relatively more focus-increasing for divesting firms compared to spin-offs. Because it is unlikely that companies with segments in the same industry have significant negative synergies (Schipper & Smith, 1983; Berger & Ofek, 1995), it is rather the information asymmetry than getting rid of negative synergies in the same industry spin-offs.

2.4 Timing of divestitures

It is a known phenomenon in the IPO market, that the number of offerings rises when investor sentiment is high. The IPO market waves have been studied for example by Ibbotson and Jaffe (1975) and Ritter (1984). There is some research on whether companies divest or use certain types of divestment methods in relation to the prevailing investor sentiment similar to IPO market waves.

Prezas and Simonyan (2015) studied investor sentiment and investigated its influence on divestiture strategies. The findings indicate a clear pattern: during optimistic market conditions, spin-offs become a more likely choice for companies while they tend to opt for sell-offs during periods of pessimism. This trend aligns with the rationale that sell-offs typically involve a narrow pool of potential buyers, often leading to fewer competitive bids. In contrast, spin-offs rely on the valuation of assets in the public stock market, where an undervalued subsidiary can potentially benefit from investor optimism. This approach can potentially enhance the wealth of parent firm shareholders who receive new shares resulting from the spin-off.

The frequency of corporate spin-offs flows with general economic activity. Notably, periods of strong positive stock market performance often see a surge in spin-off events. McConnell, Sibley, and Xu (2015) found that between 2001 and 2012, the number of spin-off events peaked in 2002 and 2008 with 18 and 19 events. The S&P 500 index achieved its peaks 12 to 18 months prior. These market peaks were followed by sharp declines in stock prices and a noticeable reduction in spin-off activity.

Surveys conducted by Graham (2022), unveil that CFOs try to time the market when it comes to issuing securities or repurchasing shares. For example, they issue debt when interest rates are low and issue equity when the valuation of their company is perceived to be high. This suggests that these managers believe that the market is not operating at full efficiency and that they possess an informational advantage. While they generally

rate their ability to time the market as average, they consistently believe that their company's stock is undervalued in the market. In a typical quarter, a significant proportion of public company CFOs, ranging from 50 to 80 percent, perceive their stock as undervalued. According to the surveys, the most used valuation criteria for perceived undervaluation in comparison to recent highs and lows of the stock price.

The perception of undervaluation significantly influences decisions regarding divestiture methods and timing. Slovin et al. (1995), as well as Nanda (1991), suggest that undervalued subsidiaries should be spun off, while overvalued subsidiaries should be carved out. Empirical evidence, as noted by Prezas and Simonyan (2015) suggests that undervalued firms, when compared to similar-sized industry peers, are more likely to choose to spin off their assets rather than sell them.

Additionally, Graham (2022) finds that most companies have target debt ratios. The choice between different divestiture methods may be influenced by liquidity issues. For example, sell-offs are a financing mechanism often preferred by financially constrained companies, as suggested by Alford and Berger (1999). Moreover, Frank and Harden (2001) discovered that companies are more inclined to choose a sell-off as a divestment strategy when they require liquid funds urgently. This approach allows the parent company to raise funds without undergoing the scrutiny and oversight associated with a public offering, as noted by Powers (2001). Companies that are financially constrained can use the newly generated cash to alleviate liquidity problems. Lang et al. (1995) further confirm that cash generated from asset sales is used to address cash constraints. Additionally, companies with higher leverage compared to their peers are more likely to opt for asset sales as a means of divestiture, as opposed to other methods. Chen and Guo (2005) find that firms with larger divested units are more likely to use spin-offs or carve-outs compared to sell-offs. In the case of carve-outs, where shares of the divested unit are distributed through a regular IPO offering, divesting parent companies can leverage this procedure to attract interest and demand from new investors. When comparing just

spin-offs and carve-outs, a spin-off, becomes more viable when market sentiment is unfavourable, and the potential benefits of an IPO offering appear limited.

In sum, when assessing spin-offs, they tend to occur during periods of heightened market sentiment. However, when making a comparison between spin-offs and IPO-like carve-outs, carve-outs are more likely to be favoured when market sentiment and demand are on the upswing.

3 Theory

This chapter aims to present key theories in finance, which help the reader understand the concept of spin-offs and the decision-making behind them. These theories also lay the framework for hypothesis creation and understanding the literature review. Finally, an understanding of these theories is needed when discussing the research results of this paper.

3.1 Efficient market hypothesis

The basis of all textbook theory in finance is the efficient market theory or efficient market hypothesis (EMH). This hypothesis relies on the assumptions of rational investor behaviour, equal access to new information, accurate interpretation of information, absence of transaction costs and taxes, and homogenous expectations among investors (Fama 1970). An efficient market is one that thoroughly and accurately incorporates all relevant information into its prices. In such a market, changes in security prices occur immediately in response to new relevant information, precluding investors from identifying opportunities for abnormal returns through technical or fundamental analysis. The returns generated are predominantly linked to the underlying risk of the financial assets.

The primary objective of the capital market is to allocate excess investor funds to assets yielding the best risk-adjusted return. Ideally, this allocation is optimized within an efficient market, where prices function as indicators for prudent resource distribution. Investors can make informed choices among different firms' ownership, assuming share prices continually reflect all available information. In this competitive market, capital flows toward companies with the most promising investment prospects. Vice versa, firms exhibiting weak performance or unattractive investments may struggle to attract new capital. It is essential for the stock market to foster transparency in listed companies to enhance market efficiency. Given the broad nature of the efficient market concept, it

is categorized into three levels of strength based on information efficiency, as proposed by Fama (1970). These levels of strength are listed below.

The weak level perfectly reflects all historical information including past price movements and trading volumes into current prices. The changes in prices happen when new information reaches the market. In other words, under the weak form of EMH, investors cannot consistently achieve abnormal returns by analysing historical price data or trading volumes since this information is already incorporated into the current stock prices. This suggests that technical analysis, which involves studying historical price patterns and trends, would not be able to consistently predict future price movements.

The semi-strong level on top of reflecting all historical data, also reflects all public information. This information consists of all publicly available data such as financial statements, news releases, and other relevant information. Therefore, an investor cannot gain an advantage using fundamental analysis and constantly yield abnormal returns. The only way to make abnormal returns is to use insider information.

The strong level states that all information, including inside information, is reflected in market prices, meaning that no information asymmetry exists. In a market that follows the strong form of EMH, no investor would be able to consistently outperform the market by trading on any type of information, whether public or private. This implies that even insider trading would not provide an advantage, as all information, regardless of its source, is already incorporated into stock prices. The Strong Form EMH represents the strictest form of market efficiency, suggesting that the market is highly efficient and impossible to beat, even with access to private information.

3.2 Capital asset pricing model

The Capital Asset Pricing Model (CAPM) introduced by Sharpe (1964) laid the foundation for modern asset pricing theory. The capital asset pricing model (CAPM) establishes the

relationship between risk and the expected return on investment. According to CAPM, the expected return of an investment is equal to the risk-free rate of return and the market risk premium multiplied by the asset beta, a measure of its systematic risk. Abnormal returns (or alpha) are returns higher or lower than their risk-adjusted expected return provided by the CAPM. The CAPM is a fundamental tool in finance for assessing the expected return of an asset or portfolio in relation to its risk. Its equation is articulated as follows:

$$ER_i = R_f + \beta_i(ER_m - R_f), \quad (1)$$

where:

ER_i = expected return of investment

R_f = risk-free rate

β_i = the beta of the investment

$(ER_m - R_f)$ = market risk premium

Fama and French (1993) expanded upon the Capital Asset Pricing Model (CAPM) to improve its ability to explain stock returns and introduced the three-factor model. They introduced two additional factors, size and value in addition to the original market factor. Size (SMB or Small Minus Big) captures the difference in returns between small-cap stocks and large-cap stocks. They suggest that small-cap stocks tend to outperform large-cap stocks over time, because of a persistent risk factor directly resulting from this form of systematic risk. Value (HML or High Minus Low) reflects the difference in returns between value stocks (for example proxied by low price-to-book ratios) and growth stocks (for example proxied by high price-to-book ratios). It indicates that value stocks tend to outperform growth stocks. The three-factor equation is articulated as follows:

$$ER_i = R_f + \beta_1(ER_m - R_f) + \beta_2(SMB) + \beta_3(HML), \quad (2)$$

where:

SMB is the Small Minus Big factor, representing the size effect.

HML is the High Minus Low factor, representing the value effect.

The betas (β) represent the sensitivity to the risk factor

To further refine their model, Fama and French (2015) introduced the five-factor model with two more risk factors: profitability and investment. Profitability (RMW or Robust Minus Weak) captures the performance gap between highly profitable and less profitable companies, indicating that profitable firms tend to outperform their less profitable counterparts. Meanwhile, Investment (CMA or Conservative Minus Aggressive) delineates differences in returns between companies with conservative investment practices and those with more aggressive ones, suggesting that firms adhering to conservative investment strategies tend to outperform their more aggressive counterparts. The five-factor equation is articulated as follows:

$$ER_i = R_f + \beta_1(ER_m - R_f) + \beta_2(SMB) + \beta_3(HML) + \beta_4(RMW) + \beta_5(CMA), \quad (3)$$

where:

RMW is the Robust Minus Weak factor, representing profitability.

CMA is the Conservative Minus Aggressive factor, representing investment.

3.3 Capital structure, value of additivity, and the law of conservation of value

Modigliani and Miller's (1958) theory on capital structure also serves as a strong foundational pillar for corporate spin-offs. The theory posits that in a world with perfect capital markets, the value of a firm remains unaffected by its capital structure or dividend

policy. This principle challenges the notion that fragmenting a company through spin-offs could affect its overall value.

At the time of the transaction, there are no changes in the asset base or cashflows of the combined company because the same asset is separated into two (or more). Therefore, according to this theory, there should be no rise in the price of the company value. The immediate combined cashflows after the spin-off are equal to the cashflows of pre-divestiture levels. Also, the assets and liabilities do not change on the day of the transaction. Before the transaction, the company announces its will to execute the spin-off. The announcement date is usually some months prior to the transaction. This raises the question of whether investors' expectations regarding an increase in future cashflows following the spin-off could be the underlying cause of the potential wealth effect observed on the announcement date, despite no immediate changes having taken place.

Value of additivity and the law of conservation of value are similar principles used to ensure that the value of a portfolio of assets is equal to the sum of the values of the individual assets within that portfolio. In other words, the equilibrium value of several assets packaged as a single unit equals the aggregate value of the components when traded separately (Burns, 1987). Mathematically, if you have a portfolio of assets, the total value of the portfolio (portfolio V) can be represented as the sum of the values of the individual assets ($V_1, V_2, V_3, \dots, V_n$) within the portfolio:

$$\text{Portfolio } V = V_1 + V_2 + V_3 + \dots + V_n \quad (4)$$

Similarly, just as value of additivity and the law of conservation of value underpins the aggregation and trading of individual assets within a portfolio, the concept extends to the valuation of income streams in the context of specific firms. Looking at income streams, the market value (V) of a combined income stream (X) from individual assets within a firm remains constant, mirroring the principles observed in portfolio valuation.

This principle holds true when income streams from different firms are merged into a new entity.

The total value of a set of income streams is unaltered, regardless of how that set of streams is combined or divided into the income streams of one or more firms. Thus, for example, if X_1 and X_2 , were the total incomes of firms 1 and 2, and V_1 and V_2 , their values, when merged into a new firm T, would not alter the total market value of the streams; that is, $V_T = V_1 + V_2$ if $X_T = X_1 + X_2$.

Therefore, in perfectly efficient markets with well-diversified investors, the need for firm diversification becomes unnecessary (Schall, 1972). This suggests that investment projects are primarily evaluated based on the incremental income they generate, without taking into account the uncertain properties of the other income streams within the firm.

In the context of divestitures, the examples should apply backward. Even if the cashflows of firm T are separated into individual components of two or more firms, their combined value should equal to the pre-divestiture value of the combined firm. This should especially apply in the context of announcement date reactions because at that point, no change in the combined firm has happened.

3.4 Agency Theory

Agency theory focuses on the relationship between owners and managers and the associated agency costs that arise due to the separation of ownership and control. The managers (agents) may not always act in the best interests of shareholders (principals), which can lead to inefficiencies and value destruction within the firm (Jensen, 1976). Agency costs are the costs incurred by shareholders to monitor and control managerial behaviour and mitigate conflicts of interest. These costs include expenses related to managerial compensation, monitoring, and efforts to align managerial incentives with shareholder interests.

Different ownership structures and mechanisms can influence managerial behaviour and ultimately affect firm performance. For instance, ownership concentration, the board of directors' composition, and the market for corporate control are factors that can impact how effectively agency problems are managed within a firm. By spinning off a segment from the parent company and providing its management with stock bonuses or similar incentives, the spin-off's managers are positioned to act in the best interests of the newly formed entity and its shareholders. This can lead to a more efficient allocation of resources, targeted growth strategies, and improved operational performance (Jensen, 1976).

Agency theory plays a crucial role in understanding situations like empire-building, where managerial actions might not align with shareholder interests. Within the context of corporate spin-offs, agency theory offers insights into when it is advantageous for management to let go of certain business segments and how better-aligned incentives can influence the outcomes. For example in the case of empire building, management might be inclined to expand the firm by acquiring new business segments, even when such expansion might not be in the best interest of shareholders. Here, agency theory provides a framework to evaluate whether such expansion decisions serve the managers' self-interest or genuinely enhance shareholder value. In contrast, divesting a business segment through a spin-off might become a more favourable option when managerial motivations are aligned with maximizing shareholder wealth.

3.5 Signalling theory and information asymmetry

Signalling theory describes behaviour observed among various stakeholders when facing asymmetric information which causes mispricing in the market (Spence, 2002). An example of signalling is share repurchases. When companies make announcements about repurchasing their shares, a signal can be sent to shareholders, indicating the perceived undervaluation of their stocks (Dann, 1981; Comment & Jarrell, 1991).

Another good example of signalling is spin-offs. Market valuations might deviate from fundamental realities when investors do not understand the complex structure of a multi-business company or do not appreciate the non-synergetic structure. Company executives wishing to overcome the perceived undervaluation should break up the company structure leading to a clearer message of the company's focus and strategy. A spin-off in this case can have two significant outcomes: firstly, the parent company effectively communicates its commitment to a specific, more focused business area; secondly, the spun-off entity becomes more transparent and straightforward to evaluate, as its fundamentals are no longer obscured within the complexity of consolidated group accounting practices.

An illustration of information asymmetry in this context is presented by Krishnaswami and Subramaniam (1999), who propose that as firms adopt diversification, they tend to become more complex and challenging for external investors to understand and value. In such scenarios, managers have a better understanding of the firm's potential value than investors. This sets the stage for an adverse selection problem, where managers due to private information, have an information advantage to show better earnings and hide costs. Insiders are likely to have more information on the products, exact costs, and margins. Outsiders usually must settle for the information the company is willing to share and trust its accuracy (Berhg et al., 2008). To price in this uncertainty, investors discount the share price lower than managers think it's worth. This leads to the possible conglomerate discount (Riley, 1989).

Before undergoing a spin-off, companies experience higher levels of information asymmetry compared to their peer companies (Krishnaswami & Subramaniam, 1999). However, this information asymmetry tends to decrease after the divestment process has taken place. They also find that asymmetric information is the highest in large publicly traded companies which have a very broad investor base. Within diversified firms, there exists an uneven distribution of information between the management and shareholders

regarding the company's strategic direction. Information asymmetry has been shown to impact strategy and decisions like fundraising and transactions (Bergh et al., 2008). Notably, managers are inclined to opt for divestitures with the objective of achieving financial gains and reduction in information asymmetry is a significant factor contributing to financial gains in spin-offs (Krishnaswami & Subramaniam, 1999).

The information hypothesis by Krishnaswami and Subramaniam (1999) argues that information asymmetry decreases after a spin-off and is therefore motivated by the will to raise funds after the divestment. They measure information asymmetry by the error in analyst estimates (difficulty to value) and standard deviation between forecasts (disagreement between analysts). Both of these measures of information asymmetry drop significantly after the spin-off (forecast errors fall by 78 percent on average).

3.6 Corporate diversification and focusing

Diversification refers to companies expanding their sources of revenue beyond their primary or core business activities. The opposite of a diversified firm is a single-business firm that is primarily engaged in one core business activity, constituting its main source of sales and profit. The number of diversified firms increased until around the 1970s and 1980s, after which there was a decline in their prevalence, as the findings of Comment and Jarrell (1995) show. In 1988, they observed that 55.7 percent of listed companies had just a single business line. This marked a significant increase from the 38.1 percent reported just nine years earlier in 1979. Diversified companies are often associated with either a premium or a discount in relation to their fundamental value, which is the sum of the individual parts. The theoretical reason for the price deviation is synergies or dis-synergies.

3.6.1 Synergies favour diversification

Synergies mean efficiency gains and cost savings when combining two or more units. Arising synergies would mean that the company together is greater than the individual parts separately. Synergies can arise for example from economies of scale, economies of scope, and market power (Levy & Sarnat, 1970).

Economies of scale refer to the cost advantages that a business can achieve as it increases the scale of its operations and production (Levy & Sarnat, 1970). In other words, as a company expands and produces more units of a product or provides more services, its average cost per unit decreases. This phenomenon occurs because certain costs can be spread out over a larger output, making each unit more cost-effective to produce. In short, the cost of production per unit decreases when the quantity of goods produced increases.

Economies of scope also refer to potential cost advantages that a business can gain by producing a variety of products or offering a range of services together rather than separately (Levy & Sarnat, 1970). It's the ability to produce multiple products or services more efficiently because they complement each other or share resources, rather than producing them independently. Economies of scope are about cost savings and efficiency achieved by expanding the company portfolio, using shared resources, expertise, and processes. Economies of scope stem from the ability to diversify production across different products within the same organization.

Market power is the company's ability to influence the price, supply, and terms of its products or services in the marketplace. Companies with significant market power have a dominant position that allows them to set prices, control output, and shape market dynamics to their advantage. Market power often arises from factors like market concentration, brand recognition, intellectual property, and economies of scale (Chandler et al., 1990). It can have implications for competition, consumer choice, and overall market

performance. In short, with increased size, the company has the power to negotiate prices whether buying or selling.

In addition to the three mentioned potential benefits of diversification, there are financial synergies, which arise from an internal capital market. A system by which the parent company allocates and manages financial resources among its various subsidiary businesses or divisions. Instead of relying solely on external financing sources, such as borrowing from banks or issuing bonds, a conglomerate utilizes its internal funds to provide capital to different units within the organization (Alles, 2020). Financial synergies include the assumption that funds are better allocated internally than through external markets (Alles, 2020). “The more money effect” is the belief that an ability for a bigger company to attract more money than smaller, single-business companies. According to Lintner (1971), the financing cost of debt decreases when firm size grows. The basis for this idea stems from the co-insurance hypothesis. Lewellen (1971) demonstrates that a firm gains advantages from an expanding debt capacity. In simpler terms, when one cash flow's capacity can back up another, the likelihood of both cash flows declining simultaneously diminishes. The amount of debt then grows the tax shield (Berger and Ofek, 1995).

3.6.2 Dissynergies favour focusing

As data shows, the portion of diversified firms has been in decline since the diversification boom in the 1980s. For example, from 1980 to 1990 the percentage of Fortune 500 firms operating in single-business lines grew from 25 to over 40 percent (Davis et al., 1994). This means that there must be some disadvantages to large, diversified corporations. These are called corporate dissynergies. These dissynergies underscore the importance of timing — conglomerates may flourish in certain market conditions when diversification is favoured, while in other instances, a streamlined focus is preferred by the market.

Diseconomies of scale refer to the phenomenon where higher costs arise due to inefficiencies in allocating production factors within a larger and more complex organizational structure. Bureaucratic rigidity and increased transaction costs for internal services are key factors contributing to these inefficiencies (Alles, 2020). As the size and complexity of an organization grow, the central management of a diversified company may struggle to distribute resources efficiently or the expenses associated with collecting and combining information might increase too high.

Diseconomies of scope can occur when unrelated businesses are combined without a clear strategic alignment, leading to negative value creation (Alles, 2020). This negative value can result from a lack of synergy due to the absence of a common strategic focus. It can also emerge if unrelated businesses negatively affect each others' operations such as when they compete within the same market segment. For instance, combining unrelated firms may introduce an extra layer of management without generating expected synergies.

Financial dissynergies refer to capital allocation inefficiency due to the difficulty of the company's central unit/head office to gather and process information better than an external market. The problem that can arise is cash flow from profitable segments subsidizing the weak segments, keeping them afloat without strategic changes (Scharfstein & Stein, 2000). Such transfer of resources from one company to another would not be possible in external markets. Loss subsidizing leads to loss of incentives for segment managers because they expect the excess profits to be redistributed by top management (Gertner, Scharfstein & Stein, 1994). The access to resource allocation by certain agents may lead to internal power struggles.

3.6.3 Conclusion on diversification and focusing

Trends shift over time, yet the current trend towards focus and specialization among firms suggests that the challenges faced by highly diversified companies tend to outweigh the potential synergies they may achieve through diversification. Growth in focus is related to growth in shareholder wealth (Comment & Jarrell, 1995). Especially when considering the discount brought by diversification and looking at the matter from the shareholder's point of view, focusing has a positive wealth effect based on theory and empirical results.

Matsusaka and Nanda (2002) find that managers diversify the business to reduce firm-specific risk. This is often driven by their desire to expand their managed subsidiary and ensure their job security (as suggested by the principal-agent problem). The attempt to gain personal benefit over the company inevitably leads to inefficiency (Berger & Ofek, 1995). The drawbacks of diversification are allocating more resources than necessary to investments that decrease shareholder value, enabling underperforming segments to draw resources from better-performing ones, and misalignment of incentives between central management and divisional managers. Jensen (1986) shows that large companies that have unused borrowing power and excess cash flow are likely to make value-decreasing investments.

Of course, there are different kinds of diversification. For instance, according to Rumelt (1974), diversifying into related sectors tends to yield better results than conglomerates diversifying into unrelated sectors. Berger and Ofek (1995) find a 13 to 15 percent average loss from diversification. It is smaller for companies where segments are in the same two-digit SIC code. Reasons for value loss are overinvestment and cross-subsidization. Overinvestment happens in sectors that have limited opportunities to invest in according to Stultz (1990). The data of Rajan et al. (2000) suggests that, on average, diversity is costly. Increasing diversity by one standard deviation reduces the value added by allocation by an amount equal to 10 percent of its standard deviation. The computation of value added relies on the firm's average Q ratio to assess the investment opportunities

of each segment relative to other segments. Additionally, a one-standard deviation increase in diversity results in a five percentage point reduction in the excess value of a diversified firm. Excess value is determined by the difference between the market value of a diversified firm and a portfolio of single-segment firms in the same three-digit SIC code.

According to Berger and Ofek (1995), the segments of diversified firms have lower operating profitability than single-line businesses which is due to overinvestment. Lang and Stulz (1994) measure the degree of correlation between diversification and market valuation and find that there indeed is a diversification discount. They do not find evidence that diversification brings valuable intangible assets. Firms that choose to diversify are relatively poor performers. Measuring the relation between market value and replacement value (known as Tobin's Q) Lang and Stulz (1994) find a significantly lower ratio for diversified firms meaning they are relatively underpriced. Moreover, these highly diversified firms consistently exhibit mean and median q ratios below one and the overall sample mean and median throughout the analysed years, strongly indicating that they are consistently valued lower than specialized firms. As Krishnaswami and Subramaniam (1999) say, the sum of separated parts could well be higher than the current market value of the company.

In conclusion, both empirical and theoretical research findings highlight the presence of advantages and disadvantages associated with diversification, indicating the existence of an optimal level of diversification. Moderately diversified companies can benefit from this strategy, while those that are overly diversified might find breaking up through spin-offs advantageous. Markets tend to favour focusing, and managers align with this preference while seeking to optimize asset performance. Though, markets might change their valuation and preferences over time leading to evolution of managers' perceptions of diversification. These factors operate simultaneously, influencing the dynamics of diversification strategies.

4 Literature review

This literature review discusses existing research related to the subject. It is organized into three distinct sections, with each section concentrating on a particular aspect that will aid in the formulation of hypotheses and provide a baseline for later hypothesis testing in the research segment. Additionally, the literature review assists in identifying potential research gaps within spin-off research, which have served as a driving force behind the development of some of the hypotheses for this thesis. The review is structured to discuss the literature in the following order: the first part delves into the announcement date effect, followed by an examination of research concerning the long-term effects of spin-off announcements in the subsequent section. The final review is centred around the focusing hypothesis, encompassing both short-term and long-term effects. Ultimately, this chapter culminates with a compilation of all the hypotheses derived from the comprehensive analysis presented in this literature review.

4.1 Announcement date effect

Announcement date refers to the date when a company publicly discloses its plan to divest a unit. The announcement effect is measured by the change in the company stock price following the announcement. This reaction reflects investors' future expectations because, on the announcement date, no immediate changes are occurring within the company. Since the value of the company should be the present value of its future cash flows, a positive announcement date reaction suggests that investors anticipate higher future cash flows, and/or a lower discount factor (reduced risk). For example according to Nanda and Narayanan (1997), the abnormal returns on spin-off announcements should be positive because in equilibrium the firms engaging in spin-offs are undervalued. If the reason for undervaluation is information asymmetry, the financial gains from spin-offs should positively relate to the level of information asymmetry.

In a comprehensive analysis of 370 divestitures, Mulherin and Boone (2000) found that the average positive net-of-market return was 3.04 percent during the [-1, +1] period, median being 1.75 percent. Day zero represents the actual event date, with -1 and +1 denoting the days before and after the event. This approach captures the market reaction on the announcement date without extending the event window too wide, which might introduce external factors. In the three-day window, it does not matter whether the announcement on day 0 is made before, during, or after trading hours. They find a mean positive abnormal return for spin-offs of 4.51 percent, which is higher than 2.27 percent for carve-outs and 2.60 percent for sell-offs. Evidence by Prezas and Simonyan (2015) also suggests that spin-offs have significantly larger announcement effects than the other divestiture methods. The differences in the mean (median) announcement effects of spin-offs and sell-offs range from 1.96 (0.96) to 3.23 percent (2.18) and are statistically significantly different from zero at the 1 percent level.

4.1.1 Effects of spin-off announcements

Research dating back to the 1980s documents significant positive price reactions around spin-off announcements. The first known empirical work on this topic was conducted by Miles and Rosenfeld (1983), who examined the announcement effects of 55 spin-offs occurring between 1963 and 1980 in the United States. The immediate impact, observed between day 0 and day 1, was a positive average abnormal return (AAR) of 3.3 percent, and for the longer period [-10, +10] the effect was even stronger at +7.6 percent.

Those findings are consistent with research during the same period. Schipper and Smith (1983, 1986), Hite and Owers (1983), and Rosenfeld (1984) all find positive abnormal returns and show that U.S.-based spin-offs are value-maximizing. Schipper and Smith (1983) studied a sample of 93 announcements from 1963 to 1981 and found a significant positive net-of-market reaction of 2.8 percent covering the announcement day and the day after [0, +1]. Research by Hite and Owers (1983) covers the same years but with a bigger sample of 123 voluntary spin-offs which results in a 3.3 percent significant positive

AARs in the period [0, +1]. Rosenfeld (1984) limited the sample to large spin-offs only, where each spin-off accounts for at least 10 percent of the overall pre-divestiture value. The final sample of 35 resulted in a positive AAR of 5.56 percent over the [0, +1] period, significant at the 1 percent level.

Desai and Jain (1999) report a significant positive AAR of 3.84 percent using a three-day event window [-1, +1]. The findings of Mulherin and Boone (2000) from 1990-1999 are in line with the studies from the preceding decades. They report 4.51 percent (3.64 percent) mean (median) positive announcement reactions for 106 spin-offs. The event study of Vroom and Frederikslust (1999) is based on a sample of 210 worldwide spin-off announcements ranging from 1990 to 1998. A positive AAR of 2.6 percent over the three days [-1, +1] is reported, consistent with previous studies. Additionally, they report positive AARs at different intervals around the announcement date which are [-1, 0], [0, +1]; [-1, +1], and [-5, +5]. The highest positive AAR of 2.54 percent is reported on the timeframe [-1, +1]. The positive results on the other timeframes support the hypothesis that the reactions to spin-off announcements are, on average, positive. Veld and Veld-Merkoulova (2009) found a significantly positive AAR of 3.02 percent from 26 event studies using [-1, +1] window. The median is 2.90 percent.

Aggarwal and Garg (2019) studied a sample of 72 Indian spin-offs during 2010-2016 using the event study method with an event window of [-35, +35]. They found that AAR was highest on day 0 and the. Day -1 also exhibits notable abnormal returns. Specifically, day -1 demonstrates a return of 0.104, with a t-value of 2, significant at the 5 percent level. This suggests that the information related to the spin-off begins affecting the stock price of the parent company even before the official announcement. This early impact could potentially be attributed to information leakage a day before its formal market disclosure or guesswork in connection with another announcement (like a result announcement or upcoming capital markets day). On the other hand, the AARs are not significant for intervals further before the announcement than -1, which refers to no information leakage happening several days prior. Positive AARs are significant until +1

but not after that. Krishnaswami and Subramaniam (1999) report a significant AAR of 3.15 percent for $[-1, 0]$ and 3.28 percent for $[-1, +1]$.

Most papers limit the announcement reaction studies only to completed spin-offs. Not all announced spin-offs are ever completed and therefore for example Copeland et al. (1987) and Kirchmaier (2003) divide samples into subsamples of completed and non-completed spin-offs. Out of the original sample, Copeland et al. (1987) find that about 11 percent of companies never completed the announced spin-off. The sample that covered all announced spin-offs had a higher two-day abnormal return (+3.03 percent), compared to the subsample that excluded the aborted spin-offs, where the abnormal return was slightly lower at +2.49 percent. Kirchmaier (2003) studied a sample of 48 European spin-offs. It was established that for completed demergers, the announcement effect is +4.9 percent for the three days (day -1 to +1), and +5.5 percent for the four days $[-2, +1]$. For aborted mergers, the respective values were 6.8 and 7.9 percent.

Veld and Veld-Merkoulova (2009) also find that completed spin-offs yield lower abnormal returns on announcement than non-completed spin-offs. It seems that the stock market shows a more favourable response to initial announcements of spin-offs that were not ultimately completed. One potential explanation for this phenomenon is that these non-completed spin-offs were potentially less anticipated than those that were eventually executed. Consequently, investors might not have factored in or valued this option before the announcement, contributing to the more positive market response.

Generally, the announcement effect is significantly positive. The abnormal returns range approximately between 3 to 6 percent depending on the event window. It is clear that in the past spin-off announcements have had, on average, an immediate positive wealth effect. The effect seems to be at its strongest between one day before the announcement and one day following the announcement. It is good to keep in mind that about 23 percent of all demerger announcements yield negative returns, indicating that not all demergers necessarily guarantee success (Kirchmaier, 2003).

The literature on spin-off announcements in general has an American bias. Previous studies have primarily focused on samples of spin-offs involving companies listed on the U.S. stock exchanges, with just a few studies on international or Indian spin-offs. Additionally, the majority of these studies have centered on spin-offs that occurred during the late 1900s, typically with a sample collected over a timeframe of around ten years or less. Only a few studies have explored announcement reactions over a longer-term perspective. This potentially leads to a bias given that they coincide with a particular period when spin-offs were a relatively new phenomenon (as previously mentioned, the 1980s saw an increase in the number of spin-offs). Existing research leaves room to study the announcement reactions with data spanning multiple decades concentrated in a different geographical setting, the Nordics.

This thesis is poised to offer an additional perspective on spin-off dynamics. The Nordic context, distinct from the American-centric focus of previous studies, presents a valuable opportunity to explore corporate divestitures in a different region. By extending the analysis beyond the confines of a single decade and examining data spanning a longer period, the study aims to enrich the literature with a more nuanced understanding of spin-off announcement reactions. Additionally, a return different from zero on the announcement date challenges the theoretical framework provided by concepts such as the law of additivity and conservation of value. Through this approach, the first hypothesis is set as an essential step in broadening the scope of the existing literature on corporate spin-offs as well as an essential step for the rest of this study. The first hypothesis is formulated as follows:

H1: Nordic parent companies announcing a spin-off experience abnormal positive announcement date returns.

A thorough study of the spin-off announcement wealth effect cannot be limited to the days circling the announcement date. As said, the initial reaction to the announcement

reflects investors' future expectations. Next, we review returns from longer periods to find out whether these revised expectations hold.

4.2 Long-run returns

A research question that a few studies try to answer is whether the wealth effects of spin-offs are limited to the announcement returns, or do they persist in the longer run after the spin-off is completed. Announcement reactions can be assessed solely through changes in the stock price of the parent company. However, when examining post-divestiture long-run returns, we have the additional opportunity to analyse the performance of the spun-off subsidiaries too.

In perfectly functioning efficient financial markets, information is instantly and accurately reflected in stock prices, and investors consistently make rational decisions. Any relevant information regarding the divesting firm's valuation, the performance of divested assets, and other relevant factors should be incorporated into the divesting firm's stock price immediately after the divestiture announcement. However, if investors are not fully rational, they take more time to process and incorporate the relevant information into stock prices. A slower processing time could mean that the companies involved in spin-offs outperform the broader market not only during the announcement period but also in the long run. Conversely, a faster processing time could potentially result in underperformance in the long run.

Prior results indicate that on average investors react positively to spin-off announcements, suggesting optimism about the company's future. This chapter discusses whether this initial positive response is transitory or if it predicts future performance. For clarity, this thesis classifies anything else than announcement date reactions as "long-run returns". In prior studies, they were studied at 12, 24, and 36-month intervals.

The first paper on this topic is by Cusatis et al. (1993). They benchmark the returns against matching firms and measure the returns in AAR. Their paper includes results for U.S. parents, subsidiaries, and pro-forma combined firms. The latter are created by weighing the return of the parent company, and that of the subsidiary, by the market value of the firm on the spin-off date.

They find significant long-run abnormal returns in the period three years after the spin-off date. They show that this performance is driven by both the parents and the subsidiaries. The findings suggest that a significant portion of the firms in their sample, including both parent and subsidiary companies, were either merged or acquired within three years following the spin-off. Cusatis et al. (1993) interpret that "spin-offs create value primarily by providing an efficient method of transferring control of corporate assets to acquiring firms."

Desai and Jain (1999) document significant positive AARs for spin-offs in the first twelve months following the divestiture. Their sample consists of 155 U.S spin-offs from 1975 to 1991 period. They show that the parents earn positive but insignificant abnormal returns of 6.51, 10.58, and 15.18 percent over holding periods of 12, 24, and 36 months. The positive AARs for the subsidiaries for holding periods over the corresponding periods are 15.69, 36.19, and 32.31 percent. The AARs of the subsidiaries are significant at the 1 percent level. These findings demonstrate that the subsidiary companies experience a substantial and positive performance boost after the spin-off transactions. The Pro-forma combined firms (parent + spin-off) positively outperform the matching firms for holding periods of up to 36 months. The positive AAR in the first 12 months is 7.69 percent. For holding periods of 24 and 36 months, the AARs are 12.70 and 19.82 percent, respectively. Only the returns for the 36-month holding period are significant.

Hollowell (2009) lengthened the time frame by one year to four years and found that both the spin-off companies and their parents consistently positively outperformed various market indices. The sample consists of 101 spin-offs that happened between the

years of 1999 to 2002. The long-term returns are calculated from the date of the divestiture until their four-year anniversary. Including this study in the literature review gives perspective, because of the bear market that lasted from September 2001 to December 2002. However, both the spin-offs and their parent firms outperformed their respective value-weighted market indices.

Hollowell's (2009) results on spin-off long-run performance against the market benchmark over the four-year period for 12, 24, and 36 months were 51.42, 111.10, and 119.98 percent. The positive AARs for spin-off firms increased to 137.83 percent by the end of month 48. For the parent companies, the respective figures were 0.17, 119.38, 197.04, and 225.64 percent excess of the market benchmark.

In the study conducted by Prezas and Simonyan (2015), they examined a larger sample of 378 spin-offs spanning a longer period from 1980 to 2011. Interestingly, they found that firms engaging in spin-offs generally experienced predominantly negative holding period returns in the years following the divestiture. To evaluate their stock market performance, they compared these divesting (parent) firms against two benchmarks: the CRSP (a value-weighted index) and the S&P 500.

The analysis of Prezas and Simonyan (2015) covered multiple timeframes, including the 1-year period before the divestiture, as well as the 1-year, 2-year, and 3-year periods after the divestiture. They calculated the AARs for each of these timeframes. They discovered that in the first year after the divestiture, firms divesting through spin-offs experienced a monthly abnormal return of -0.45 percent, equivalent to a cumulative annual (simple cumulative) abnormal return of -5.4 percent. For 24 and 36 months, the monthly abnormal returns remained negative at -0.30 and -0.18 percent which resulted in cumulative abnormal returns of -7.5 and -6.7 percent.

Between 1995 to 2012 Patel et al. (2012) compared large market cap U.S. spin-offs' performance relative to the S&P500 -index. Over the first 12-month period following the

spin-off, both the parent and spin-off companies positively outperformed the index by 9.6 percent for parents and 13.4 percent for spin-offs. Similar outperformance is found by McConnell et al. (2015), who find that from 1965 to 2000, spin-off stocks achieved an annual excess return of 10 percent in comparison to the U.S. stock markets.

146 spin-offs that took place between 2001 and 2012 were examined by McConnell et al. (2015), tracking their performance over 36 months. The results showed impressive raw buy-and-hold returns during this timeframe, totalling 49.4 percent with an average annual return of 14.3 percent. These spin-offs were benchmarked against a size and book-to-market matched index, which had an average buy-and-hold return of 22.8 percent during the same period. Interestingly, the positive outperformance of the spin-off subsidiaries compared to the benchmark was primarily concentrated within the first 27 months. Beyond this point, the subsidiaries' performance started to lag behind the benchmark. Nevertheless, between 6 to 36 months, the positive outperformance is statistically significant.

The buy-and-hold returns of the parent companies differ from those of the spun-off units finds McConnell et al. (2015). On average, parent companies experience a decline in value and underperform the benchmark in the initial months following the spin-offs. By month 15, the mean raw buy-and-hold return for the parents is 13.46 percent, a difference of 3.70 percent compared to the benchmark. This difference reaches its peak at 4.79 percent around month 19. After month 36, the average return of the parents has reached 24.04 percent while the benchmark is at 26.74 percent. Parent companies positively outperform the benchmark only during 12-, 15- and 19-month intervals. Unlike the subsidiaries' outperformance, the parent companies' outperformance is not statistically significant. In other words, while parent company stocks do exhibit some level of outperformance on average, this superiority is modest and requires precise timing to achieve.

McConnell and Ovtchinnikov (2004) conducted research that offers evidence of positive excess returns for both the spin-off companies and their parents across nearly all the holding periods examined. In a sample spanning 36 years, from January 1965 to December 2000, their study covers 311 spin-offs initiated by 267 parent companies. The post-divestiture AARs of parent and spin-off companies are measured up to 36 months, against two benchmarks. The spun-off subsidiaries outperformed both benchmark indices during the initial 22 months after the spin-off. However, their performance tends to align more closely with the benchmark indices in the following period until the 36 months. Parents outperform the benchmarks over the first 15 months following the spin-offs but then stay level with the benchmark.

When considering both parent and subsidiary companies, the AARs remain positive for a period of up to three years following the spin-offs. However, it's important to highlight that these results hold economic significance mainly for subsidiary companies. McConnell and Ovtchinnikov (2004) find that on average, subsidiaries have significantly outperformed their benchmark companies by more than 20 percent over the initial three years following the spin-offs. Furthermore, when examining annualized returns, subsidiaries exhibit the highest average excess returns, reaching 19.40 percent during the initial 12 months of trading.

All excess returns for parent companies are positive for up to 36 months following the spin-off. At first, it may seem that the parents have significantly outperformed their benchmark companies. These excess returns also appear to have economic significance, reaching a peak of 21.28 percent (significant at 1 percent) when compared to a size- and book-to-market-matched benchmark and 20.19 percent (significant at 3 percent) (McConnell & Ovtchinnikov, 2004). While all the excess returns are positive, these results are significantly influenced by the presence of one single outlier. When this outlier is removed from the sample, the parent companies have outperformed the benchmark by only around five percent over the initial 36 months. This outcome lacks statistical significance.

For subsidiaries, the results are statistically and economically significant, even after accounting for various risk factors. When examining the AARs over the initial 12-month period following the spin-off, McConnell and Ovtchinnikov (2004) observe statistically significant values (at 1 percent) of 19.40 percent when benchmarked against industry- and size-matched companies. When benchmarked against size- and book-to-market-matched companies the result is 16.08 percent. Similarly, the AARs for the 24-month and 36-month holding periods are 24.37 percent (with a significance level of 0.012) and 26.32 percent (at a significance level of 0.001) respectively when compared to the industry- and size-matched benchmark. When benchmarked against the size- and book-to-market-matched benchmark, these values are 24.55 percent (at a significance level of 0.009) and 20.75 percent (with a significance level of 0.032) for the 24-month and 36-month holding periods, respectively. Notably, the excess returns for the 36-month holding period start to decline after reaching their peak at 28.59 percent (with a significance level of 0.001) and 24.35 percent (with a significance level of 0.001) for the two respective benchmarks, indicating that monthly excess returns tend to turn negative beyond the 21-month holding period.

Exploring the extended performance of spin-offs reveals a gap in existing research, as it is concentrated on a limited number of studies and mainly in the U.S. This thesis aims to address this gap by examining the dynamics of Nordic parent and spin-off companies over 12-, 24-, and 36-month intervals post-divestiture. The division of parent and spin-off companies into distinct samples enables empirical comparisons, allowing to investigation of whether one group outperforms the other and the exploration of differences. Moreover, this thesis presents a comprehensive study that integrates research on both the announcement date reactions and the long-term returns. The following hypotheses serve as crucial baselines to build upon the announcement date return hypothesis and assess whether corporate spin-offs yield abnormal returns over an extended period. The formulated hypotheses are as follows:

H2: Nordic parent companies positively exceed their benchmark market returns through 12-, 24- and 36-month intervals.

H3: Nordic spin-offs positively exceed their benchmark market returns through 12-, 24- and 36-month intervals.

4.3 Focus-increasing spin-offs

Upon closer examination of announcement and long-run returns, it becomes evident that the abnormal positive returns are predominantly attributed to cross-industry spin-offs. This strategic move, known as focusing, involves divesting segments operating in industries different from the core business. By doing so, the company reduces the complexity associated with a diverse portfolio of assets and streamlines the business. The action potentially sends a message to the investors about the company's strategy, which may seem disconnected and confusing in an overly diversified company.

A simple and often-used measure of corporate focus is observed through Standard Industrial Classification Codes (SIC). The four-digit code helps in organizing and identifying different types of businesses and industries. The more numbers, the more detailed the description of the company is. The first two digits classify the business's major group and are used as a detailed enough measure of corporate focusing.

4.3.1 Short term effects of focusing

Daley et al. (1997) suggest that positive abnormal returns around the announcement date are only seen in spin-offs where the first two-digit SIC code differs from the divested subsidiary. These kinds of spin-offs are called cross-industry spin-offs. A subset of cross-industry spin-offs exhibits a greater return on the announcement date for $[-1, 0]$ compared to a subset of spin-offs within the same industry. The focus-increasing firms produce a 4.3 percent (significant at 1 percent) excess return through $[-1, 0]$ compared to a 1.4 percent excess return (not significant) for own-industry spin-offs. Additionally, they

noticed an improvement in operating performance for the former, but not the latter subsample. This is consistent with the corporate focusing hypothesis.

Desai and Jain (1999) introduce two additional measurements of corporate focusing. They measure the change in the number of total segments before and after the divestiture, as well as use the Herfindahl index. The Herfindahl index is calculated by squaring sales of each segment as a proportion of total revenue and then summing the resulting numbers. Between these three types of measurement, they find a similar result and opt to use the Herfindahl index. In the period $[-1, +1]$, abnormal returns for focus-increasing firms are 4.45 percent while for non-focus-increasing firms they are 2.17 percent, both significant at the 1 percent level. Using a different measurement of corporate focusing, the results are in line with those of Daley et al. (1997).

Berger and Ofek (1995) find announcement date positive abnormal returns for companies that choose to refocus. According to them, this is related to value destroyed by too much diversification in the company's business portfolio. This aligns with the conclusions drawn by Allen, Lummer, McConnell, and Reed (1995), whose research indicates that companies typically met with negative reactions to diversifying acquisitions tend to experience positive responses when engaging in spin-offs. This way, these diversifying acquisitions are being reversed.

According to Krishnaswami and Subramaniam (1999), wealth gains from spin-offs are attributed to a reduction in information asymmetry. They do not find supporting evidence for the regulatory or merger-driven motives for spin-offs. Companies that engage in spin-offs have higher levels of information asymmetry compared to their industry and size-matched counterparts. There is a significant reduction post-spin-off and it is positively correlated to the returns that follow. Krishnaswami and Subramaniam (1999) find mean abnormal returns of 3.59 percent for cross-industry spin-offs and 1.86 for same-industry spin-offs measured over the interval $[-1, 0]$. The research also finds a significant

positive relationship between the divested unit's relative size and the gains observed during spin-off announcements, similar to the findings of Miles and Rosenfeld (1983).

Daley et al. (1997) find that the parents of focus-increasing spin-offs are recognized with greater announcement date abnormal returns compared to the non-focus-increasing parents. However, they do not study long-run stock market performance. Consistently, Hite and Owers (1983), Schipper and Smith (1983), Daley et al. (1997), and Desai and Jain (1999) find that the increase in firms' focus, and the elimination of negative synergies positively relate to announcement date returns of the parent companies.

4.3.2 Long term effects of focusing

In addition to the announcement date reaction, Desai and Jain (1999) analyse the post-spin-off long-run stock market performance and reveal that focus-increasing firms outperform the non-focus-increasing firms in the stock market during the 36-month period. It is linked to an increase in the operating performance of the firms. The study's findings indicate that focus-increasing parents and their corresponding subsidiaries generated positive operating cash flow returns when compared to their matching firms. The non-focus-increasing sample, on the other hand, revealed a different outcome. While the performance of the parent companies in this sample was similar to that of their matching firms, their subsidiaries experienced a significant underperformance compared to their respective matching firms. This suggests that non-focus-increasing firms might be spinning off subsidiaries that are underperforming.

To test the possibility of spinning off underperforming subsidiaries, Desai and Jain (1999) compare the operating performance of parent companies and their subsidiaries one year prior to the divestiture. The findings suggest that, on average, non-focus-increasing parents are indeed spinning off underperforming subsidiaries. The average operating cash flow of the non-focus-increasing subsidiaries is statistically significant at -9.64 percent in

year -1 and -14.14 percent in year 0 relative to the spin-off. Strengthening their hypothesis, they find the subsidiaries of the focus-increasing firms yielding an average positive operating cash flow of 3.56 percent one year prior, and 4.48 percent in the year of the spin-off. Additionally, when testing for other explanations they do not find high financial leverage or financial distress as the reason for non-focus-increasing spin-offs. In conclusion, these results imply that non-focus-increasing spin-offs are used to divest underperforming subsidiaries.

Table 1. 12-, 24-, and 36-month excess returns of Desai and Jain (1999).

	12 months	24 months	36 months
Combined firms			
focus-increasing	11.12%	20.77%	33.36%
non-focus-increasing	-0.96%	-7.66%	-14.34%
Parents			
focus-increasing	6.79%	17.54%	25.37%
non-focus-increasing	5.79%	-6.95%	-10.51%
Subsidiaries			
focus-increasing	22.02%	47.69%	54.45%
non-focus-increasing	0.21%	8.05%	-21.85%

For focus-increasing firms (parent and subsidiary combined) the 12-, 24- and 36-month excess returns of Desai and Jain (1999) are 11.12, 20.77, and 33.36 percent, all significant at the 1 percent level. For non-focus-increasing firms, the returns for the corresponding time periods are all negative (not significant) at -0.96, -7.66, and -14.34 percent. The results are similar when comparing those of the combined firm to those of the subsidiary and parent separately.

For focus-increasing parents the excess returns are 6.79, 17.54, and 25.37 percent for 12-, 24- and 36-month periods. Only the 36-month return is significant (at 5 percent level). For non-focusing parents, the excess returns are 5.79, -6.95 and -10.51 percent. None of them are significant. Returns of subsidiaries of focus-increasing parents are all

significant (at the 1 percent level) at 22.02, 47.69, and 54.45 percent. Returns for subsidiaries of non-focus-increasing parents are 0.21, 8.05, and -21.85 percent, which are not statistically significant. The analysis was redone with a sample that excluded companies acquired within three years after the spin-off to assess their potential impact on the results. No discernible influence was identified, leading to the conclusion that the results remain consistent irrespective of the chosen sampling approach.

The reviewed research underscores a notable correlation between corporate focus, improved operational performance, and sustained long-term stock market gains for parent companies and their spin-offs. However, the existing body of literature examining long-run returns, especially in the context of comparing focusing and non-focusing firms, remains notably limited. This scarcity presents an opportunity to contribute to the broader understanding of spin-offs. Moreover, this thesis also builds on the theoretical framework and the discourse surrounding the strategic choice between focusing on core business operations in comparison to the potential synergies derived from diversification. Expanding upon the potential abnormal returns identified in the broader sample, it is a significant finding if the focus-increasing spin-offs yield notable returns compared to non-focus-increasing spin-offs. The hypothesis regarding corporate focus combines the announcement date return and the long-term performance aiming to comprehensively capture the overall impact of corporate focus on the transaction. The fourth and final hypothesis is formulated as follows:

H4: Nordic focus-increasing parent companies and their spun-off subsidiaries positively outperform their non-focus-increasing counterparts.

4.4 Hypotheses

For clarity and revision, here is a list of all the hypotheses formulated in the preceding literature review:

Table 2. Hypotheses

H1	Nordic parent companies announcing a spin-off experience abnormal positive announcement date returns.
H2	Nordic parent companies positively exceed their benchmark market returns through 12-, 24- and 36-month intervals.
H3	Nordic spin-offs positively exceed their benchmark market returns through 12-, 24- and 36-month intervals.
H4	Nordic focus-increasing parent companies and their spun-off subsidiaries positively outperform their non-focus-increasing counterparts.

5 Data and methodology

The spin-off data for this study was sourced from Refinitiv Workspace, encompassing four Nordic countries: Finland, Sweden, Norway, and Denmark. The selection of the time period aimed to maximize data coverage and identify potential trends over time. Initially, the sample comprised 223 transactions. However, this dataset was refined by removing duplicates and transactions that did not fit the spin-off criteria. Real Estate transactions and transactions categorized as sell-offs, which were incorrectly flagged as spin-offs, were also excluded. The rest were omitted due to unreliable or non existing data.

Each spin-off within the sample was verified, with confirmation sourced from reliable outlets such as GlobeNewswire press releases or official company investor relations websites. In certain instances, news outlets were consulted for additional context, especially when there were name changes or discrepancies, to ensure the accuracy of press releases. If uncertainty persisted, the spin-off was excluded from the sample. Stock prices for each spin-off were gathered from the Refinitiv database, and Nordic stock exchange websites, as well as other financial data providers, were consulted for cross-referencing in cases of uncertainty or data gaps. Spin-offs lacking sufficient verification were removed from the sample.

The benchmark index was constructed by combining the stock indices of each respective country included in the spin-off sample. To ensure uniformity, all indices were converted to a consistent currency by Refinitiv. This approach enables a comprehensive assessment of the overall Nordic stock market performance.

As data availability varies for each transaction across different time periods (announcement date, 12-, 24-, and 36-month), the sample size for each hypothesis test fluctuates. Consequently, the specific sample size for each test is detailed in its respective paragraph.

The finalized sample (see Table 3.) comprises 151 spin-off announcements, spanning from 1995 to 2022. Geographically, Sweden contributes the highest number of announcements to the sample, with 84, followed by 36 in Norway, 24 in Finland, and 7 in Denmark.

Table 3. Spin-off announcements by country and year, sourced from Refinitiv (2023)

Observations by announcement year		Observations by country			
Year	Announcements	Finland	Sweden	Norway	Denmark
1995	1	0	0	1	0
1996	6	0	5	1	0
1997	2	0	2	0	0
1998	5	0	5	0	0
1999	5	1	2	1	1
2000	7	5	1	1	0
2001	8	0	6	2	0
2002	1	1	0	0	0
2003	4	1	1	2	0
2004	9	2	4	2	1
2005	8	2	4	2	0
2006	6	0	5	1	0
2007	9	0	2	7	0
2008	6	1	3	1	1
2009	0	0	0	0	0
2010	3	0	3	0	0
2011	5	1	2	1	1
2012	6	1	5	0	0
2013	7	2	4	1	0
2014	6	0	4	2	0
2015	8	3	4	1	0
2016	8	0	5	2	1
2017	7	0	6	1	0
2018	4	0	2	1	1
2019	4	1	1	1	1
2020	7	0	4	3	0
2021	5	1	3	1	0
2022	4	2	1	1	0
Total	151	24	84	36	7

Intriguingly, the timing of spin-offs in the dataset reveals distinctive patterns, with the year 2009 standing out as a unique outlier, recording no spin-off announcements. This anomaly, particularly noteworthy in the aftermath of the global financial crisis, hints that cash constraints or financial constraints might not be the primary reason behind spin-off decisions during weak economic periods. Instead, it suggests strategic manoeuvring by companies, possibly timing their spin-off announcements to synchronize with market conditions full of optimism and favourable valuations. This observation underscores the strategic but also the tactical nature of spin-off decisions, showcasing their sensitivity to various factors, including economic cycles and market sentiment. Another notable year in the dataset is 2002, marked by just one spin-off observation, aligning with the aftermath of the dot-com bubble.

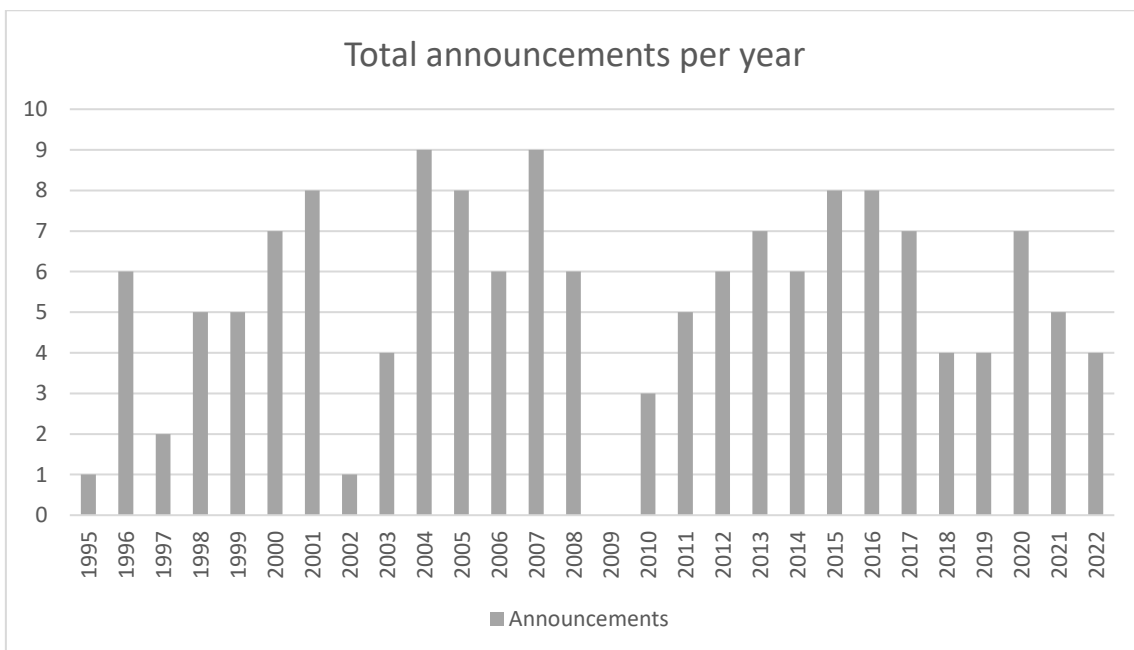


Figure 2. Yearly distribution of announcements, sourced from Refinitiv (2023)

Comparing the collected sample of Nordic spin-offs to the findings of McConnell et al. (2015), it becomes evident that the number of spin-off events peaked during certain years, coinciding with peaks in the S&P 500 index a year prior. In both datasets, these market peaks were followed by sharp declines in stock prices and a discernible reduction in spin-off activity. Notably, in the Nordic region, the index fell by 15 percent in 2022 and

44 percent in 2009. This data further reinforces the notion that the frequency of corporate spin-offs correlates with general economic activity. Corporate spin-offs appear to be more prevalent during periods of investor optimism and less so during phases of negative market sentiment which further underscores the crucial role of timing in the strategic decision-making process of spin-offs.

5.1 Event study

The event study methodology is frequently utilized to examine the influence of specific events on stock prices. It aims to answer whether the announcement or occurrence of an event positively or negatively affects the stock price. The foundation of the event study method rests on the concept of semi-strong market efficiency. In this semi-strong form, stock prices adapt promptly in response to newly disclosed public information.

Also, the event must be unanticipated, and the event window should remain free from the influence of confounding effects. The assumption of an absence of confounding effects during the event window is important, as it can be challenging to isolate the distinct impact of various events. Additionally, in event studies, we encounter what is known as the 'joint hypothesis problem.' This challenge relates to the problem of isolating testing of market efficiency from the model of measuring risk.

For the event study, a benchmark is employed to calculate the expected performance of stocks in the absence of the event. The event window for assessing the announcement date reaction spans from one day prior (-1) to one day following the announcement (+1). This window selection is deliberate and designed to capture potential information leakage and delayed market reactions on the announcement day.

Daily abnormal return (AR) represents the difference between realized and estimated expected return. $R_{i,t}$ denotes the realized return, and $E(R_{i,t})$ represents the expected return, which is based on the benchmark index's return. $AR_{i,t}$ denotes the abnormal

return at time t for each firm. The calculation of abnormal return for each firm on a specific timeframe is expressed in the equation:

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \quad (5)$$

To determine if spin-off announcements on average lead to an abnormal return for shareholders, the Average Abnormal Return (AAR) is calculated. AAR represents the abnormal return for the specific period, and it can be calculated over the entire event window or separately for sub-periods such as $[-1, 0]$ and $[0, +1]$ in the case of announcement date effects. The AAR equation is as follows:

$$AAR_t = \frac{1}{N} \sum AR_{i,t}, \quad (6)$$

where:

AAR_t represents the Average Abnormal Return for the period t .

N is the number of announcements.

$AR_{i,t}$ is the Abnormal Return for the i -th announcement on day t .

6 Empirical results

Chapter six is dedicated to research and provides the evidence needed to address the research questions and test hypotheses. It sets out to uncover the nuances of Nordic spin-off announcements and their implications for both parent companies and their subsidiaries. The main research question to answer is whether Nordic spin-offs create value for shareholders and in what ways. To answer this, four hypotheses have been created inspired by previous research which was discussed in chapter four.

The chapter is structured to provide a systematic presentation of empirical results. Each subsection corresponds to specific hypotheses or research questions. The goal is to provide a clear, data-driven perspective on the various aspects of spin-off announcements. The following subsection 6.1 tests the hypotheses regarding the announcement date returns of parent companies. Subsection 6.2 tests the hypotheses for long-run returns of parent and spin-off companies

The following research contributes to the evolving understanding of corporate spin-offs and their effects on stock prices from the Nordic perspective. Particularly, it adds to the relatively scarce research on the long-term effect of corporate spin-offs and the impact of focusing. These insights can provide guidance for investment decisions, inform strategic choices within corporations, and serve as a foundation for future research within the field.

6.1 Announcement effect

From the sample of 151 announcements, reliable stock market data around the announcement date is found for 134 parent companies. They are spread between the countries with 75 in Sweden, 31 in Norway, 21 in Finland, and 7 in Denmark.

The initial step in the analysis involves establishing a precise timeline centred around the announcement date. This announcement date, also referred to as day 0, represents the moment when the news becomes public. It is determined by cross-referencing the information provided by Refinitiv with official press releases provided by the companies. Recognizing that market reactions can extend beyond this single day, the days surrounding day 0 are included. This comprehensive approach takes into account the inherent imperfections in stock market functioning, where the processing of information may be slow or where anticipatory trading occurs before official announcements. Occasionally, information leaks or press releases outside of trading hours can also influence the timing of market responses.

This study uses an observation period that starts one day prior to the announcement date and ends one day after the announcement date. This period is denoted as $[-1, +1]$. Furthermore, for a more detailed assessment of the announcement effect, the period is also reviewed in smaller components; $[-1, 0]$ and $[0, +1]$. This segmentation allows us to explore how the impact of the announcement unfolds around day 0. For all these periods the returns are calculated and then compared to the benchmark index for possible abnormal returns. The significance of these possible abnormal returns is then tested for statistical significance at the 1 and 5 percent level.

In the period spanning from one day before the announcement (Day -1) to one day after the announcement (Day +1), the sample exhibits a notably positive average return of 4.30 percent. This return is statistically significant at the 1 percent level, indicating a strong reaction in the stock prices of the spin-off companies during the window $[-1, +1]$. Breaking down the returns by country, varying degrees of market response are observed. Finnish companies stand out with the highest return at 7.13 percent, followed by Denmark at 4.59 percent, Sweden at 3.87 percent, and Norway at 3.36 percent. During the same time frame, the benchmark index shows a comparatively modest mean return of 0.13 percent.

Upon closer examination of the narrower event windows, [-1, 0] and [0, +1], distinct patterns emerge. In the period spanning from one day before the announcement (Day -1) to the announcement date itself (Day 0), the sample records a return of 3.34 percent. This return is not only substantial but also statistically significant at the 1 percent level, signifying a pronounced market reaction leading up to the announcement. However, in the subsequent period from the announcement date (Day 0) to one day after (Day +1), the momentum appears to wane. During this time frame, the sample returns a more modest 0.83 percent. While this return is still positive, it is noticeably lower compared to the preceding period.

These findings indicate that the market's response to Nordic spin-off announcements is more pronounced and immediate in the period leading up to the announcement, suggesting that investors and market participants may anticipate and price in the potential benefits of such corporate actions ahead of time. At least the majority of the positive reaction is captured by the end of day 0, with little reaction after it.

Table 4. Announcement date returns, sourced from Refinitiv (2023)

Announcement date	[-1,0]	[0,+1]	[-1,+1]
Parent			
Whole sample	3,34 %	0,83 %	4,30 %
t-stat	4,50	1,64	4,06
Focus-increasing	3,33 %	0,84 %	4,20 %
t-stat	3,90	1,56	4,20
Non-Focus-increasing	3,34 %	0,81 %	4,43 %
t-stat	2,61	0,89	2,19
Benchmark	0,12 %	0,01 %	0,13 %

The announcement reactions sample is categorized into two sub-samples: focus-increasing and non-focus-increasing. This categorization is based on SIC codes provided by Refinitiv. In cases where there is no change in the two-digit SIC code between the parent and subsidiary companies, the spin-off is classified as a 'same-industry spin-off', falling into the non-focus-increasing category. Conversely, when there is a difference in the two-digit SIC codes, the spin-off is considered 'cross-industry,' and it falls under the focus-increasing category. This categorization enables us to examine how the market's response to spin-off announcements varies depending on whether the spin-off involves related or unrelated lines of business.

As shown in Table 4 above, there is a minimal difference between the two categories. The focus-increasing sample returns 4.20 percent, whereas the non-focus-increasing sample returns slightly higher at 4.43 percent. It's worth noting that the returns of the focus-increasing sample are statistically significant at the 1 percent level, while the non-focus-increasing returns are significant at the 5 percent level.

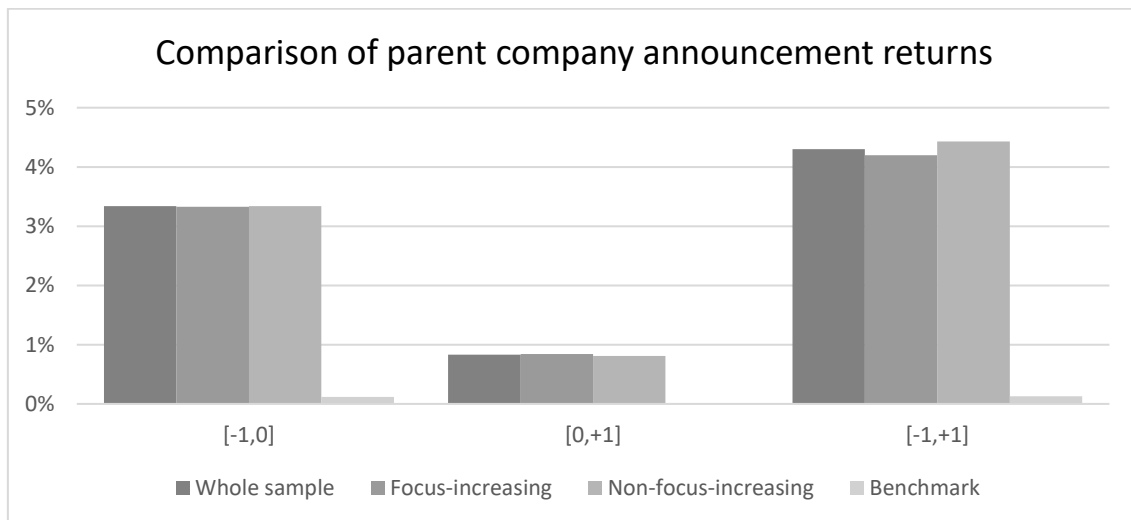


Figure 3. Comparison of parent company announcement returns, sourced from Refinitiv (2023)

Similarly, when examining the returns for the two samples in the specific time periods, little distinction is found. The returns for [-1, 0] are 3.33 percent and 3.34 percent, while

the returns for $[0, +1]$ are 0.84 percent and 0.81 percent, for focus-increasing and non-focus-increasing samples, respectively.

The empirical data indicates that there is only a minimal difference between the two categories, and in fact, the non-focus-increasing spin-offs show slightly higher returns. There is no clear evidence that focus-increasing spin-offs generate higher announcement date abnormal returns compared to non-focus-increasing spin-offs.

The empirical findings so far enable the testing of the following hypotheses.

H1: Nordic parent companies announcing a spin-off experience abnormal positive announcement date returns.

The results suggest that there is strong statistical evidence to support the hypothesis. The observed abnormal positive returns for parent companies following the announcement of a spin-off indicate a significant reaction in their stock prices, aligning with the hypothesis's expectations. Therefore, H1 is supported by the empirical data.

6.2 Long-run returns

In this thesis, the long-run returns are examined over three distinct periods: 12 months, 24 months, and 36 months. The analysis period begins on the 'date effective,' which signifies the first trading day of the spun-off subsidiary. This allows us to examine the long-run returns of both the parent company and its subsidiary and compare them.

The sample size for these periods is reduced compared to the announcement date sample due to various reasons. Some companies may undergo mergers or acquisitions within these timeframes, making them ineligible for analysis, while others may lack reliable data. The sample size of parents for the 12 months consists of 111 observations, 102 observations for the 24 months, and 96 observations for the 36 months. Similarly, the

sample size for spin-off companies includes 93 observations for the 12 months, 80 observations for the 24 months, and 73 observations for the 36 months.

The entire sample of parent companies (see Table 5.), on average, exhibits a return of 11.34 percent during the initial year, in contrast to 6.93 percent for the benchmark. Over the subsequent 24 and 36-month periods, the average returns for parent companies stand at 16.69 and 30.52 percent, respectively, but these returns do not achieve statistical significance. In comparison, the benchmark records returns of 13.68 and 18.58 percent during the 24 and 36-month time periods.

Noticeable differences emerge when comparing subsamples of focus-increasing and non-focus-increasing parent companies. Focus-increasing parent companies report returns of 13.23 percent over the first 12 months, 13.90 percent for 24 months, and an impressive 42.46 percent for 36 months. In contrast, non-focus-increasing parent companies record returns of 8.65 percent, 21.21 percent, and 12.29 percent for the same respective periods. The most substantial disparity becomes evident in the 36-month returns, with a difference exceeding 30 percentage points. However, none of these figures achieve statistical significance at the 5 or 1 percent levels when compared to the benchmark.

Table 5. Long-run returns of the parent companies, sourced from Refinitiv (2023)

Long-run returns	12 months	24 months	36 months
Parent			
Whole sample	11,34 %	16,69 %	30,52 %
t-stat	0,65	0,42	1,25
Focus-increasing	13,23 %	13,90 %	42,46 %
t-stat	0,71	0,03	1,98
Non-focus-increasing	8,56 %	21,21 %	12,29 %
t-stat	0,15	0,57	-0,42
Benchmark	6,93 %	13,68 %	18,58 %

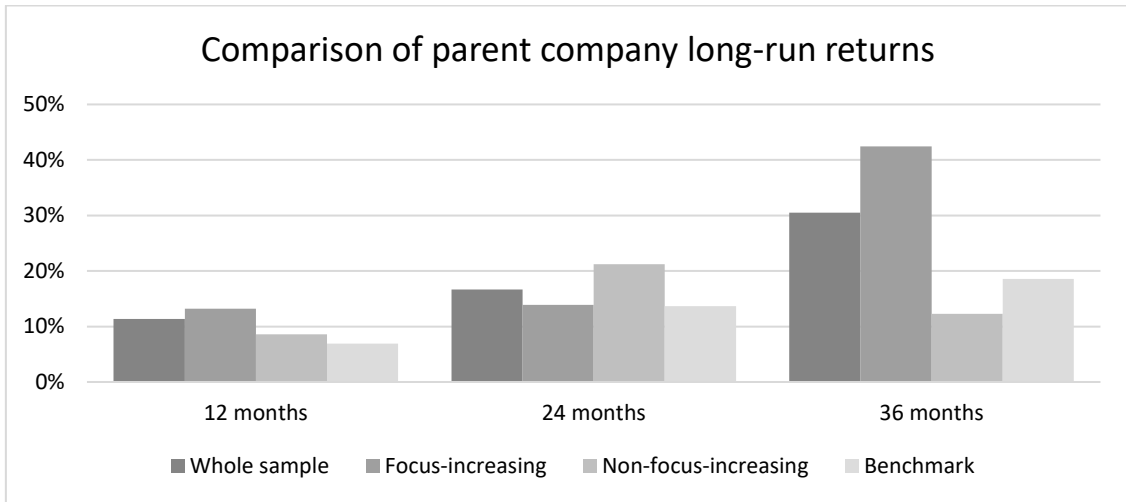


Figure 4. Comparison of parent company long-run returns, sourced from Refinitiv (2023)

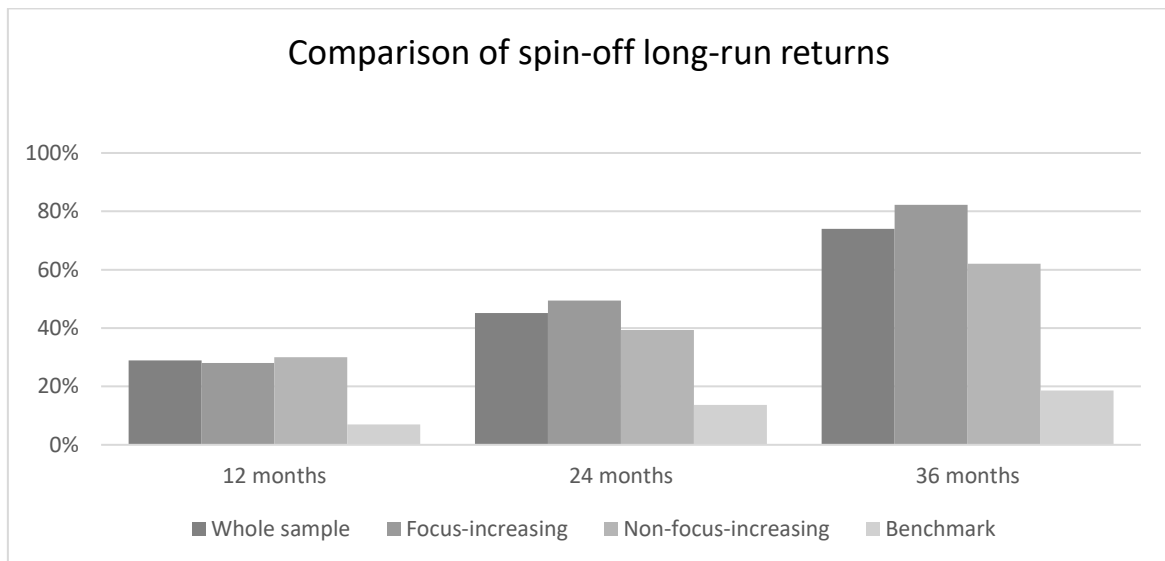
Returns provided by the spun-off subsidiaries (see Table 6) notably outperform those of the parent companies. For the entire sample, subsidiaries surpass both the parents and the benchmark index. The returns over 12, 24, and 36 months are 28.96 percent, 45.12 percent, and 73.95 percent, respectively. The 12-month return is significant at the 5 percent level, while the latter two are significant at the 1 percent level.

The difference between spin-offs from focus-increasing and non-focus-increasing divestitures becomes more pronounced as the time horizon lengthens. Focus-increasing spin-offs from parents achieve a mean return of 82.32 percent, while non-focus-increasing spin-offs yield 62.07 percent for the 36 months. The return for focus-increasing spin-offs is significant at the 1 percent level, whereas the returns for non-focus-increasing ones are not statistically significant.

Table 6. Long-run returns of spun-off companies, sourced from Refinitiv (2023)

Long-run returns	12 months	24 months	36 months
Spin-off			
Whole sample	28,96 %	45,12 %	73,95 %
t-stat	2,58	2,88	3,35
Focus-increasing	28,05 %	49,42 %	82,23 %
t-stat	1,92	2,43	2,84
Non-focus-increasing	30,03 %	39,30 %	62,07 %
t-stat	1,73	1,58	1,82
Benchmark	6,93 %	13,68 %	18,58 %

An interesting aspect of this data is the contrast between the parent companies and their spun off subsidiaries. Whether examining the entire sample or the sub-samples, the subsidiaries consistently outperform the parents across all time frames.

**Figure 5.** Comparison of spin-off long-run returns, sourced from Refinitiv (2023)

The comprehensive long-term data on parents and subsidiaries enables the testing of the following hypotheses.

H2: Nordic parent companies positively exceed their benchmark market returns through 12-, 24- and 36-month intervals.

Parent companies exceed the benchmark on all timeframes. However, the results are not statistically significant. Therefore, based on the available data and the significance threshold set for this study, there is no sufficient statistical evidence to support H2. It is essential to note that while statistical significance was not achieved, the observed trends indicate that parent companies generally outperformed their benchmarks. These trends, while not statistically significant, offer potential areas for further investigation and may have practical or economic significance.

H3: Nordic spin-offs positively exceed their benchmark market returns through 12-, 24- and 36-month intervals.

Spin-offs exceed the benchmark over all of the timeframes. The result for 12 months is significant at the 5 percent level and the results for 24 and 36 months are significant at the 1 percent level. These results support the hypothesis and H3 is therefore not rejected.

To assess the significance of focus-increasing spin-offs compared to non-focus-increasing spin-offs, the last testable hypothesis (H4) combines data from announcement date reactions and the long-run returns of focus-increasing spin-offs. With the data gathered the final hypothesis can be addressed.

H4: Nordic focus-increasing parent companies and their spun-off subsidiaries positively outperform their non-focus-increasing counterparts.

The empirical data indicates that there is only a minimal difference between the two categories when measuring announcement date returns. In fact, the non-focus-increasing spin-offs show slightly higher returns. There is no clear evidence that focus-increasing spin-offs generate higher announcement date abnormal returns compared to non-focus-increasing spin-offs.

Focus-increasing parent companies are associated with higher abnormal returns on 12 and 36-month intervals, but not 24 months. Over the long run, the spun-off subsidiaries of focus-increasing parents return more than the non-focus-increasing subsidiaries over 24 and 36-month timeframes.

With this evidence, it can not be said that the focus-increasing parent companies and their spun-off subsidiaries positively outperform their counterparts in all time frames and therefore H4 is rejected.

7 Summary and conclusion

In addition to the initial average positive spin-off announcement reaction, Nordic parent companies and spun-off subsidiaries continue to outperform the market over extended periods. This suggests that the overall impact of spin-offs on company performance may not be entirely reflected in the market valuation at the moment of the spin-off announcement. In conclusion, this study provides valuable insights into the dynamics of corporate spin-offs in Nordic markets. The announcement date reactions suggest that investors respond positively to spin-off announcements, with a pronounced market reaction leading up to the event. While statistical significance is not consistently achieved for parent companies' long-term returns, the observed trends indicate potential areas for further investigation. Importantly, spin-offs, especially focus-increasing ones, exhibit significant and sustained outperformance over 24, and 36 months. These findings contribute to the understanding of the strategic choices made by companies in the Nordic region and offer guidance for investment decisions and strategic planning. These findings hold substantial practical significance for business professionals and managers. The observed positive market reactions to spin-off announcements indicate that investors favour businesses with a concentrated focus on core operations. This insight encourages businesses to strategically realign their operations, emphasizing core strengths and divesting non-core assets.

The findings of this study offer ideas for future research to deepen the understanding of corporate spin-offs. Firstly, investigating the dynamics of spin-offs in diverse geographical regions, such as Asia, could provide valuable comparative insights. A cross-continental analysis, specifically comparing Asia and Europe, may shed light on regional variations in spin-off strategies and market reactions. Additionally, an extension of this study to scrutinize the market timing of spin-offs would offer a nuanced perspective. Analysing how different market conditions influence the outcomes of spin-off strategies and their subsequent performance could contribute valuable insights to strategic decision-making. Preliminary observations from the data in this thesis suggest a correlation between spin-

off announcements and overall economic conditions when examining the annual announcements. A broader and more extensive sample, potentially spanning multiple regions, could facilitate a more extended time horizon and a more precise examination of trends in corporate spin-offs. Examining the performance of focus-increasing and non-focus-increasing spin-offs over time offers an interesting topic to study. This approach could discern whether investor appreciation for these strategies and the appreciation of them changes over time and under the influence of different economic conditions.

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