

# Shareholder Value Creation through Corporate Spin-Offs in Europe—An Empirical Analysis

Elmar Steurer<sup>1\*</sup>, Ernst J. Fahling<sup>2</sup>, Anna Ehleiter<sup>2</sup>

<sup>1</sup>Department Business & Economics, Neu-Ulm University of Applied Sciences, Neu-Ulm, Germany

<sup>2</sup>Finance Department, International School of Management, Frankfurt, Germany

Email: \*elmar.steurer@hnu.de

**How to cite this paper:** Steurer, E., Fahling, E. J., & Ehleiter, A. (2023). Shareholder Value Creation through Corporate Spin-Offs in Europe—An Empirical Analysis. *Journal of Financial Risk Management*, 12, 50-78. <https://doi.org/10.4236/jfrm.2023.121004>

**Received:** October 23, 2022

**Accepted:** March 7, 2023

**Published:** March 10, 2023

Copyright © 2023 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution-NonCommercial International License (CC BY-NC 4.0).

<http://creativecommons.org/licenses/by-nc/4.0/>



Open Access

## Abstract

Through a spin-off of a business unit, the parent company aims to have a positive impact on its enterprise value. The parent company often pursues the spin-off transaction to strengthen the focus on its core business, reduce negative synergies and increase operational efficiency. Based on studies already established in the literature, it is assumed that the spin-off transaction increases shareholder wealth. Despite the high relevance of spin-offs as restructuring measure, empirical research in Europe has not sufficiently addressed this issue yet. Accordingly, this paper examines both the short-term effects of a spin-off announcement for the parent company and the long-term effects of the implementation of the spin-off at the level of the parent company and the spin-off company on the European capital market. A sample of 24 European companies is examined. The time horizon of the empirical research is from January 2015 to December 2020. For the short-term study, five event windows were chosen around the announcement date and for the long-term study, 3 event periods were chosen over 3, 6 and 12 months after the spin-off transaction. The short-term examination of parent companies yields a cumulative average abnormal return over the investigated event windows around the announcement date of 3.40%. In the long-term research, the parent company generates a buy-and-hold average abnormal return over the studied event periods after the implementation of the spin-off transaction of -4.11%. The spin-off companies generate a buy-and-hold average abnormal return of 13.76% in the same event periods.

## Keywords

Spin-Off Europe, Shareholder Wealth, Abnormal Return Spin-Offs and Parent Companies

## 1. Introduction

The goal of every company is to successfully compete in the marketplace and maximize their corporate value. For this reason, companies pursued a diversification strategy from 1960 to 1980, bathing large conglomerates to increase their corporate value and thus shareholder value. This trend of diversification was based on the scope of corporate empires by acquiring related and unrelated businesses. Conglomerates were seen as a beneficial tool in terms of diversification opportunities and vertical integration potential (Leinwand & Mainardi, 2012). The acquired businesses should reduce the overall risk of the company and thus ultimately increase shareholder value (Achleitner, Bassen, & Wahl, 2003: p. 432).

Capital markets have changed in the last 30 years and have become more accessible and dynamic to their participants. Investors now have the possibility to directly invest in a company by buying their shares on the stock exchange to diversify their portfolio. They are no longer tied to building conglomerates to spread their corporate risk. In view of the dynamic competition, a conglomerate corporate structure with diversified business units no longer appears suitable for achieving the goal of increasing shareholder value (Achleitner, Bassen, & Wahl, 2003: p. 432). Therefore, investor focus appears to have shifted in the twenty-first century, with investors more interested in pure-play corporate models that encourage transparency and concentration on the core capabilities. As a result, divestitures and outsourcing have become more typical business strategies, and active investors are driving these themes actively and aggressively (McIvor, 2007: pp. 51-53). Large and highly diversified organizations strive to maximize shareholder value by reorganizing their assets, liabilities, equity, and operating operations, or by undergoing strategic restructuring (DePamphilis, 2014: p. 567).

One way to achieve these restructurings is corporate spin-offs which are characterized by the separation of a company or part of a company into an economically and legally completely independent and autonomous company (Achleitner, Bassen, & Wahl, 2003: p. 432). The spin-off reduces the level of diversification of the company and thus increases the focus on the core competencies of the parent company. In addition, the complexity of the corporate structure is reduced by simplifying and enabling it to be managed more effectively and efficiently (Burger, Ulbrich, & Ahlemeyer, 2010: p. 458). Spin-offs have gotten a lot of attention in recent years, not just in practice but also in research (Kreutter, Savelberg, & Weigand, 2007: p. 167).

## 2. Literature Review

In financial economics research, spin-offs are primarily studied in terms of changes in the value of the company in form of the changes on the company's share price when a spin-off is announced (Schultze, 1998: p. 157) or after the actual implementation of the spin-off (Veld & Veld-Merkoulova, 2004: p. 1112). Event studies are presented as the most widespread and most acceptable method for empirical study on the influence of spin-offs on the capital market performance of the parent company as well as on the spun-off company.

There has been documented a positive overall wealth effect associated with spin-off activity. Building on the previously verified positive spin-off announcement effect, existing in academic studies on the European capital market, show that there are significant abnormal returns observed only a few days around the announcement date, ranging from 0.77% to 5.27% (Veld & Veld-Merkoulova, 2004: pp. 1121-1122; Vollmar, 2014: p. 235). These empirical findings imply that capital markets react to spin-off announcements in an information-efficient manner, with predicted future gains reflected in present stock prices. Some empirical studies show that abnormal returns are also generated in the long-term after the implementation of a spin-off. This can be observed both at the level of the parent company and at the level of the spin-off company. Harris and Madura (2010) prove in their long-term empirical testing, that spun-off subsidiaries outperform their industry peers and the market in the first three years after the separation. According to the efficient market hypothesis by Fama (1998), the positive effects should be fully reflected in the share prices immediately on the day or one or two days around the announcement. If this hypothesis is correct, it should be impossible to generate long-term abnormal returns (Veld & Veld-Merkoulova, 2004: p. 1112). Further literature is discussed in **Table 1** which summarizes the findings of the major literature on the research topic.

### 3. Research Question

Research has found that corporate spin-offs have largely favorable benefits. The spin-off phenomena have mostly been explored in the U.S., whereas the European capital market has been understudied to date. Spin-offs have grown in popularity in Europe, thanks to a legislative environment that is more conducive to them and a growing need for corporate transparency. Furthermore, as global competition grows, executives are required to continually look for new methods to generate growth and increase capital efficiency to increase corporate value. To date, there have been only a few meaningful findings on the phenomenon of spin-offs in Europe, which means that attempts at interpretation from the Anglo-Saxon world have been transferred to Europe without any reflection.

Though, the extent to which the results are transferable from the U.S. to Europe is questionable and has been insufficiently studied. The differences in the respective financial markets regarding their legal and environmental factors remain largely unconsidered (Vollmar, 2014: p. 18). Despite the growing number of European divestments, there remains a distinctive study gap, especially when compared to the relatively extensive literature on acquisitions (Ostrowski, 2008: p. 5). Evidence of the overall wealth effect of corporate spin-off transactions on the European market is weak and the specific value-creating sources remain relative unclear.

The purpose of this paper is to describe the theoretical foundations that are essential to understand spin-offs as a kind of restructuring to show empirical results of financial research based on them. This purpose leads to the following research question:

**Table 1.** Overview short-term performance spin-off transaction; Source: own depiction.

Publication	Period	Region	Size	Event period	CAR in % <sup>1</sup>
Veld & Veld-Merkoulova (2004)	1987-2000	Europe	156	-10; +1	0.77***
				-1; 0	1.74***
				0	1.19***
				-1; +1	2.62***
				+1; +10	-0.33
Bühner (2004)	1991-2001	Europe	39	-1; +1	2.27***
				-10; +10	2.8***
Rüdisüli (2005)	1990-2003	Europe	189	-3; +3	2.6***
				-1; +1	2.8***
				0	1.4***
				0; +3	2.1***
Sudarsanam & Qian (2007)	1987-2005	Europe	157	-10; +1	1.75***
				-1; 0	4.24***
				0	3.45***
				-1; +1	4.82***
				+1; +10	-0.06
Murray (2008)	1992-2002	Great Britain	60	-1; +1	1.82***
Chemmanur et al. (2004)	1992-2004	International	139	-1; +1	2.19***
				0; +1	1.92***
Khorana et al. (2011)	2001-2010	International	? <sup>2</sup>	-20; +20	2.44
Vollmar (2014)	2000-2012	Europe	83	-10; 0	5.27***
				-1; 0	4.86***
				-1; +1	4.58***
				-5; +5	3.86***
				-10; +10	3.58***
				-20; +20	3.21**

### Do European spin-off announcements and its implementation create enterprise value and thus shareholder value?

Subsequently, an empirical test is carried out and it is investigated whether spin-offs on the European capital market generate positive abnormal returns on the level of the parent company in the short-term and on the level of the parent company and the spun-off company in the long-term.

## 4. Research Design

### 4.1. Definition

A clear definition is not suitable for scientific analysis. It makes no distinction between the spin-off entity's appearance before the transaction or who appears

<sup>1</sup> Significant 90%; \*\* Significant 95%; \*\*\* Significant 99%.

<sup>2</sup>“The sample of companies used for the calculation of the conglomerate discount in this report is constructed using all firms reporting business segment data on the Worldscope database from 1999 to 2010” (Khorana et al., 2011: p. 100).

as the purchaser. The phrase can only be comprehended in the sense of a broad definition (Vollmar, 2014: p. 22).

“A spin-off is a new, independent company created by detaching part of a parent company’s assets and operations. Shares in the new company are distributed to the parent company’s stockholders.” (Brealey et al., 2018: p. 874)

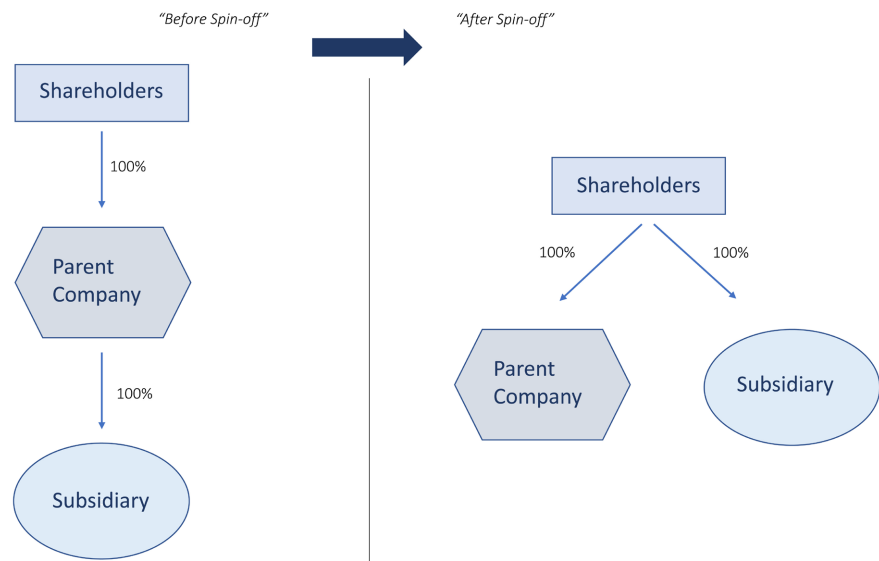
Divestments have established themselves as an important instrument for untying resources and managing change outside the organization, both in terms of frequency and relative to the quantities engaged in mergers and acquisitions, as shown by changes in transaction data over the last decades (Vollmar, 2014: p. 14). Spin-offs are considered as an important instrument of a divestment strategy and are characterized as follows (Vollmar, 2014: pp. 24-26):

- Parts of a company are spun off and after completion of the spin-off are continued outside the parent company under legal and economic independence.
- The parent company relinquishes the economic management and control but remains itself as an assessable truncated entity.
- The shares of the new established company are distributed free of charge and on a pro rata basis to the previous shareholders of the selling company as a sort of dividend. A distinct trading business is formed, with the shareholders making the portfolio selection choice.
- When shares are distributed, there is no inflow of funds to the companies, which means that the spin-off does not fulfill any financing function. For this reason, a spin-off can be classified as a non-cash transaction.

In relation to the parent company, spin-offs can be distinguished between corporate spin-offs and institutional spin-offs. In the case of institutional spin-offs, the parent company is a public or private institution such as a university (Tübke, 2004: p. 3). Corporate spin-offs, operational sub-functions are legally separated from an existing overall company to establish a new company (Rasmussen-Bonne, 2011: p. 228). Spin-offs can be categorized in respect of their motivation for implementing the spin-off. Two fundamental motives can again be distinguished here. Restructuring-driven spin-offs are initiated by the parent company and have a top-down character. This type of spin-off is mostly used to increase the focus on the parent company’s core competencies. Entrepreneurial spin-offs are initiated by individuals to fully exploit the potential acquired but unused in the parent company (Tübke, 2004: pp. 3-4). This type of spin-off transaction is characterized as bottom-up.

The following **Figure 1** illustrates the technical-procedural flow of a spin-off transaction.

The research method is based on the event study procedure. In line with scientific approaches the paper develops hypotheses which are being tested or rejected. The information system Refinitiv is used for the data retrieval. The success of the spin-off transaction is tested in this paper using a linear regression model with a t-test for significance. It is assumed that there is a normal distribution of the residuals of the regression model.



**Figure 1.** Spin-off transaction; Source: own depiction.

## 4.2. Classification

Spin-offs first appeared in the U.S. in the 1920s. Since the 1950s, they have become a widespread instrument of corporate restructuring in America. In Europe, spin-offs did not become established as a structuring instrument until 40 years later. From then on, they have become a common form of transaction and have gained increasing importance in the European capital market in recent years (Vollmar, 2014: p. 21). The reason for the delayed establishment of the European capital market is the adoption of the so-called Merger Directive in 1990, which laid the legal foundation for tax-free spin-offs in Europe (Vollmar, 2014: p. 21). Another reason why spin-offs are much more prominent in the U.S. could be the documented positive wealth effects for the company owners (Veld & Veld-Merkoulova, 2004: p. 1112).

The quantity and volume of M & A transactions globally reached record heights during the fifth wave of the M & A market about the years between 1993 to 2000 (Jansen, 2016: pp. 74-76)<sup>3</sup>. Globalization, the U.S. monetary policy of cheap money, the globalization of shareholder value orientation and the related expansion of capital markets, as well as the IPOs of the New Economy and the associated acquisition tactics, were the key drivers of this development (Jansen, 2016: pp. 74-76). Similarly, a fifth-wave pattern emerged that included divestments and restructurings, as well as the reversal of mergers and acquisitions. Established businesses began to split apart again, and it became clear that striking a balance between M & A and divestments is critical to a company's overall strategy to be successful (Jansen, 2016: pp. 74-76). The observed divergence from diversification trends is the driving force for these issues. Companies with a lack of corporate governance are said to diversify huge amounts of free cash and have limited growth potential in core businesses (Vollmar, 2014: p. 16).

<sup>3</sup>For a detailed explanation of the Merger and Acquisition wave phenomenon, see Jansen (2016).

Neither in science nor in practice is there a unanimous opinion on whether focusing on related business areas through divestments or greater diversification into different business areas is the better strategy to maximize the value of a company (Hungenberg, 2014: pp. 497-506). Of particular interest are the industries in which the spin-offs are carried out. The industries represented in this study are Industrials, Healthcare, Technology, Oil and Gas, Services, Retail, Real Estate, Media and Entertainment, and Textiles. A detailed overview of the parent and spin-off companies studied is documented in the Appendix.

Diversification and divestment are symbiotically linked. Without divestments, the deconstruction of diversification is very difficult to realize. It is still unclear whether a divestment creates value and, if so, under what conditions this occurs and what role diversification plays in this process (Vollmar, 2014: p. 5). Divestitures can take a variety of shapes. Separation of managerial control, for example, might suggest a total or partial separation. The asset can be sold for cash or distributed to current shareholders on a pro-rata basis. Sell-offs, equity carve-outs, spin-offs, and split-offs are the most prevalent types of divestures. Divestments are recognized as a tool to enhance value and discipline management. Existing findings from growth-oriented research can be applied to divestments largely unchanged (Vollmar, 2014: p. 16). Divestments represent an important element of the strategic value management.

The next Figure 2 outlines the most prevalent divesture types and their distinctions.

### 4.3. Significance

If a company wants to demerge an entity, the corporate spin-off is the most frequently used restructuring measure (DePamphilis, 2014: p. 587). Spin-off transactions are the result of industrial renewal, economic competition, and economic

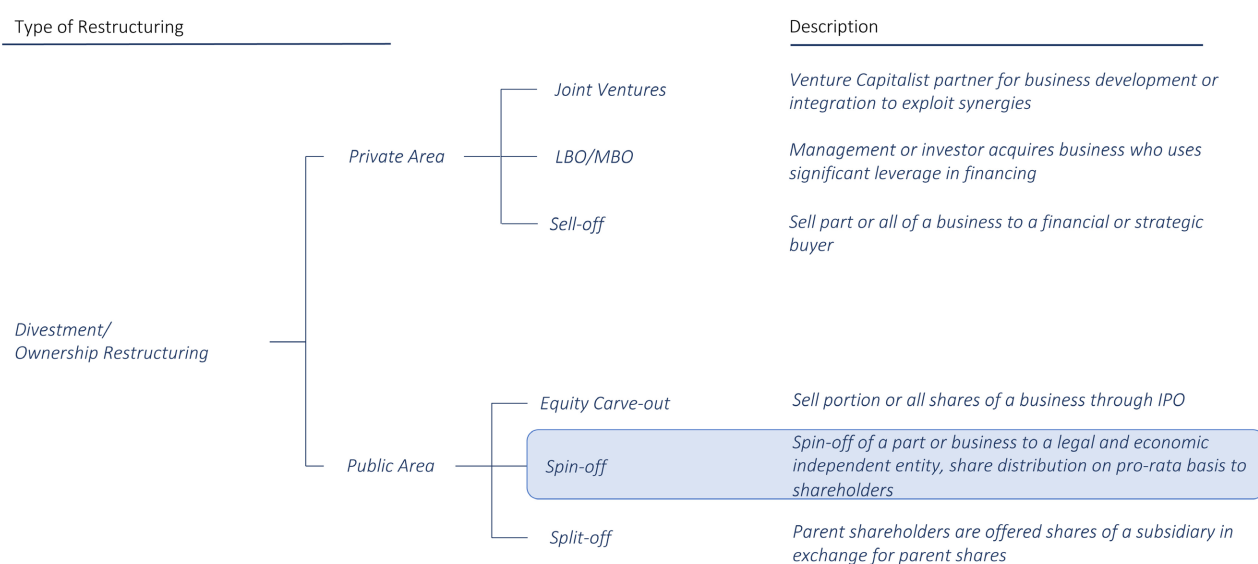


Figure 2. Divestment types and their distinctions; Source: own depiction.



growth and innovation in capital markets. Spin-off transactions will become more important for the future economic environment. In relation to the total volume of M & A transactions worldwide, the volume of spin-offs is still relatively low (Bruner, 2016: p. 153).

The number of spin-offs carried out and their volume varies relatively strongly over time and between the different markets. Most spin-offs continue to take place in North America. However, it can also be observed that Europe and Asia are increasingly gaining in spin-off transaction volume (Khorana et al., 2011: p. 91). The total global volume of spin-off transactions in 2019 was \$179 billion (Wachtell et al., 2020: p. 1). It is impressive to compare this figure with the previous year 2018, when the global spin-off deal volume was significantly lower at \$73 billion (Wachtell et al., 2020: p. 1). This trend towards increasing spin-offs is due, among other things, to improved conditions on the capital markets, favorable conditions on the credit market and an increased receptiveness of new IPOs (Khorana et al., 2011: pp. 91-92). The COVID-19 epidemic is having a substantial impact on overall transaction activity, and it remains to be seen how it will affect capital market spin-off activity (Wachtell et al., 2020: p. 1).

The consistent decline in conglomerates can be observed in parallel with the increase in spin-off transactions worldwide. Because of the decline in conglomerates, a corresponding decrease in diversification can be detected.

The pioneers on this field are clearly the Americans. Their total spin-off volume continues to be significantly higher compared to the rest of the world. At the same time the global interest in spin-offs has increased in the last decade. This can be reflected by the increasing number of spin-off indices that have included European spin-offs. Previously, the indices were limited to the American capital market. An example for this increasing international and especially European interest in spin-offs as a restructuring measure is the Solactive Global Spin-off Performance Index.

The Solactive Global Spin-Off Index tracks companies that have recently been spun off from a larger corporation and are now publicly traded. The index is calculated in euro. The following chart (Figure 3) shows the historical performance of the index since January 2010.



**Figure 3.** Historical performance; Source: Solactive (2022).



The performance of the index has increased significantly since 2010. The effects of the Corona crisis can be clearly seen in a price crash at the beginning of 2020. Currently, the index is again in a downward trend, probably due to the war in Europe. The currency distribution of the Solactive Global Spin-off Index as of June 22, 2022 is denominated in US-dollars account for the largest share (46%) of the transaction volume. However, it is interesting to note that the second largest share of the index composition (25%) is accounted for by transactions denominated in euros.

## 5. Research Results

To better assess and understand the historical evidence on the success of spin-offs in the European capital market, the theoretical basis for measuring the success of spin-offs is as follows. The determination of success in M & A transactions is dominated by the shareholder value approach. The most important key figure for the shareholders is the enterprise value, which in the case of listed companies is the market capitalization (Lucks & Meckl, 2015: p. 421). The market value of equity is created by the market mechanism on the capital markets (Ostrowski, 2008: p. 41). In addition to studies based on annual financial statement data, this procedure has established itself in recent years as the second standard method for assessing performance. Most capital market-oriented studies use the methodology of event studies (Glaum & Hutzschenreuter, 2010: p. 96).

### 5.1. Short-Term Performance

The abnormal returns, which reflect the information content of an event in terms of the company's value, are used to quantify the valuation changes caused by a spin-off on the capital markets (Vollmar, 2014: p. 196). Abnormal returns are defined as the discrepancy between the returns that happened during the event period and the returns that would have been expected without the event.

For a company this connection can be formalized as follows:

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

with

$AR_{i,t}$  : abnormal return of share  $i$  at time  $t$ .

$R_{i,t}$  : return of share  $i$  at time  $t$ .

$E(R_{i,t})$  : expected return of share  $i$  at time  $t$ .

The average abnormal returns (AAR) of a research period may be computed as follows:

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{i,t}$$

with

$AAR_t$  : average abnormal return of sample at time  $t$ .

$AR_{i,t}$  : abnormal return of share  $i$  at time  $t$ .

$N$ : number of sample elements.

When determining abnormal returns, it is necessary to consider the way in which returns are calculated. Both continuous and simple returns can be employed in theory. Each return calculation has their own set of benefits and drawbacks (Vollmar, 2014: p. 197). The natural logarithm is used to compute continuous returns, which assumes a constant interest rate. Much research employs them because of their statistical benefits. They enable the computation of arithmetic means of return and the finance mathematically accurate summing of returns over time (Vollmar, 2014: p. 199). It is possible to accumulate over time by adding continuous returns, which is not possible with simple returns. Another argument for using continuous returns is their distributional property. Continuous returns tend to be symmetrically distributed and better meet the assumption of the normal distribution (Vollmar, 2014: p. 200). Simple returns offer the advantage of additivity across portfolios. Portfolio returns may be determined by adding up the securities in the portfolio. This is not a characteristic of continuous returns. The addition of continuous returns would cause portfolio returns to be understated in a systematic way. In the event study literature, there is no uniform approach regarding the return procedure. While half of the authors use continuous returns, the other half rely on simple returns (Vollmar, 2014: p. 199). Although both techniques have advantages and disadvantages, the choice of the return calculation method has no significant impact on the event study. Simple returns are chosen in this empirical investigation.

They can be formally represented as follows:

$$R_{i,t} = \frac{P_{i,s} - P_{i,s-1}}{P_{i,s-1}} = \frac{P_{i,s}}{P_{i,s-1}} - 1$$

with

$R_{i,t}$  : simple returns of share  $i$  in period  $t$  ( $\triangleq s - 1$  to  $s$ ).

$P_{i,s}$  : share price  $i$  adjusted for corporate actions and dividends at time  $s$ .

$P_{i,s-1}$  : share price  $i$  adjusted for corporate actions and dividends at time  $s - 1$ .

Aside from the mechanism of computing returns, additionally a decision on the maturity of returns must be taken. Daily returns are the most recommended in event studies because they have a slightly greater informative value than weekly and monthly returns (Ostrowski, 2008: p. 124). Using daily returns is beneficial in the setting of semi-rigid information efficiency because market movements may be predicted within a few days after the announcement date (Ostrowski, 2008: p. 124). The use of daily returns has become established as the international standard. Hence, daily returns are also used in this event study.

The following **Table 3** reports the results of some selected event studies on the short-term stock price reactions of the spinning-off parent company around the announcement period of the spin-off.

The selected studies represent the results for the success of a spin-off transaction almost exclusively in the geographical region of Europe. Some international studies were also selected as they serve a complementary function to put the empirical success of European studies in an international context.

The period of publication of the studies ranges from 2004 to 2014 and are based on stock prices from 1987 to 2012, whereby the individual studies show significant differences in the size of their sample between 39 and 189. The selection of event windows varies widely between the studies. The event windows range from a large frame of  $[-20; +20]$ , to smaller intervals around the announcement date  $[-10; +10]$ ,  $[-10; +1]$ ,  $[-5; +5]$ ,  $[-3; +3]$ ,  $[-1; +1]$ ,  $[-10; 0]$ ,  $[-1; 0]$ ,  $[0]$ ,  $[0; +1]$ ,  $[0; +3]$ ,  $[+1; +10]$ .

Across all studies cited, only two event windows considered to produce slightly negative cumulative abnormal returns. These are the studies by [Veld and Veld-Merkoulova \(2004\)](#) and [Sudarsanam and Qian \(2007\)](#) in the event window  $[+1; +10]$  with respectively a CAR of  $-0.33\%$  and  $-0.06\%$ . It is worth bearing in mind, that this event window takes place exclusively after the announcement date. It should be noted that neither of these two results is statistically significant.

The parent companies achieve positive and almost exclusively statistically significant CAR values in all other event windows. The range of statistically significant abnormal returns is from  $0.77\%$  for an event window of  $[-10; +1]$  to a maximum value of  $5.27\%$  for  $[-10; 0]$  around the spin-off. If we compare the results of the purely European studies with the international studies listed, it becomes clear that they lie within the European results range. It can be concluded that European spin-off transactions with their positive effects are comparable to studies conducted at the international level.

Independent of the observed period, geographic emphasis, sample size, or time of publication of the empirical study, a positive abnormal return is created in virtually all the event windows evaluated. These observed positive market reactions to spin-off announcements are comprehensible from an economic standpoint ([Copeland, Weston, & Shastri, 2008: p. 992](#)). Spin-offs are a sector-agnostic method of restructuring corporations. Aside from the industry, the size of the parent firm has little bearing on the success of the spin-off. Industrial focus is a key value driver for the success of spin-offs. When spinning off businesses that are different from the main business, the calculated abnormal returns are much larger than for affiliates ([Vollmar, 2014: p. 289](#)). Spin-offs can dramatically lower the conglomerate and diversification discounts, as well as the information asymmetry. Transparency for capital market players has improved, allowing them to make more informed portfolio structure decisions ([Sudarsanam, 2003: p. 248](#)). Analysts are more likely to cover companies and make more accurate projections ([Feldman, 2015: p. 1446](#)). When corporations operate from a position of strength and there is (yet) no pressing need for restructuring, spin-offs are seen favorably ([Vollmar, 2014: p. 291](#)).

To empirically prove the positive effects of spin-off transactions, hypotheses are formulated which are either confirmed or rejected in the empirical investigation. The first hypothesis addresses the measurement of the parent company's short-term capital market performance through the announcement of a spin-off and is formulated as follows:

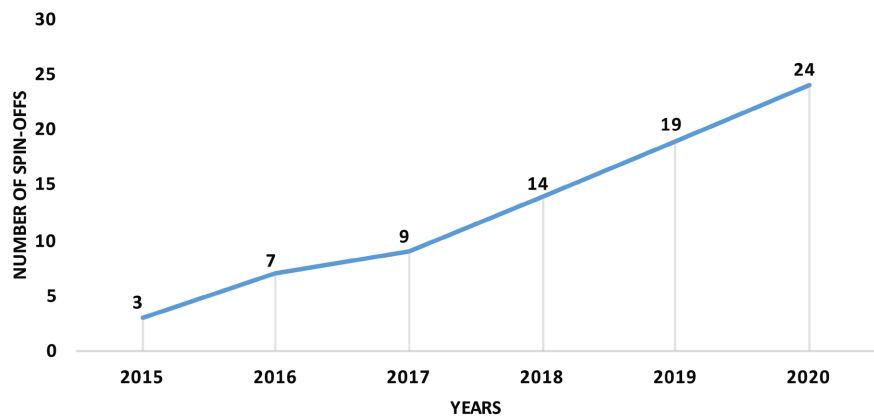
### Hypothesis 1:

On average, the announcement of spin-offs results in significant positive abnormal returns for the parent company.

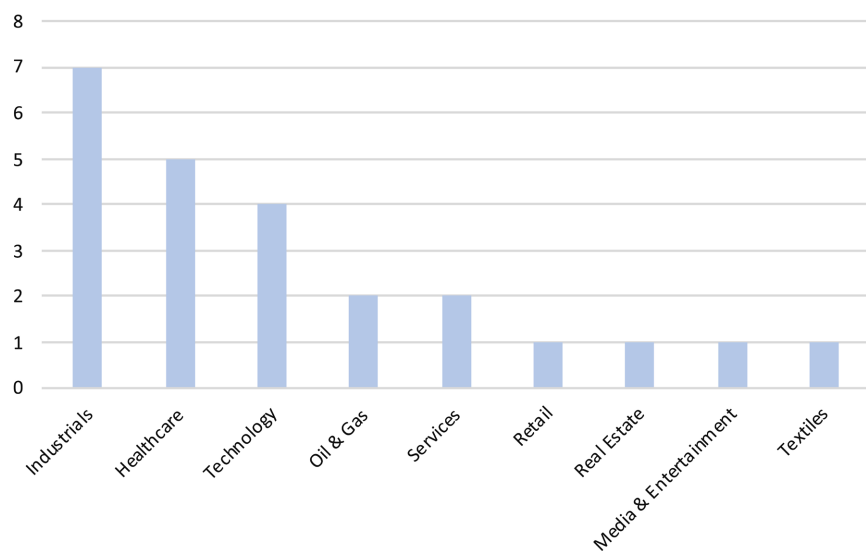
For testing the hypothesis, the sample was filtered according to the criteria in the following **Table 2**. After the filtering process, the sample size contains 24 companies.

It should be noted that those announcement dates have been excluded which could not be determined exactly due to missing or not available data. Considering the development of the total number of spin-off announcements over observation period, we can observe the strong positive increase in the numbers. For **Figure 4**, spin-off announcements were cumulated in the corresponding years resulting in a constant increasing trend of spin-off announcements.

Another noteworthy graph regarding the selected sample is the distribution among the different industry sectors. The following **Figure 5** shows the distribution of the spin-off announcements dedicated to the different industries.



**Figure 4.** Total number of spin-offs; Source: own depiction based on data from Refinitiv.



**Figure 5.** Distribution per industry; Source: own depiction based on data from Refinitiv.

**Table 2.** Sample size; Source: own depiction based on data from Refinitiv.

Investigation step	Adjustment	Remaining
<b>Population</b>		2777
1) <b>Regional and time limitation to Europe</b>	-2689	88
2) <b>Exclusion financial industry</b>	-12	76
3) <b>Listed Companies</b>	-25	51
4) <b>Data availability</b>	-11	40
5) <b>Determination announcement date</b>	-2	38
6) <b>No confounding events</b>	-6	32
7) <b>Corresponds to definition</b>	-8	24
<b>Total</b>		<b>24</b>

**Figure 5** shows that the industrial segment recorded the most spin-off transactions with seven (30%). Healthcare and technology are the next largest segments with five and four spin-off transactions, respectively. These three industries alone account for two-thirds (66.67%) of the total sample. They are followed by the oil and gas and services sectors, each with two spin-off transactions, and retail, real estate, media and entertainment, and textiles, each with one transaction.

## 5.2. Short-Term Performance Results

The following **Table 3** summarizes the results of the empirical investigation of the short-term capital market performance. In detail, the five event windows around the announcement date mentioned above were included with 24 observations each.

If it is assumed that the semi-rigid information efficiency is valid, the effects of the spin-off announcement should be fully reflected in the share price of the relevant company immediately or at least within one to two days. Statistically significant abnormal returns are to be expected at least in the four event windows close or equal to the announcement date  $[-1; +1]$ ,  $[-1; 0]$ ,  $[0]$  and  $[0; +1]$ .

On average, the announcement of a spin-off is followed by significantly positive abnormal stock price reactions (Achleitner, Bassen, & Wahl, 2003: p. 433). The results of the conducted empirical study confirm this statement. Using the adjusted market model and subsequent the one-sample t-test, the 24 parent companies generate statistically significant abnormal returns in a range from 2.63% to 4.84%. The mean value of the CAAR of the different event windows is 3.40%. The abnormal return generated on the day of the announcement  $[0]$  is on average 2.94%. This result is in line with the range of the results of the studies conducted in the literature so far. The largest abnormal return is generated in the event window  $[-10; +1]$  with an average value of 4.84%. The standard deviation is also highest in this event window. This has the effect, that the corresponding

**Table 3.** Results short-term performance; Source: own depiction based on data from Refinitiv.

	Event windows				
	[-10; +1]	[-1; +1]	[-1; 0]	[0]	[0; +1]
<b>N</b>	24	24	24	24	24
<b>CAAR</b>	4.84%	3.14%	3.45%	2.94%	2.63%
<b>Min</b>	-28.62%	-15.51%	-11.99%	-3.52%	-6.33%
<b>Max</b>	53.34%	41.33%	50.89%	39.51%	29.96%
<b>SD</b>	15.71%	10.05%	11.33%	8.40%	7.27%
<b>Median</b>	1.61%	2.03%	1.88%	1.34%	0.86%
<b>% &gt; 0</b>	50.00%	66.67%	58.33%	66.67%	66.67%
<b>t-value</b>	1.510	1.530	1.490	1.713	1.773
<b>Significance level</b>	*	*	*	*	**
<b>Wilcoxon-test</b>	n.s.	**	*	**	**

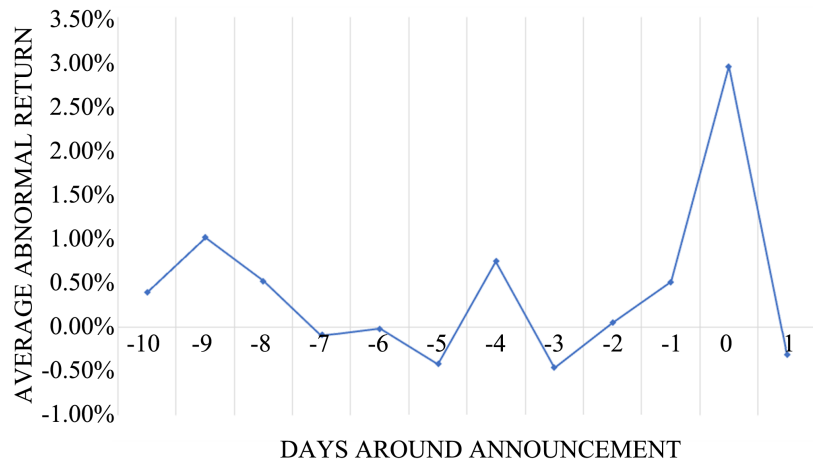
N corresponds to the sample size; Min, Max, SD and Median show respectively the minimum, maximum, standard deviation and the median of the cumulative abnormal returns in the event window. % > 0 represents the proportion of positive cumulative abnormal returns of the parent companies. CAAR corresponds to the cumulative average abnormal return in the respective event window. t-value calculated from the one sample t-test. \*, \*\*, and \*\*\* represent the 90%, 95%, and 99% significance levels.

t-value, which is responsible for the significance level tested by the one-sample t-test, is relatively low. The lowest abnormal return is registered in the event window [0; +1] with an average of 2.63%. The generated abnormal returns in four of the five event windows are significant at the 90% level. In the event window [0; +1], the significance level is even higher with 95%.

Since the sample size is below the threshold of 30 widely used in the literature, the Wilcoxon signed-rank test was performed in addition to the one sample t-test to support the robustness of the results. In the event windows [+1; -1] and [0] the results of the empirical investigation are classified in a higher significance level than by the one sample t-test. The Wilcoxon signed-rank test confirms the significance level previously determined by the one sample t-test in the event windows [-1; 0] and [0; +1]. Only in the time window [-10; +1] it does not assign any statistical significance to the result.

The following **Figure 6** depicts the evolution of the AAR over the period studied, ten days before and one day after the announcement. It highlights the significant increase in the abnormal returns on the day of the announcement itself.

**Figure 6** shows that the reaction to the new information on the capital market is processed in an information-efficient manner. The average abnormal return increases slightly before the announcement day of the spin-off. On the announcement day, the abnormal return increases exorbitantly and the maximum abnormal return of 2.94% is reached. The day after the announcement, abnormal returns drop sharply to negative territory.



**Figure 6.** Average abnormal return; Source: own depiction based on data from Refinitiv.

It is interesting to note that clearly recognizable positive abnormal returns are achieved on the days 9 and 4 before the spin-off announcement. It is questionable to what extent the parent company or individuals of the respective company may have hinted at the spin-off to be announced. Based on these findings, it is impossible to show beyond a reasonable doubt that stock prices in the run-up to the spin-off announcement systematically include knowledge about the future event, implying that insider trading is taking place.

The following **Figure 7** graphically shows the development of the AAR per day and the CAAR.

One can clearly see the connection of the AAR and CAAR here. On day 9 as well as on day 4 before the spin-off announcement an increase of the CAAR can be seen. The peak of the CAAR is reached on the day of the spin-off announcement.

Hypothesis 1 can therefore be accepted. Parent companies generate positive and statistically significant abnormal returns in the short run across all five event windows. It can be assumed that the announcement of a spin-off transaction is profitable for the parent company.

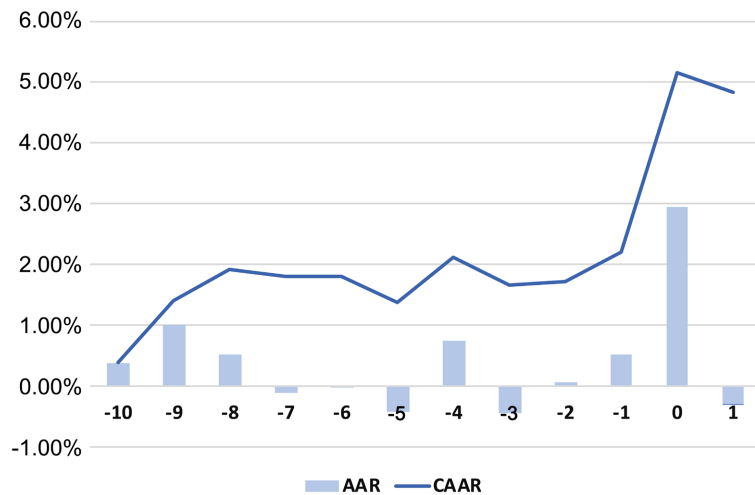
### 5.3. Long-Term Performance

The generation of abnormal returns should not be possible in the long-term investigation (Veld & Veld-Merkoulova, 2004: p. 1112). Based on some empirical studies, there is evidence that the spin-off is responsible for abnormal returns in the long-term<sup>4</sup>. This observation has been documented both at the level of the parent company and at the level of the spin-off company over a period of up to three years.

Share prices are likely to be adjusted at some point in the future if pricing is inefficient. These long-term impacts can be reflected in evaluations of long-term capital market performance after M & A transactions (Glaum, Lindemann, & Friedrich, 2006: p. 301). Ex-post studies have become established, which deal

<sup>4</sup>Compare to: Cusatis, Miles, & Woolridge (1993); Desai & Jain (1999); McConnell, Ozbilgin, & Wahal (2001); Veld & Veld-Merkoulova (2004); Harris & Madura (2010).





**Figure 7.** AAR and CAAR over the investigation period; Source: own depiction based on data from Refinitiv.

with long-term capital market performance following the announcement or execution of spin-offs, in addition to research on the announcement effect (Vollmar, 2014: p. 145).

Long-term event studies have a similar systematics to short-term event studies. The differences lie in the way the returns are calculated. While cumulated abnormal returns are commonly used in short-term event studies (Vollmar, 2014: pp. 143-148), Barber and Lyon (1997) propose utilizing Buy-and-Hold Abnormal Returns (BHAR) in long-term event studies (Barber & Lyon, 1997: p. 369).

First step in calculating BHAR is to determine the average return that would have been earned if all stocks going through a specific event had been invested and then sold after the holding period. The average returns of equities that did not experience this event are then compared to these returns (Mitchell & Stafford, 2000: p. 296).

The calculation of the BHAR of the share  $i$  at time  $t$  is formally depicted as follows:

$$BHAR_{i,t} = \prod_{t=1}^T (1 + R_{i,t}) - \prod_{t=1}^T (1 + R_{B,t})$$

with

$BHAR_{i,t}$ : Buy-and-Hold Abnormal Return of share  $i$  at time  $t$ .

$R_{i,t}$ : actual observed return of share  $i$  at time  $t$ .

$R_{B,t}$ : return of the benchmark at time  $t$ .

A major drawback of  $BHAR_{i,t}$  is its statistical properties, which deviate considerably from the normal distribution (Barber & Lyon, 1997: p. 370). Long-term studies can be strongly disturbed by environmental changes such as changes in the economic situation or the development of competition (Copeland, Weston, & Shastri, 2008: p. 977). The probability that other events interfere with the event under investigation is significantly increased for longer observation periods. If a company conducts additional M & A operations or other actions, such as a

change in management within the review period, the share price development can no longer be clearly ascribed to a single event (Lucks & Meckl, 2015: p. 423). In the medium to long-term, the price-influencing effect of a spin-off transaction is less isolated and precisely quantified than in short-term event studies (Hennings, 1995: p. 139). Another disadvantage of the BHAR is that the BHAR calculated over several periods continues to rise due to compound interest effects, even if excess returns were achieved only in the first period. This could give the impression that information processing is too fast (Fama, 1998: p. 294). If the calculated BHAR are not statistically significant, the capital markets react efficiently to the information of the announcement of spin-off transactions (Veld & Veld-Merkoulova, 2004: p. 1133).

**Table 4** below presents the results of selected event studies concerning long-term capital market performance in connection with the implementation of spin-offs.

The period of the publications spans from 1993 to 2010 and is based on stock price data over a period from 1965 to 2006. The sample size varies considerably across the studies presented.

The geographic focus here is almost exclusively on the U.S., only one study deals with the European capital market regarding the long-term performance of spin-off transactions. It can be observed that there is a great lack of European studies, especially in long-term capital performance of the parent company and spin-off company after the implementation of spin-offs.

**Table 4.** Overview long-term performance spin-off transaction; Source: own depiction.

Publication	Period	Region	BHAR	Type	Size	BHAR t + 6	BHAR t + 12	BHAR t + 24	BHAR t + 36
Cusatis et al. (1993)	1965-1988	USA	IND	Mother	131	6.80*	12.50**	26.70***	18.10
				Spin-off	146	1.00	4.50	25.00**	33.60**
				Comb.	141	n.v.	4.70	18.90**	13.90
Michaely & Shaw (1995)	1981-1988	USA	IND	Spin-off	91	n.v.	-36.60***	-59.13***	n.v.
Desai & Jain (1999)	1975-1991	USA	IND	Mother	155	n.v.	6.51	10.58	15.18
				Spin-off	162	n.v.	15.69***	36.19***	32.31***
				Comb.	155	n.v.	7.69	12.70	19.82***
McConnell et al. (2001)	1989-1995	USA	IND	Mother	80	8.64	13.48	19.21	5.14
				Spin-off	96	8.90	7.21	5.75	-20.87
Veld & Veld-Merkoulova (2004)	1987-2000	Europe <sup>5</sup>	S/MtB	Mother	106	3.88	-0.65	6.49	-0.41
				Spin-off	70	11.96	12.58	13.72	15.15
				Comb.	61	-2.23	-2.33	4.24	2.01
Harris & Madura (2010)	1981-2006	USA	S/MtB	Spin-off	311	n.v.	17.32***	24.58***	26.15***

<sup>5</sup>Belgium, Denmark, Germany, Finland, France, Greece, Great Britain, Ireland, Italy, Netherlands, Norway, Austria, Sweden, Switzerland, and Spain.

The last four columns of the table list the BHAR results for different time periods. The BHAR periods are six months (BHAR  $t + 6$ ), one year (BHAR  $t + 12$ ), two years (BHAR  $t + 24$ ) and three years (BHAR  $t + 36$ ). Their respective statistical significance<sup>6</sup> is given. The findings of long-term studies on the impact of the actual spin-off implementation on the capital market performance of parent companies and spin-off companies reveal a highly disparate picture.

The abnormal returns of the parent company are almost exclusively strongly positive. The only exception is the research by Veld and Veld-Merkoulova (2004). Only Cusatis et al. (1993) find that the parent company's substantial abnormal returns are statistically significant. Except for the Michaely and Shaw (1995) study, the spin-offs almost exclusively generate positive abnormal returns. The statistical significance varies greatly between the individual studies and within the different event windows. The results of the pro-rata combination of the stocks give a very inconsistent picture of their values and statistical significance. The multitude of outcomes yields positive abnormal returns. Statistically significant results are found by Cusatis et al. (1993) and Desai and Jain (1999).

The results of long-term event studies show a much larger dispersion than the results of the short-term event studies outlined above (Vollmar, 2014: p. 145). The previous discussed confounding events can be reason for the widespread as well as methodological problems. During the long observation periods, numerous other events can influence the development of the share price in addition to the spin-off in focus. The impact of the spin-off on capital market performance can be diluted or overshadowed by other factors (Glaum & Hutzschenreuter 2010: p. 388), and long-term performance studies' informative value is severely limited (Vollmar, 2014: p. 145).

The following two hypotheses deal with the long-term capital market performance of both the parent company and the spun-off company. According to the semi-rigid form of information efficiency, positive effects should be fully reflected in stock prices immediately on the announcement date. Achieving long-term excess returns should therefore not be possible if the efficient market hypothesis is valid. Hypothesis 2 examines the long-term capital market performance of the parent company from 3 to 18 months after the transaction. Whereas hypothesis 3 investigates the long-term capital market performance of the spun-off company in the period from 3 to 18 months after the spin-off implementation. Accordingly, hypotheses 2 and 3 are expressed as follows:

**Hypothesis 2:**

In the long run, parent companies generate significantly positive abnormal returns on average after implementing a spin-off.

**Hypothesis 3:**

In the long run, the spun-off companies generate significantly positive abnormal returns on average after implementing a spin-off.

<sup>6</sup>\* Significant 90%; \*\* Significant 95%; \*\*\* Significant 99%.

## 5.4. Long-Term Performance Results

The following **Table 5** presents the results of the empirical investigation of the parent company's long-term capital market performance from the date of implementation of the spin-off transaction.

For the measurement of long-term capital market performance, the event periods presented were examined over three months ( $t + 3$ ), six months ( $t + 6$ ) and twelve months ( $t + 12$ ) from the date of implementation of the spin-off transaction.

The sample size varies in the three different event periods. In the first event period ( $t + 3$ ), the sample size includes all 24 parent companies that are included in the sample for the short-term study of capital market performance. Due to missing data or because they have been partially delisted or their implementation is too recent, the sample size is reduced in the other two periods.

In all three event periods, the parent companies generate on average negative abnormal returns in a range from  $-3.37\%$  to  $-5.40\%$ . The BHAAR in the study is  $-4.11\%$ . These abnormal returns are not statistically significant in any of the three event periods using the one sample t-test. The most negative abnormal return is achieved in event period three ( $t + 12$ ) with  $-5.40\%$ .

Although parent companies achieve positive abnormal returns in the short-term by announcing a spin-off transaction, the actual implementation of a spin-off is not beneficial for the parent company in a long-term view of the European capital market up to 12 months after the implementation date.

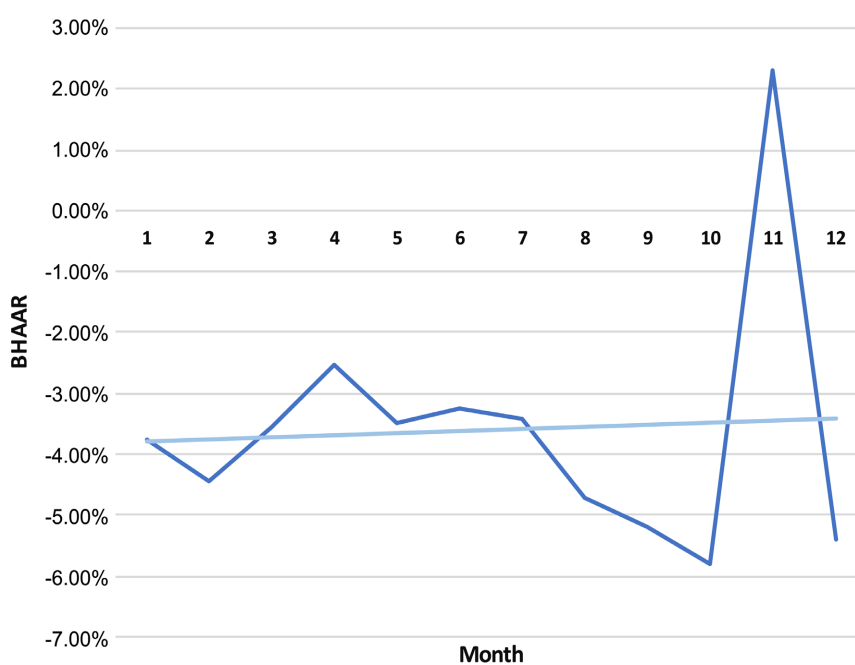
**Table 5.** Results long-term performance parent company; Source: own depiction based on data from Refinitiv.

	Event periods		
	t + 3	t + 6	t + 18
<b>N</b>	24	23	18
<b>BHAAR</b>	$-3.56\%$	$-3.37\%$	$-5.40\%$
<b>Min</b>	$-59.91\%$	$-63.46\%$	$-77.97\%$
<b>Max</b>	$69.13\%$	$89.42\%$	$106.36\%$
<b>SD</b>	$28.00\%$	$39.06\%$	$42.53\%$
<b>Median</b>	$-5.35\%$	$-3.97\%$	$-10.07\%$
<b>% &gt; 0</b>	$37.50\%$	$39.13\%$	$44.44\%$
<b>t-value</b>	$-0.6224$	$-0.4143$	$-0.5388$
<b>Significance level</b>	n.s.	n.s.	n.s.

N corresponds to the sample size; Min, Max, SD and Median show respectively the minimum, maximum, standard deviation and the median of the cumulative abnormal returns in the event window; % > 0 represents the proportion of positive cumulative abnormal returns of the parent companies; CAAR corresponds to the cumulative average abnormal return in the respective event window; t-value calculated from the one sample t-test; \*, \*\*, and \*\*\* represent the 90%, 95%, and 99% significance levels.

In terms of statistical significance, these results are consistent with the findings of empirical studies already established in the literature. Only the study by [Cusatis et al. \(1993\)](#) was able to demonstrate a statistical significance of the generated BHAR of up to 26.7% for the parent companies. However, this study is rather outdated as it is already 35 years old. In all other empirical and much more recent studies, only non-statistically significant abnormal returns were found. The abnormal returns were positive in almost all studies and corresponding event periods. The only exception is the study by Veld and Veld-Merkoulova. However, this study is the only one that also has a geographic focus on Europe. All other studies presented have America as the country of study. For this reason, Veld and Veld-Merkoulova's study is the most appropriate to compare the results with this empirical study. In their study, Veld and Veld-Merkoulova examined 106 parent companies and found negative abnormal returns in the event periods over 12 and even 36 months of  $-0.65\%$  and  $-0.41\%$ , respectively. With a range of  $-3.37\%$  to  $-5.40\%$ , the results of this empirical study of long-term capital market performance are lower than those of Veld and Veld-Merkoulova. However, this study has a much smaller sample and looks at a much more recent time frame compared to the Veld and Veld-Merkoulova study. In contrast to most of the literature presented, this empirical study of the European capital market achieves exclusively negative and statistically non-significant BHAAR of up to  $-5.40\%$ . The following [Figure 8](#) shows the pattern of BHAAR over the entire time horizon, broken down by month of the empirical investigation.

It can be observed that the BHAAR are almost exclusively in the negative range over the investigation period. The only exception is the eleventh month. There, the BHAAR reach an average value of  $2.31\%$ . The reason why the parent



**Figure 8.** BHAAR per month; Source: own depiction based on data from Refinitiv.

company generates positive abnormal returns in this month of all months is not clear from the data set and theoretical basis. Shown as a light blue line in the graphic, a trendline has been added to clarify the trends of the abnormal returns. This trendline always moves between  $-3.00\%$  and  $-4.00\%$  over the months but shows a slightly positive character.

Hypothesis 2 can be rejected. The parent companies consistently generate negative abnormal returns on the European capital market in all event periods, which are in addition not statistically significant. Hence, according to the empirical study conducted, it is not possible for the parent company to achieve long-term abnormal returns after implementing a spin-off. The results of this empirical study of the parent companies therefore speak for the validity of the efficient market hypothesis on the European capital market.

After rejecting hypothesis 2, the examination of the spin-off company's long-term capital market performance follows.

The following **Table 6** presents the results of the empirical investigation of the long-term capital market performance of the spin-off company from the date of implementation of the spin-off transaction.

The sample size varies in this study of long-term capital market performance. Unlike the parent companies, the sample does not comprise the 24 companies included, but only 21 spin-off companies. The reduction of the sample size right from the start is due to missing data or because they have been partially delisted, or their implementation is too recent.

**Table 6.** Results long-term performance spin-off company; Source: own depiction based on data from refinitiv.

	Event periods		
	t + 3	t + 6	t + 12
<b>N</b>	21	21	19
<b>BHAAR</b>	7.38%	11.26%	22.63%
<b>Min</b>	-44.49%	-61.23%	-57.32%
<b>Max</b>	153.48%	184.39%	180.46%
<b>SD</b>	45.66%	56.33%	64.73%
<b>Median</b>	-5.46%	0.33%	13.84%
<b>% &gt; 0</b>	38.10%	52.38%	57.89%
<b>t-value</b>	0.7402	0.9164	1.5236
<b>Significance level</b>	n.s.	n.s.	*

N corresponds to the sample size; Min, Max, SD and Median show respectively the minimum, maximum, standard deviation and the median of the cumulative abnormal returns in the event window; % > 0 represents the proportion of positive cumulative abnormal returns of the parent companies; CAAR corresponds to the cumulative average abnormal return in the respective event window; t-value calculated from the one sample t-test; \*, \*\*, and \*\*\* represent the 90%, 95%, and 99% significance levels.

In all three event periods spin-off companies generate, on average, strongly positive abnormal returns ranging from 7.38% to 22.63%. The recorded abnormal returns are only statistically significant in the third event period ( $t + 12$ ) at a significance level of 90%. In the other two event periods ( $t + 3$ ) and ( $t + 6$ ), the generated abnormal returns are not statistically significant. The average abnormal return across all three event periods is 13.76%. It is interesting to note that the abnormal returns increase with the duration of the event periods. The lowest positive abnormal returns are obtained in the first event period at 7.38% and the highest positive abnormal returns are obtained in the third event period at 22.63%. It can be concluded that abnormal returns increase consistently with increasing company continuance on the market.

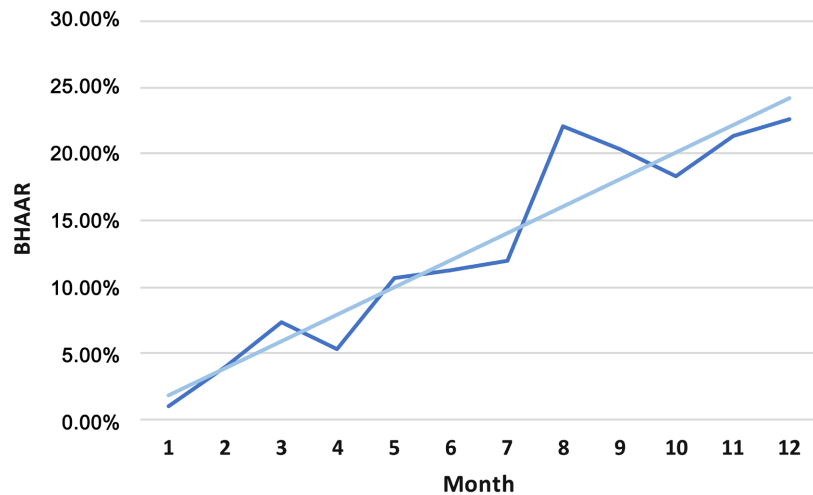
Looking at the test results, it would be beneficial for the spun-off company conducting a spin-off transaction. After the spin-off is implemented, positive abnormal returns of 22.63% can be expected within the first twelve months. These results are consistent in terms of statistical significance to the studies already established in the literature. None of the studies reach statistical significance over the event window ( $t + 6$ ). Statistical significance levels are only demonstrated from an event period of or over twelve months. The empirical research conducted in this paper also achieves statistical significance of positive abnormal returns at the 90% level during this period.

The abnormal returns of the spin-off companies studied are roughly in the range of other study results by [Desai and Jain \(1999\)](#), [McConnell et al. \(2001\)](#), [Veld and Veld-Merkoulova \(2004\)](#), and [Harris and Madura \(2010\)](#) in terms of their magnitude and the statistical significance just discussed. Due to the European focus of [Veld and Veld-Merkoulova \(2004\)](#), this study provides the best basis for comparison in combination with the timeliness of the study period. [Veld and Veld-Merkoulova \(2004\)](#) achieve similarly high abnormal returns for the event period ( $t + 6$ ). In the event period ( $t + 12$ ), the empirical study conducted here achieves higher positive abnormal returns than the Veld and Veld-Merkoulova study. The study by Veld and Veld-Merkoulova did not achieve statistical significance in any of the event periods examined.

According to the research, the explanation for spin-off firms' much greater abnormal returns in the long run compared to the parent company is that those companies that focus more on the core business create abnormal positive returns in the long run ([Desai & Jain, 1999: p. 90](#)). When the chance of success of a spin-off transaction is examined by its motivations, it is obvious that the most promising incentive for implementing a spin-off is the emphasis on the core business ([Mazur, 2015: pp. 137-138](#)). The effect is greater for the spun-off firms themselves since they are smaller and have a greater degree of focus on their core business when they join the market than the corresponding parent company ([Desai & Jain, 1999: p. 90](#)).

This is supported by the observed consistently increasing abnormal returns of the spin-off companies when considering their long-term capital market performance. The following [Figure 9](#) illustrates this observation by providing an





**Figure 9.** BHAAR per month; Source: own depiction based on data from Refinitiv.

overview of the average buy-and-hold abnormal returns for months one to twelve.

The constant increase in abnormal returns is clearly visible in **Figure 9**. The BHAAR generate their lowest value of 1.01% within the first month after the implementation of the spin-off. Respectively, they reach their highest value twelve months after the spin-off at 22.63%. A trendline has been included in this chart to illustrate the constant positive increase. This trendline is shown in light blue. The graph illustrates that the longer the spin-off company has been established on the European capital market, the higher the abnormal returns achieved.

Hypothesis 3 cannot be rejected. Although the spin-off companies only generate statistically significant positive abnormal returns in the third event period ( $t + 12$ ), the detected abnormal returns are strongly positive across all event periods. Achieving long-run positive abnormal returns should generally not be possible assuming the validity of the efficient market hypothesis. However, since these have been proven in the empirical study, the results of the study speak against the validity of the efficient market hypothesis on the European capital market.

## 6. Critical Thoughts

Concerning the implementation of the empirical test, possible deficiencies will be revealed and discussed through a critical review.

To date, a relatively small number of spin-offs have been announced and executed on the European capital market compared to America. The investigation of an even more meaningful sample would require a longer observation period to adequately design the sample. With a sample size of 24 companies, this work provides a good basis for further research and its timeliness is ahead of studies already established in the literature. With the increasing number of spin-off announcements and their implementation in Europe, a solid empirical study will probably be available in a few years to provide a well-founded comparison to the

American capital market regarding this restructuring measure.

Another note is due to the conditions of the study. In all considerations the sample of companies announcing and executing a spin-off transaction is not a purely random composition. The sample was filtered according to the factors and characteristics described to obtain results that are accurate and in line with the market. A possible bias due to this adjustment of the sample was therefore accepted. The results of the study only represent an average of the short- and long-term performance of the capital market of the parent company and the spun-off company and cannot be applied to all companies. The selected benchmark is only an approximation of the composition of the sample. Not all countries included in the STOXX Europe 600 are represented in the sample. It is not a perfect match and may therefore create potential biases.

The amount of information and data on spin-off announcements and their subsequent implementation in Europe freely available on the Internet is relatively limited. This is due to the still relatively low presence of this restructuring measure on the European capital market. The density of information on the spin-off announcements and transactions on the American capital market is much more extensive. Only the Merger & Acquisition database of the data provider Refinitiv was used for data retrieval. Some companies could not be integrated into the study due to the lack of the relevant data. With access to several data sources, more meaningful results of the empirical research could be achieved.

The research results of the long-term analysis of both the parent companies and the spun-off companies should be critically scrutinized. Despite extensive research regarding confounding events and other market influences, the results may be influenced by changes in the general economic environment as well as by the general competitive environment on the European capital market. The test results are less accurate and more difficult to interpret, as it cannot be ensured that the abnormal returns generated are due to the spin-off implementation event.

Finally, the methodology of the event studies is not free of criticism. The biggest criticism of event studies listed in the literature is the fact that event studies assume a high degree of information efficiency. This circumstance is not always the case in the capital markets. The market model used to estimate expected returns is often criticized in the literature.

## 7. Executive Summary

The aim of this paper was to explain the theoretical basis of spin-offs, to review the already established studies on the topic and to present own empirical results of financial research. Especially for the European capital market, there is still a lack of empirical studies. This paper complements the existing literature in that the period of investigation is significantly more recent and the density of long-term studies on the European capital market with respect to the performance of spin-offs is increased.

A review of the formulated hypotheses showed indications of partly strong price reactions in the European capital market to the announcement and to the actual implementation. The empirical study conducted here arrives at a positive reaction to the announcement of a spin-off. Even if the average positive price reaction to the announcement of a spin-off can be interpreted as value-enhancing, it should be noted that this is only an announcement effect.

Parent companies generate significantly positive abnormal returns ranging from 2.63% to 4.84% around the announcement date. The CAAR on short-term capital market performance is 3.40%. It is interesting to note that the average abnormal return is significantly positive on days 9 and 4 before the actual spin-off announcement. Based on these findings, it is impossible to show beyond reasonable doubt, that stock prices in the run-up to the announcement systematically include knowledge about the upcoming future event.

If the impact of the spin-off transaction on the European capital market is considered both at the level of the parent company and at the level of the spun-off company, a much more differentiated picture of the research results emerges. The parent companies achieve negative abnormal returns of  $-3.37\%$  to  $-5.40\%$  on average over the observation period after the implementation of the spin-off transaction. These results do not show any statistical significance. The reason why European parent companies generate these negative abnormal returns has not been explored in the literature to date. Neither the collected data nor the theory sheds any light on this. In contrast, according to the empirical long-term study conducted, the spun-off companies develop extremely positively after the spin-off transaction has been carried out. They generate positive abnormal returns over all event periods in a range of 7.38% to 22.63%. Abnormal returns increase with the duration of the event periods. According to the literature, the explanation for spin-off companies' much greater abnormal returns in the long run compared to the parent company is that those companies that focus more on their core business create higher abnormal positive returns in the long run.

Hypothesis 1 can therefore be accepted. Parent companies generate positive and statistically significant abnormal returns in the short run across all five event windows. It can be assumed that the announcement of a spin-off transaction is profitable for the parent company. The European capital market responds to the announcement of the spin-offs in a timely and efficient manner. The new information is processed and reflected in the share prices within a few days.

Hypothesis 2 can be rejected. The parent companies do not generate statistically significant positive abnormal returns in the long run after the spin-off transaction is implemented. On the contrary, negative abnormal returns are measured on average over the three different event periods. This fact makes the actual implementation of the spin-off detrimental to the parent company. The findings of this study support the validity of the efficient market theory on the European capital market.

Hypothesis 3 cannot be rejected. The identified abnormal returns are highly positive throughout all event periods, even though the spin-off company only ge-

nerates statistically significant positive abnormal returns in the third event period ( $t + 12$ ). Given the validity of the efficient market theory, generating long-term positive abnormal returns should be impossible. The outcomes of the study testify against the validity of the efficient market hypothesis on the European capital market.

To conclude, the announcement of a spin-off transaction has strong positive effects on the parent company. In contrast, the implementation of the spin-off is only profitable for the spin-off company but not for the parent company.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

## References

- Achleitner, A.-K., Bassen, A., & Wahl, S. (2003). Corporate Restructuring: Instrumente und deren Anwendung in Deutschland. *Finanz Betrieb*, 7, 432-447.
- Barber, B. M., & Lyon, J. (1997). Detecting Long-Run Abnormal Stock Returns: The Empirical Power and Specification of Test Statistics. *Journal of Financial Economics*, 43, 341-372. [https://doi.org/10.1016/S0304-405X\(96\)00890-2](https://doi.org/10.1016/S0304-405X(96)00890-2)
- Brealey, R. A., Myers, S. C., Allen, F., & Mohanty, P. (2018). *Principles of Corporate Finance* (12 ed., Vol. 12). McGraw-Hill Education.
- Brown, S., & Warner, J. (1980). Measuring Security Price Performance. *Journal of Financial Economics*, 8, 205-258. [https://doi.org/10.1016/0304-405X\(80\)90002-1](https://doi.org/10.1016/0304-405X(80)90002-1)
- Bruner, R. (2016). *Applied Mergers and Acquisitions*. John Wiley & Sons.
- Bühner, T. (2004). *Unternehmensabsplaltungen als Wertsteigerungsinstrument: Eine empirische Untersuchung von Equity Carve-outs und Spin-offs in Europa*. Verlag Dr. Kovač.
- Burger, A., Ulbrich, P., & Ahlemeyer, N. (2010). *Beteiligungscontrolling*. Oldenbourg Wissenschaftsverlag. <https://doi.org/10.1524/9783486710281>
- Chemmanur, T. J., & Yan, A. (2004). A Theory of Corporate Spin-Offs. *Journal of Financial Economics*, 72, 259-290. <https://doi.org/10.1016/j.jfineco.2003.05.002>
- Copeland, T., Weston, J., & Shastri, K. (2008). *Finanzierungstheorie und Unternehmenspolitik: Konzepte der kapitalmarktorientierten Unternehmensfinanzierung*. Pearson.
- Cusatis, P. J., Miles, J. A., & Randall Woolridge, J. (1993). Restructuring through Spinoffs: The Stock Market Evidence. *Journal of Financial Economics*, 33, 293-311. [https://doi.org/10.1016/0304-405X\(93\)90009-Z](https://doi.org/10.1016/0304-405X(93)90009-Z)
- DePamphilis, D. (2014). *Mergers, Acquisitions, and Other Restructuring Activities*. Academic Press.
- Desai, H., & Jain, P. (1999). Firm Performance and Focus: Long-Run Stock Market Performance Following Spinoffs. *Journal of Financial Economics*, 54, 75-101. [https://doi.org/10.1016/S0304-405X\(99\)00032-X](https://doi.org/10.1016/S0304-405X(99)00032-X)
- Fama, E. F. (1998). Market Efficiency, Long-Term Returns, and Behavioral Finance. *Journal of Financial Economics*, 49, 283-306. [https://doi.org/10.1016/S0304-405X\(98\)00026-9](https://doi.org/10.1016/S0304-405X(98)00026-9)
- Feldman, E. (2015). Corporate Spinoffs and Analysts' Coverage Decisions: The Implications for Diversified Firms. *Strategic Management Journal*, 35, 1446-1463.

- Glaum, M., & Hutzschenreuter, T. (2010). *Mergers & Acquisitions: Management des externen Unternehmenswachstums*. Kohlhammer.
- Glaum, M., Lindemann, J., & Friedrich, N. (2006). Erfolg von Mergers & Acquisitions. In B. Wirtz (Ed.), *Handbuch Mergers & Acquisitions Management* (pp. 287-316). Springer.
- Harris, O., & Madura, J. (2010). Cause and Effects of Poison Pill Adoptions by Spinoff Units. *Journal of Economics and Business*, 62, 307-330.  
<https://doi.org/10.1016/j.jeconbus.2010.01.003>
- Hennings, R. (1995). *Die Börseneinführung von Tochtergesellschaften. Entscheidungsproblem im Konzern*. Deutscher Universitätsverlag.  
<https://doi.org/10.1007/978-3-322-97703-8>
- Hungenberg, H. (2014). *Strategisches Management in Unternehmen: Ziele-Prozesse-Verfahren*. Springer-Verlag. <https://doi.org/10.1007/978-3-658-06681-9>
- Jansen, S. (2016). *Mergers & Acquisitions. Unternehmensakquisitionen und -kooperationen. Eine strategische, organisatorische und kapitalmarkttheoretische Einführung*. Gabler.
- Khorana, A., Shivdasani, A., Stendevad, C., & Sanzhar, S. (2011). Spin-Offs: Tackling the Conglomerate Discount. *Journal of Applied Corporate Finance*, 23, 90-101.  
<https://doi.org/10.1111/j.1745-6622.2011.00355.x>
- Kreutter, P., Savelberg, A. H., & Weigand, J. (2007). Spin-Offs und die Evolution von Industrien. In H. Pechlaner, H. H. Hinterhuber, W. von Holzschuher, & E. Hammann (Eds.), *Unternehmertum und Ausgründung* (pp. 165-196). Deutscher Universitätsverlag.  
[https://doi.org/10.1007/978-3-8350-9541-0\\_9](https://doi.org/10.1007/978-3-8350-9541-0_9)
- Leinwand, P., & Mainardi, C. (2012). *The Coherent Conglomerate*. Harvard Business Review. <https://hbr.org/2012/06/the-coherent-conglomerate>
- Lucks, K., & Meckl, R. (2015). *Internationale Mergers & Acquisitions. Der prozessorientierte Ansatz*. Springer Gabler. <https://doi.org/10.1007/978-3-662-46896-8>
- Mazur, M. (2015). Creating M&A Opportunities through Corporate Spin-Offs. *Journal of Applied Corporate Finance*, 27, 137-143.
- McConnell, J. J., Ozbilgin, M., & Wahal, S. (2001). Spin-Offs, Ex Ante. *The Journal of Business*, 74, 245-280. <https://doi.org/10.1086/209672>
- McIvor, R. (2007). Outsourcing and the Spin-off Arrangement: Lessons from a Utility Company. *Journal of General Management*, 33, 51-70.  
<https://doi.org/10.1177/030630700703300104>
- Michaely, R., & Shaw, W. (1995). The Choice of Going Public: Spin-Offs vs. Carve-Outs. *Financial Management*, 24, 5-21.
- Mitchell, M. L., & Stafford, E. (2000). Managerial Decisions and Long-Term Stock Price Performance. *The Journal of Business*, 73, 287-329. <https://doi.org/10.1086/209645>
- Murray, L. (2008). Spin-Offs in an Environment of Bank Debt. *Journal of Business Finance & Accounting*, 35, 406-433. <https://doi.org/10.1111/j.1468-5957.2008.02088.x>
- Ostrowski, O. (2008). *Erfolg durch Desinvestitionen. Eine theoretische und empirische Analyse*. Gabler.
- Rasmussen-Bonne, H.-E. (2011). Ausgründung. In W. Weitnauer (Ed.), *Handbuch Venture Capital: Von der Innovation zum Börsengang* (pp. 228-237). C. H. Beck.
- Rüdisüli, R. (2005). *Value Creation of Spin-Offs and Carve-Outs*. Ph.D. Thesis, University of Basel.
- Schultze, G. (1998). *Der Spin-Off als Konzernspaltungsform*. Peter Lang.
- Solactive (2022). *Solactive Global Spin-off Performance-Index*.

---

[https://www.solactive.com/wp-content/uploads/solactiveip/de/Factsheet\\_\(de\)\\_DE00S LA4GS4.pdf](https://www.solactive.com/wp-content/uploads/solactiveip/de/Factsheet_(de)_DE00S LA4GS4.pdf)

Sudarsanam, P., & Qian, P. (2007). *Catering Theory of Corporate Spinoffs: Empirical Evidence from Europe*. <https://doi.org/10.2139/ssrn.891101>

Sudarsanam, S. (2003). *Creating Value from Mergers and Acquisitions*. Pearson Education.

Tübke, A. (2004). *Success Factors of Corporate Spin-Offs*. Springer. <https://doi.org/10.1007/b106639>

Veld, C., & Veld-Merkoulova, Y. V. (2004). Do Spin-Offs Really Create Value? The European Case. *Journal of Banking & Finance*, 28, 1111-1135. [https://doi.org/10.1016/S0378-4266\(03\)00045-1](https://doi.org/10.1016/S0378-4266(03)00045-1)

Vollmar, J. (2014). *Spin-Offs, Diversifikation und Shareholder Value*. Springer. <https://doi.org/10.1007/978-3-658-06559-1>

Wachtell, Lipton, Rosen, & Katz (2020). *Spin-Off Guide*. Harvard Law School Forum on Corporate Governance. <https://www.wlrk.com/wp-content/uploads/2020/05/Spin-Off-Guide-2020.pdf>

## Appendix

**Table A1.** Location of parent company.

Parent Company	Announcement Day	Implementation day	Spin-off company	Location Parent Company
SeaBird	24.11.20	23.03.21	Green Minerals AS	Belgium
Moberg Pharma	06.11.20	12.02.21	OncoZenge AB	Sweden
Peab AB	27.08.20	11.12.20	Annhem Fastigheter AB	Sweden
2invest AG	17.08.20	17.08.20	4basebio AG-Genomics & DNA Manufacturing Business	Germany
Renalytix AI	28.04.20	03.11.20	Verici DX Ltd	UK
Allgeier SE	05.11.19	16.12.20	Nagarro SE	Germany
Continental	02.09.19	16.09.21	Vitesco Technologies Group AG	Germany
Travis Perkins	31.07.19	28.04.21	Wickes Group PLC	UK
Navamedic ASA	14.05.19	04.11.19	Observe Medical ASA	Norway
Electrolux	31.01.19	23.03.20	Electrolux Professional AB	Sweden
Schibsted ASA	18.09.18	10.04.19	Adevinta ASA	Norway
AP Moller-Maersk	20.08.18	04.04.19	AP Moller-Maersk A/S-Maersk Drilling Business	Denmark
Euroseas	23.05.18	31.05.18	EuroDry Ltd	Greece
MTG AB	23.03.18	28.03.19	Nordic Entertainment Group AB	Sweden
Kering	11.01.18	11.01.18	PUMA SE	France
Atlas Copco	16.01.17	18.06.18	Epiroc (Atlas Copco AB-Mining & Civil Engineering Business)	Sweden
NKT A/S	11.09.17	12.10.17	Nilfisk (NKT A/S-Cleaning Equipment Business)	Denmark
Getinge AB	18.10.16	12.12.17	Arjo (Getinge AB-Patient & Post-Acute Care Business)	Sweden
Esure	13.09.16	03.11.16	Gocompare.com Holdings Ltd (delisted!)	UK
SCA	24.08.16	15.06.17	Essity AB	Sweden
Snam SPA	29.06.16	07.11.16	Italgas Reti SpA (delisted)	Italy
Digia OYJ	16.12.15	02.05.16	Qt group Oyj	Finland
NCC AB	26.11.15	09.06.16	Bonava AB	Sweden
Anevia	23.04.15	23.04.15	Allegro DVT SAS-Broadcast Business (delisted)	France