

Do corporate divestitures create shareholder value? A comparison of spin-offs and sell-offs on the European market

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Abstract

Do corporate divestitures create shareholder value, and if so, why? By applying event study methodology, this paper analyses the short-term and long-term abnormal returns of spin-offs and sell-offs that were announced between January 1998 and December 2016 by European companies. Besides the motive to increase corporate focus, the paper investigates how the merger activity of spun-off entities affects the mean long-term returns. Furthermore, I analyse sell-offs as a measure to improve a company's financial healthiness. Announcements of spin-offs and sell-offs yield significant cumulative average abnormal returns of 1.96% and 0.85%, respectively. Post-divestiture, the spun-off entities yield mean long-term returns of 32.05%. Entities experiencing merger activity yield returns of 40.70%. Sell-offs are likely to be motivated by financial distress and are sufficient to significantly improve liquidity and solvency post-divestiture.

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1. Introduction

Do corporate divestitures create shareholder value, and if so, why? Corporate divestitures describe the sale of a firm's asset and are an important corporate finance instrument to restructure and strengthen a company (Joy, 2018). Despite the economic relevance of divestitures, they receive only moderate attention in the academic literature. The relevance even increases as the society and economy currently face a severe pandemic and its consequences. Thus, the subject remains a relevant research topic.

Many papers perform event studies to empirically investigate the above-mentioned research question. While most of them do find evidence that the announcement of divestitures positively affects shareholder value (Boudreaux, 1975; Hite & Owers, 1983; Schipper & Smith, 1983; Miles & Rosenfeld, 1983; Alexander, Benson & Kampmeyer, 1984; Rosenfeld, 1984; Cusatis, Miles & Woolridge, 1993; John & Ofek, 1995; Berger & Ofek, 1995; Krishnaswami & Subramaniam, 1999; Mulherin & Boone, 2000; Dittmar & Shivdasani, 2003; Veld & Veld-Merkoulova, 2004; Teschner & Paul, 2020), few studies find evidence that the stock-price reactions are not always positive and significant (Lang, Poulsen & Stulz, 1995; Daley, Mehrotra & Sivakumar, 1997; Desai & Jain, 1999; Boreiko & Murgia, 2016). These latter studies find that certain conditions need to be fulfilled so that the announcement of divestitures positively influences the shareholder value. Daley et al. (1997) and Desai & Jain (1999), for example, illustrate that only the announcements of cross-industry, and thus focus-increasing, spin-offs yield positive and significant stock-price reactions.

Despite the minor exceptions in the empirical findings with respect to the stock-price behavior around the announcement date illustrated above, there is, in general, the consensus in academic literature that corporate divestitures create shareholder value in most cases. However, the underlying hypotheses for the creation of shareholder value, and therefore the answer to the question, why they create shareholder value, differ among the studies. Because of the broad spectrum of hypotheses for the reasons behind shareholder value creation and the contradictions that arise from it, the questions whether corporate divestitures create shareholder value and why they create value remain relevant. In addition, most of the academic literature focuses on divestitures on the U.S. market and only few studies investigate transactions that occurred on other markets.¹ Thus, especially the investigation of markets other than the U.S. is critical to

¹ For examples that use U.S. data, be referred to Boudreaux (1975), Hite & Owers (1983), Schipper & Smith (1983), Miles & Rosenfeld (1983), Alexander et al. (1984), Rosenfeld (1984), Cusatis et al. (1993), John & Ofek (1995), Berger & Ofek (1995), Allen, Lummer, McConnell & Reed (1995), Michaely & Shaw (1995), Slovin,

determine if the empirical findings of the U.S.-related studies also hold in other markets. Boreiko & Murgia (2016), for example, argue that the differences in firms' ownership structure and corporate governance between European and U.S. corporations may result in different reasonings for divesting a business unit.

Following Boreiko & Murgia's argument, this paper focuses on corporate divestitures on the European market and thus contributes to the relative lack of Europe-related studies. By following the approaches of relevant U.S.-related studies, I test whether their empirical findings of positive and significant shareholder value creation also hold in the European market. In doing so, I analyse divestitures in the form of spin-offs and sell-offs and compare their characteristics, short-run, and long-run performance throughout this research.

In addition to answering the question, if spin-offs and sell-offs create shareholder value, this paper aims to answer the question, why spin-offs and sell-offs create shareholder value. To answer this question, I test three general hypotheses, namely the corporate focus hypothesis, the merger activity hypothesis, and the financing hypothesis. The corporate focus hypothesis states that corporate divestitures create value by increasing a firm's focus on its core operating activity and therefore eliminating diseconomies of scale (John & Ofek, 1995). The test of the corporate focus hypothesis is performed in line with the approaches from Berger & Ofek (1995), John & Ofek (1995), Daley et al. (1997), Desai & Jain (1999), Dittmar & Shivdasani (2003), Veld & Veld-Merkoulova (2004), and Chemmanur, Krishnan & Nandy (2014). I apply this test to both the sample of spin-offs as well as the sample of sell-offs. Cusatis et al. (1993) argue that the spun-off entities' mean long-term returns are positively influenced by those entities that experience merger activity post-divestiture. This formulates the merger activity hypothesis, which states that spun-off entities become attractive targets and therefore create shareholder value in the long-term. I test the merger activity hypothesis by using the principles from Cusatis et al. This test only applies to the sample of spin-offs. Finally, the financing hypothesis states that sell-offs are an efficient measure to improve a company's financial healthiness. It is tested following the methodology from Lang et al. (1995) and Dittmar & Shivdasani (2003). This test only applies to the sample of sell-offs.

To test the above-mentioned hypotheses, this paper uses a data sample of spin-offs and sell-offs, which is acquired through the mergers & acquisitions database within ThomsonOne. In

Sushka & Ferraro (1995), Daley et al. (1997), Desai & Jain (1999), Krishnaswami & Subramaniam (1999), Mulherin & Boone (2000), Chemmanur & Paeglies (2001), Gertner, Powers & Scharfstein (2002), Wruck & Wruck (2002), Dittmar & Shivdasani (2003) and Ahn & Denis (2004). Veld & Veld-Merkoulova (2004), Boreiko & Murgia (2016) and Teschner & Paul (2020) study divestitures on the European market.

addition, the usage of Eikon allows the accumulation of daily return data to perform the event study around the divestitures' announcement dates. To test the merger activity hypothesis, I further collect information regarding the merger activity of spun-off entities post-divestiture through the mergers & acquisitions database within ThomsonOne. Finally, with respect to the financing hypothesis, I access annual accounting key data through the databases Worldscope and Datastream embedded in Eikon to test whether the companies' operational and financial performance motivates sell-offs.

Although the subject already enjoys moderate attention in the academic literature, this paper adds value to the recent work. By applying established research techniques to the rather less researched European market, this study tests whether the empirical findings in the past literature only apply to the U.S.-market or not. Furthermore, not only does this paper focus on "new" markets, but also uses a contemporary and most recent data set, which consists of data from almost 20 years of European corporate divestitures. Finally, this paper represents the first comparison of spin-offs and sell-offs on the European market, the first testing of the merger activity hypothesis on the European market, and the first testing of the financing hypothesis on the European market.

Announcements of spin-offs and sell-offs by European companies yield significantly positive abnormal returns of 1.96% and 0.85%, respectively. Spin-offs of corporate assets that are not related to the core business yield similar abnormal returns of 1.95%. Focus-increasing spin-offs do not generate significantly larger returns than non-focus-increasing spin-offs. This also applies to sell-offs. A direct comparison of spin-offs and sell-offs shows that spin-offs appear to yield significantly larger abnormal returns.

Post-divestiture, the spun-off entities yield mean long-term returns of 32.05%. Those entities that experience merger activity during the three years after the realization of the spin-off yield slightly higher returns of 40.70%. Contrary to Cusatis et al. (1993), however, the returns are not significantly larger than the mean long-term returns of those entities that do not experience any merger activity.

With respect to the sell-off sample, liquidity shows a decreasing trend and solvency deteriorates significantly pre-divestiture, implying that the parent companies' poor financial health might motivate sell-offs. Post-divestiture, liquidity and solvency significantly improve in the long term, thereby indicating that most parent companies seem to utilize sell-offs as a measure to increase the financial strength. Furthermore, those companies that use the proceeds from the sell-off to reduce outstanding debt generate significantly larger mean long-term returns than those companies that use the proceeds for other purposes.

The paper proceeds as follows. I describe the theoretical framework for answering the central questions in Section 2. In particular, the characteristics of spin-offs and sell-offs are elaborated in more detail, respectively. Furthermore, I explain the theoretical motives for divestitures, including the previously mentioned hypotheses for why divestitures may be value-enhancing, and put these hypotheses into context. Eventually, I derive the relevant hypotheses that shall be tested in this paper. In section 3, I describe the sample and the applied methodology to test the hypotheses. Section 4 illustrates the empirical results of this research. Section 5 concludes.

2. Theoretical framework

2.1. *Spin-offs vs. sell-offs*

In general, corporate divestitures represent the sale or disposition of a corporation's asset and, like mergers & acquisitions, are a measure to adjust the firm's portfolio of assets (Joy, 2018). Following Joy, the broad term *corporate divestiture* can be divided into the specific forms of divestitures, namely sell-offs, spin-offs, spin-merges, asset trades, management buyouts, and total liquidations. These types of divestitures not only differ in their key characteristics but to some extent also in their motives as they follow different purposes. Throughout this paper, I solely focus on spin-offs and sell-offs and therefore do not explain the theoretical rationale behind the other forms. I use the terms *corporate divestiture*, just *divestiture* or *divestment* to refer to both spin-offs and sell-offs, but not to the four other types of divestitures, if not expressed differently.

Spin-offs represent transactions, in which the divested corporate unit becomes a separate publicly-traded company, whereas the shares of the new company are distributed to the shareholders of the parent firm proportionately (Rosenfeld, 1984; Joy, 2018). Sell-offs describe the sale of a division, business unit, or asset to a third party and are the most frequent type of corporate divestitures (Joy, 2018). Hence, for spin-offs the parents' shareholders remain in control over the divested unit, whereas sell-offs lead to the transfer of control over the divested unit from the sellers' shareholders to the buyers' shareholders. However, the most important distinction between spin-offs and sell-offs is that sell-offs involve the exchange of the sellers' assets for the buyers' cash, other operating assets, or securities, while spin-offs split up part of the corporations' assets and create a new independent company (Hite & Owers, 1983). Thus, financial constraints are likely to be a critical driver for sell-offs since they typically lead to payments in cash, while spin-offs lead to the distribution of shares and hence are unlikely to be motivated by financial issues. Furthermore, spin-offs lead to a reduction in the sellers' overall assets, while in the case of sell-offs the sellers' asset base remains unaltered since one asset is exchanged for another (Hite & Owers, 1983).

Both spin-offs and sell-offs are realized to benefit the parent firm's shareholders. The underlying motives, however, for these decisions by the corporate management are likely to be different between the two types of divestitures, partly because of the different key characteristics of spin-offs and sell-offs (Alexander et al., 1984). The following sub-sections explain the previously mentioned diversification discount in more detail, link the discount to the theoretical motives for divestitures, and eventually derive the hypotheses that shall be tested in this paper.

2.2. *Diversification discount*

Do corporate divestitures create shareholder value, and if so, why? Many academic studies find that corporate divestitures create shareholder value after being officially announced. This implies that especially highly diversified firms should have strong incentives to reduce their degree of diversification by shrinking the size of their portfolio of assets. Nevertheless, the proportion of diversified firms in the economy is high, which imposes the economic puzzle known as diversification discount (Anjos, 2010). Berger & Ofek (1995) quantify this discount and find that, on average, diversified firms sacrifice 13% to 15% of market value due to their diversification. Thus, the diversification discount represents the starting position for the subject of corporate divestitures. The understanding of corporate divestitures and its motives requires the understanding of the diversification discount. If something like a diversification discount exists on the market, we need to ask why diversified firms exist in the first place.

According to Weston (1970), internal capital markets are superior to external capital markets with respect to the resource allocation. Based on this, Weston underlines that diversified firms use their resources more efficiently since they have access to a larger internal capital market. The benefits of internal capital markets increase even further, if external capital markets are relatively inefficient, which is likely to hold during recessionary periods. Thus, internal capital markets create significant value for diversified firms especially during recessions (Yan, Yang & Jiao, 2010).

Next, the combination of business lines, whose earnings are imperfectly correlated, may be beneficiary for the shareholder because it decreases the cashflow volatility, *ceteris paribus* (Lewellen, 1971). According to Dimitrov & Tice (2006), the benefits of decreased volatility vary throughout the business cycles and are the highest during recessions. In line with their argument, Dimitrov & Tice find that diversified firms have a higher performance than focused firms during recessions, which implies that diversification functions as an insurance for the company. Another effect of the lower cashflow volatility is an increase in the debt capacity compared to single-line firms (Lewellen, 1971). Shleifer & Vishny (1992) add to this argument and find that conglomerates and multi-division corporations tend to have a higher optimal degree of financial leverage, *ceteris paribus*. Thus, more diversified firms have a higher debt capacity. The higher debt capacity, in turn, implies that diversified firms can more easily access debt capital to finance their investments and may incentivize firms to increase their diversification over the long run. Lastly, a higher debt capacity increases interest tax shields, thereby creating value for the corporation (Berger & Ofek, 1995).

Smith & Coy (2018) argue that the diversification discount may be caused by a short-term firm-level mispricing. Consistently, they find evidence that the long-term fundamental value alleviates the short-term mispricing and therefore diversification may increase shareholder value over the long run. This would explain why many corporations keep diversifying in contradiction to the prevailing diversification discount.

Further possible explanations for the emergence of diversified firms are the search for growth opportunities by poorly performing firms (Lang & Stulz, 1994), irrational managers that hope to privately benefit from diversification (Campa & Kedia, 2002), CEO overconfidence and the resulting systematic overestimation of investment returns (Malmendier & Tate, 2005), managerial economies of scale (Chandler, 1977), and the believe to increase the productivity (Schoar, 2002).

While the previously mentioned theoretical literature illustrates possible reasons for the emergence of multi-division firms, Anjos (2010) develops a stationary real options model to show why the diversification is not reversed, although divestitures may increase shareholder value. Anjos illustrates two opposing sides in the context of multi-division firms. On the one side, diversified firms may face negative synergies at some point. On the other side, the realization of spin-offs incurs costs as well. Thus, a diversified firm only re-focuses and performs restructuring measures, if the costs associated with negative synergies exceed the costs associated with spinning-off part of the assets.

Despite the value-enhancing effects of diversification, conglomerates also face value-reducing effects (Berger & Ofek, 1995). Possible costs of diversified firms are cross-subsidies, which lead to an inefficient internal capital allocation as better-performing segments must offset poor-performing segments' losses (Meyer, Milgrom & Roberts, 1992). Furthermore, as the number of divisions increases, the costs induced by the information asymmetry between central and divisional management are likely to increase as well (Myerson, 1982; Harris, Kriebel & Raviv, 1982).

Several empirical studies find evidence that the value-reducing effects exceed the value-enhancing effects and hence diversified firms trade at a discount (e.g., Lang & Stulz, 1994; Berger & Ofek, 1995). Nevertheless, the academic literature does not reach consensus whether diversification itself destroys shareholder value or if the discount is due to other endogenous characteristics (Erdorf, Hartmann-Wendels, Heinrichs & Matz, 2013). It is straightforward, however, that the diversification discount and the motives for divestitures are somehow interrelated. Thus, in the following sub-section, I present the theoretical motives for divestitures.

2.3. *Motives for divestitures*

Under the assumption of complete and perfect markets, corporate divestitures should not affect shareholder value, unless the shareholders expect that either the divestiture yields an increase in future net cashflows or, in the case of sell-offs, the sale price exceeds the present value of future net cashflows from the divested business unit (Rosenfeld, 1984). This raises the question, why the divestment of a business unit should positively affect future net cashflows, eventually resulting in the creation of shareholder value.

According to Hite & Owers (1983) and Rosenfeld (1984), divestitures create value if the combined operation of the parent firm and the subsidiary creates negative synergies or diseconomies of scale. The divestment of assets then leads to the elimination of the negative synergies and diseconomies of scale, and hence creates value for the shareholders. Cusatis et al. (1993) strengthen this argument as they find that top management classifies the existence of negative synergies between the parent firm and the subsidiary as well as a lack of strategic fit as one of the most common drivers for divestment decisions. Further motives cited by top management are regulatory obligations that enforce a separation of the parent and the subsidiary, the believe that the sum of the parent's and subsidiary's individual market valuation exceeds their combined market valuation, and a relatively high operating risk of the subsidiary (Cusatis et al., 1993).

Another criterion is the prior unit performance. Corporate managers have the incentive to divest poor performing divisions, since, on the one side, they indicate the managers' inability to operate the divisions efficiently, and on the other side, underperforming divisions may provoke cross-subsidies and thus lead to an inefficient internal capital allocation (Kolev, 2016). Chemmanur et al. (2014) further elaborate on the inefficient internal capital allocation and present the improved capital allocation hypothesis, which contradicts the argumentation from Weston (1970), who states that diversified firms' internal capital markets are superior to external capital markets with respect to the resource allocation. Following Chemmanur et al., the internal capital markets do not always guarantee an efficient capital allocation between the several divisions. They argue that as diversification increases, it becomes more likely that capital flows from well-performing divisions to poor-performing divisions, resulting in an inefficient usage of capital. Thus, corporate divestitures may be motivated by the existence of distortions in the capital allocation, and consequently create value through the mitigation of these distortions.

Furthermore, the efficient deployment hypothesis may explain the reasons for divestitures, particularly for sell-offs. Lang et al. (1995) and Maksimovic & Phillips (2001) argue that managers may decide to engage in sell-offs as soon as another party has a comparative advantage in the management of these assets. Consequently, the assets are allocated more efficiently, which increases the productivity and results in gains for both the sellers and the buyers. Cusatis et al. (1993) apply the same logic to the realm of spin-offs, indicating that the creation of value is caused by a shift of assets to higher-valued uses.

Like the efficient deployment hypothesis, the contracting efficiency hypothesis argues that a transfer of assets is desirable and creates value, if it allows for the exploitation of comparative advantages. According to Jensen & Meckling (1976), Myers (1977), and Smith & Warner (1979) a firm consists of a set of contracts, which influences the shareholder value. However, this set of contracts amongst others depends on the industry a firm is operating in and the essence of existing assets. In the case of highly diversified firms, it is likely that the set of contracts for the combined operations is suboptimal as the industries and the essence of assets from the several divisions may differ significantly and therefore prevent the implementation of a set of contracts that suits all the divisions' individual specifics. Separating the parent and the subsidiary would allow both parties to implement a specialized set of contracts in line with their respective comparative advantages (Hite & Owers, 1983). From shareholders' perspective, spin-offs are a very efficient measure to implement specialized sets of contracts since the control over the divested unit is maintained. Nevertheless, the contracting efficiency hypothesis may also motivate sell-offs.

Next to this, Kolev (2016) states that industrial organizational economics may play a role in the decision-making process to divest corporate assets. Following this argument, corporate divestitures are strategic decisions, that are affected by the respective industry structures. Precisely, Kolev names the environmental uncertainty and low environmental munificence as two critical drivers for corporate divestitures.² An increase in the environmental uncertainty is likely to reduce the managers' ability to monitor the complex structures of diversified firms, and thus tends to increase the costs of corporate governance. Divestments increase the focus on the firms' core activities and simplify the internal structures, thereby mitigating the costs caused by the environmental uncertainty. Opposed to that, low environmental munificence results in resource scarcity, increased competition, threats of hostile behavior, and the risk of reduced

² The environmental munificence describes the degree of accessibility of resources within the environment. A steel company, for example, is dependent on the accessibility of iron ore as raw material for the production process. A low accessibility challenges the status quo of a company.

profits. Consequently, managers may have the incentive to cut operational costs and engage in restructuring activities, such as corporate divestitures.

With respect to spin-offs, the literature on agency theory offers alternative motives. Schipper & Smith (1983) argue that diversified firms are likely to induce agency costs. As diversification increases, shareholders have more difficulties to evaluate the individual divisions' managerial performance since they can only perceive the stock price movements for the combined business units. Hence, spin-offs create value for the shareholder as they allow for a better monitoring of the spun-off division and thus reduce the agency costs. Krishnaswami & Subramaniam (1999) formulate this argumentation as the information hypothesis. The information hypothesis states that diversified firms are prone to information asymmetry about the individual divisions' performances. Information asymmetry means that two parties, here management and shareholders, possess different information with one party having an advantage in accessing and processing information, namely the management. Spin-offs then create shareholder value because they mitigate the information asymmetry. Consistently, Krishnaswami & Subramaniam find that most of the CEOs, that undertake a spin-off, are convinced that spin-offs are value-enhancing because they allow shareholders to process firm-related information more clearly. In line with that, Aron (1991) argues that spin-offs create value because the share of the new independently traded firm is a more precise market measure that mirrors the productivity of only one division and therefore increases the accuracy of information. Furthermore, Krishnaswami & Subramaniam (1999) find evidence that corporations that divest assets through spin-offs have a higher level of information asymmetry than their counterparts.

The reduction of information asymmetry as motive for divestitures especially applies to spin-offs. Due to the informational advantage, the management tends to have a more accurate opinion regarding the firm's market value. If the shareholders do not value the firm as high as the management because of a lack of information, the management may have the incentive to reduce the information asymmetry so that shareholders perceive the true market value more easily. The finding by Krishnaswami & Subramaniam (1999), that CEOs engaging in spin-offs believe that the firm is currently undervalued, underlines this reasoning. Since the CEOs believe that the firm is undervalued, selling the assets is not an appropriate measure to increase shareholder value. A spin-off, however, is convenient because the assets are not being sold. Further, the shareholders remain in control over the spun-off assets and therefore benefit if the market appreciates the increased accuracy of information processing.

The following section explains the theoretical rationale behind the three hypotheses that I focus on throughout the rest of the paper and eventually derives the hypotheses that shall be tested.

2.4. *Hypotheses*

2.4.1. *Corporate focus hypothesis*

The corporate focus hypothesis states that an increase of corporate focus due to the divestment of non-related business units generates shareholder value because it improves the managerial efficiency, thereby improving the operating performance (Chemmanur et al., 2014). A corporate divestiture is defined as focus-increasing if the parent company and the divested business unit have different two-digit Standard Industry Classification (SIC) codes (Veld & Veld-Merkoulova, 2004). Since the divestment of non-related business units decreases the level of diversification within a firm, the corporate focus hypothesis is strongly related to the previously explained diversification discount. Initially, the discount itself implies that increasing the corporate focus creates shareholder value since it reduces the degree of diversification and ultimately reduces the discount.

Berger & Ofek (1995) put the corporate focus and the diversification discount into relation and estimate diversification's consequences on the corporations' market value. According to them, diversified firms trade at a discount of 13% to 15% during 1986-1991, caused by overinvestment and cross-subsidies. Further, Berger & Ofek reveal that the degree of corporate focus, measured by the two-digit SIC codes, negatively correlates with the diversification discount. This evidence implies that an increase in corporate focus reduces the diversification discount and thus creates shareholder value. Berger & Ofek (1999) augment the research on the relation between diversification discount and corporate divestitures and find that the magnitude of the diversification discount positively correlates with the probability of divestiture. Consequently, Berger & Ofek's findings lay the foundation for the corporate focus hypothesis and indicate the importance of corporate focus for shareholder value.

John & Ofek (1995) argue that sell-offs of non-related assets allow for operating the core business more efficiently and thereby create value. Based on this, they research the impact of focus-increasing divestments on the long-term operating performance of the firm's persisting assets. John & Ofek find evidence that predominantly focus-increasing divestitures lead to improvements in the operating performance. Furthermore, the short-term created shareholder value is larger for focus-increasing divestments than for non-focus-increasing divestments.

Lastly, the evidence found by John & Ofek indicates that the corporate focus hypothesis as motive for divestitures is superior to other motives, such as strategic or liquidity-related aspects, which underlines the importance of the corporate focus hypothesis.

Daley et al. (1997) apply a similar reasoning as John & Ofek (1995) to the realm of spin-offs and find supporting evidence that focus-increasing spin-offs significantly improve the operating performance of the remaining assets, while non-focus-increasing spin-offs do not have an influence on the operating performance. Thus, both John & Ofek (1995) and Daley et al. (1997) ascribe the source of the value creation through focus-increasing divestments to the performance improvements. Based on this, Daley et al. further specify the corporate focus hypothesis. They argue that focus-increasing divestments may lead to performance improvements because these divestments mitigate negative synergies. Since the managers possess specialized skills in line with the firm's core activities, their set of skills may not be appropriate to manage the non-related business efficiently, leading to negative synergies. The divestment of non-related assets then removes these negative synergies and allows management to solely focus on the core activities, thereby increasing the operating efficiency.

While Daley et al. (1997) only investigate short-term returns of spin-offs, Desai & Jain (1999) also focus on the long-term stock market performance after the occurrence of spin-offs. Just like Daley et al., Desai & Jain propose that focus-increasing divestitures create shareholder value because they diminish the heterogeneity of assets under management and thus increase the managers' operating efficiency. However, Desai & Jain argue that the effect of divestments on managers' operating efficiency is only fully realized in the long run. Consequently, Desai & Jain add value to the research from Daley et al. by investigating both the short-term and the long-term effects of focus-increasing spin-offs compared to non-focus-increasing spin-offs. In line with the previously presented literature, Desai & Jain find that focus-increasing spin-offs generate significantly larger shareholder value than non-focus-increasing spin-offs both in the short run and in the long run. Their finding with respect to the operating performance is similar, i.e., focus-increasing spin-offs yield significantly larger performance improvements than non-focus-increasing spin-offs.

Furthermore, Desai & Jain (1999) emphasize that the clear consensus in the academic literature that focus-increasing divestitures are superior to non-focus-increasing divestitures raises the question why managers should have an incentive to divest core-related business units. To answer this question, they investigate whether the firms' liquidity influences the decision to divest core-related assets. Desai & Jain do not find evidence that the degree of financial leverage

or financial distress explain the occurrence of non-focus-increasing divestitures. They find that the motive for this type of divestitures rather is to cut underperforming units.

In line with Berger & Ofek (1995), Dittmar & Shivdasani (2003) argue that the diversification discount is due to value-reducing investments and cross-subsidies, leading to an inefficient capital allocation within the firm. Accordingly, Dittmar & Shivdasani predict that an increase in corporate focus creates value because it improves the investment policy and ensures a more efficient capital allocation between the remaining business units. While the previously presented papers focus on the operating performance as measure for the consequences of divestitures (John & Ofek, 1995; Daley et al., 1997, Desai & Jain, 1999), Dittmar & Shivdasani use the changes in the divisional investment policies post-divestiture as medium for testing the effects of focus-increasing divestments.

Dittmar & Shivdasani (2003) find supporting evidence that divestitures tend to reduce the diversification discount and tend to improve the investment policy. This evidence suggests that the diversification discount to some extent can be explained by the existence of inefficient investment policies within diversified firms. Most importantly, their results are in favour of the hypothesis that an increase in corporate focus allows for a more efficient management of the firm's remaining assets.

Veld & Veld-Merkoulova (2004) are the first to test the corporate focus hypothesis on the European market during 1987 to 2000. Consistent with the above-mentioned studies for the US, Veld & Veld-Merkoulova find that spin-offs create significant value and that the value creation from focus-increasing spin-offs is significantly larger than from non-focus-increasing spin-offs. In contradiction to Cusatis et al. (1993) and Desai & Jain (1999), they find little evidence for a superior long-run stock market performance post-divestiture compared to matching firms.

Veld & Veld-Merkoulova (2004) go one step further and analyse whether an increase of the geographical focus has an impact on the shareholder value. However, they do not find a significant relationship between geographical focus and shareholder value, and thus the industrial focus remains as critical factor of value creation.

Erdorf et al. (2013) conduct a meta-analysis on the academic literature about the relation between corporate diversification and firm value. Based on their findings, they give several predictions about the influences of diversification on shareholder value. First, firms that diversify into related businesses tend to be more valuable than firms that invest into unrelated diversification. This prediction is consistent with the corporate focus hypothesis as divestitures of unrelated business generate more value than divestitures of related business. Second, Erdorf et al. state that diversified firms should have an advantage during recessionary periods, because

their large internal capital markets create a comparative advantage during these times. This implies that the extent of the diversification discount varies throughout the business cycles. Since there is strong evidence for the relation between the diversification discount and the shareholder value creation through corporate divestitures, this could imply that also the magnitude of shareholder value creation through corporate divestitures varies throughout the business cycles. Thus, I expect that focus-increasing corporate divestitures create less value during recessionary periods.

Chemmanur et al. (2014) add to the academic literature by investigating the drivers of operating performance improvements that are observed post-divestiture. To better understand the precise drivers of overall operating performance, they use plant-level data to measure the plants’ total factor productivity pre- and post-divestiture. Furthermore, Chemmanur et al. differentiate between the impact of spin-offs on the parent firm’s productivity and on the spun-off entity’s productivity. Throughout the research they find that spin-offs in general immediately yield a higher total factor productivity (TFP) that persists in the long run. In the case of spun-off entities, the TFP improvements are larger for unrelated entities than for related entities, which is in line with the corporate focus hypothesis. In addition, Chemmanur et al. find that cuts in costs, not increases in output, are mainly responsible for the improved TFP. This suggests that the improved managerial efficiency due to focus-increasing divestitures predominantly allows for a more efficient cost management and thereby creates shareholder value.

Summing up, the corporate focus hypothesis receives high attention in the academic literature, which reflects its importance in the economy. Table 1 and 2 summarize the results of several studies that test the corporate focus hypothesis for spin-offs and sell-offs, respectively.

Table 1. Prior research: Cumulative average abnormal returns of focus- and non-focus-increasing spin-offs at announcement date

The table shows the methodology of prior research papers as well as their empirical results for spin-off announcements, distinguished between focus- and non-focus-increasing spin-offs if applicable. Except from Desai & Jain (1999), who use control samples, abnormal returns are calculated with the market model. The event and estimation windows vary between the papers. The research from Veld & Veld-Merkoulova (2004) offers the highest comparability because the parameter event window, estimation window, and market are identical to this paper. Asterisks indicate significance at the 10% - (*), 5% - (**), and 1%- (***) level.

Reference	Event window	Estimation window	Market	Cumulative average abnormal returns		
				Overall	Focus-increasing	Non-focus-increasing
Schipper & Smith (1983)	-1 to 0	-280 to -161	USA	2.84%***	-	-

Rosenfeld (1984)	-1 to 0	-150 to -31	USA	5.56%***	-	-
Daley et al. (1997)	-1 to 0	-1 to 0	USA	3.40%***	4.30%***	1.40%
Desai & Jain (1999)	-1 to 1	-365 to -2	USA	3.84%***	4.45%***	2.17%***
Veld & Veld-Merkoulova (2004)	-1 to 1	-220 to -21	Europe	2.66%***	3.57%***	0.76%
Prezas & Simonyan (2015)	-1 to 1	-255 to -46	USA	4.30%***	-	-

Table 2. Prior research: Cumulative average abnormal returns of focus- and non-focus-increasing sell-offs at announcement date

The table shows the methodology of prior research papers as well as their empirical results for sell-off announcements, distinguished between focus- and non-focus-increasing sell-offs if applicable. Abnormal returns are calculated with the market model. The event and estimation windows vary between the papers. Unfortunately, only Dittmar & Shivdasani (2003) express the CAARs of the sub-samples focus-increasing and non-focus-increasing. Asterisks indicate significance at the 10%- (*), 5%- (**), and 1%- (***) level.

Reference	Event window	Estimation window	Market	Cumulative average abnormal returns		
				Overall	Focus-increasing	Non-focus-increasing
Rosenfeld (1984)	-1 to 0	-150 to -31	USA	0.0233***	-	-
John & Ofek (1995)	-2 to 0	-250 to -6	USA	0.0150***	-	-
Lang et al. (1995)	-1 to 0	-250 to -50	USA	0.0141***	-	-
Dittmar & Shivdasani (2003)	-1 to 1	-220 to -20	USA	0.0340***	0.0350***	0.0340***
Prezas & Simonyan (2015)	-1 to 1	-255 to -46	USA	0.0135***	-	-
Teschner & Paul (2020)	-1 to 1	-202 to -3	DACH ¹⁾	0.0159***	-	-

¹⁾ DACH is the abbreviation for the countries Germany, Austria, and Switzerland.

For both spin-offs and sell-offs, the researchers find that divestitures yield significantly positive returns at announcement date. Furthermore, some of the papers explicitly estimate the CAAR of focus-increasing divestitures and find empirical evidence in favour of the corporate focus hypothesis. Consequently, I aim to test the hypothesis in a European context by using a comprehensive and most recent data set on both spin-offs and sell-offs. Based on the prevailing theoretical rationale behind the corporate focus hypothesis, I derive the following hypotheses that shall be tested throughout the course of this paper:

H_{0a}: The announcement of corporate divestitures does not create shareholder value.

H_{1a}: The announcement of corporate divestitures does create significantly positive shareholder value.

H_{0b}: An increase in corporate focus due to divestitures does not affect short-term shareholder value.

H_{1b}: An increase in corporate focus due to divestitures does positively affect short-term shareholder value.

H_{0c}: The effects' magnitude of focus-increasing divestitures and non-focus-increasing divestitures on short-term shareholder value does not differ significantly.

H_{1c}: The effect's magnitude of focus-increasing divestitures on short-term shareholder value is significantly larger than the effect's magnitude of non-focus-increasing divestitures.

After elaborating on the corporate focus hypothesis, I present the merger activity hypothesis in the next sub-section and again derive the respective hypotheses that shall be tested.

2.4.2. Merger activity hypothesis

The merger activity hypothesis receives much less attention than the corporate focus hypothesis and solely applies to spin-offs as divestiture type. Nevertheless, it appears that the hypothesis has a high explanatory power regarding the motives for divestitures and therefore shall be discussed in this paper. The merger activity hypothesis states that "(...) spinoffs, by dividing a company into separate businesses and thereby effectively creating pure plays for prospective bidders, create value by providing a relatively low-cost method of transferring control of corporate assets to acquiring firms" (Cusatis et al., 1993, p. 294).

Following their argumentation, Cusatis et al. (1993) test the hypothesis by evaluating the parents' and spun-off entities' stock returns over up to three years after the spin-off.

Cusatis et al. (1993) find that both spun-off entities and their parents generate significantly positive abnormal returns in the three years post-divestiture. Furthermore, they reveal that the parties involved in a spin-off tend to experience a significantly higher merger activity than a control sample, which supports the merger activity hypothesis. Most importantly, however, Cusatis et al. find that the significantly positive abnormal returns are driven by the spin-offs that experience a takeover during the three years post-divestiture. After dividing the sample of spin-offs into spin-offs experiencing merger activities and spin-offs not experiencing merger activities, the data shows that those involved in takeovers yield significantly higher returns than those not involved in takeovers. Thus, the evidence indicates that only spin-offs that experience merger activities generate significant shareholder value. Consequently, the finding from Cusatis et al. that merger activity mainly affects shareholder value post-divestiture underlines the relevance of the merger activity hypothesis.

In line with Cusatis et al., I argue that spin-offs are an efficient measure to increase merger activity, whereas I define merger activity as an activity in which the spun-off entity acts as

target, and thereby creates long-term shareholder value. In this paper, I focus on the mean long-term returns of spun-off entities and test whether they are driven by spin-offs that experience merger activity during the three years post-divestiture. Thus, I state the following hypotheses:

H_{0a}: The shareholder value created by spun-off entities engaging in merger activity does not differ significantly from the shareholder value created by spun-off entities not engaging in merger activity.

H_{1a}: The shareholder value created by spun-off entities engaging in merger activity is significantly larger than the shareholder value created by spun-off entities not engaging in merger activity.

This paper is the first to test the merger activity hypothesis on the European market by following a similar approach as Cusatis et al. (1993) and therefore adds value to the academic literature. After elaborating on the merger activity hypothesis, I present the financing hypothesis in the next sub-section and again derive the respective hypotheses that shall be tested.

2.4.3. Financing hypothesis

Lang et al. (1995) argue that the increase in operating efficiency post-divestiture is not the only motive for asset sales. They formulate the financing hypothesis, which states that firms with high leverage and/or poor performance have the motive to divest part of their assets through sell-offs to generate additional funds and strengthen the financial position if this is the cheapest source of financing. This motive only applies to sell-offs since spin-offs do not involve cash transactions.

Lang et al. (1995) investigate the financing hypothesis in their research and expect that sell-offs send positive signals to the market and therefore create shareholder value. This argumentation follows the same logic as Rosenfeld (1984), who states that under the assumption of complete and perfect markets, sell-offs only create value, if the sale price exceeds the present value of future net cashflows from the divested business unit. Consistently, Lang et al. hypothesise that a sell-off would not have taken place, if the criterium presented by Rosenfeld is not met, and thus any realized sell-off must lead to a positive market signal.

In line with the financing hypothesis, Lang et al. (1995) find evidence that firms engaging in sell-offs are likely to perform poorly and/or to have a high level of leverage. This evidence suggests that the decision to divest through a sell-off is motivated by the firm's poor financial

situation. Furthermore, Lang et al. reveal that the magnitude of created shareholder value depends on the intended purpose of the proceeds that were generated through the divestiture. In detail, Lang et al. differentiate between firms that use the proceeds to decrease debt and firms that keep the proceeds within the firm for other purposes. They find significantly positive returns for firms that use the proceeds for debt repayments, while firms that maintain the sale proceeds within the firm generate negative and insignificant returns.

The findings by Lang et al. (1995) strictly contradict the previously presented efficient deployment hypothesis, which states that managers decide to engage in sell-offs as soon as another party has a comparative advantage in the management of these assets (Lang et al., 1995; Maksimovic & Phillips, 2001).

Dittmar & Shivdasani (2003) do not only relate the corporate focus hypothesis to the firms' investment policy, but also investigate the financing hypothesis. They argue that sell-offs improve the firms' liquidity and enable them to pursue profitable investments that would not have been feasible without the additional funds. Based on this, Dittmar & Shivdasani state that the financing hypothesis predicts that pre-divestiture financially constrained divisions increase their investments post-divestiture. This yields an improvement in the efficiency of the firms' investment policies, thereby creating value for the shareholders. The findings from Dittmar & Shivdasani are consistent with the financing hypothesis and suggest that sell-offs positively affect the efficiency of firms' investment policies.

Because of the strong evidence from Lang et al. (1995) and Dittmar & Shivdasani (2003) in favour of the financing hypothesis, the financing hypothesis, next to the corporate focus hypothesis, seems to belong to the most relevant drivers for sell-offs and therefore is further investigated in this paper. To verify whether the findings from the two papers also hold in the European market, I derive the following hypotheses that shall be tested throughout this paper.

H_{0e}: One year prior to the announcement the profitability of firms undertaking a sell-off does not differ significantly from the profitability five years prior to the announcement.

H_{1e}: One year prior to the announcement firms undertaking a sell-off do have a significantly worse profitability than five years prior to the announcement.

H_{0l}: One year prior to the announcement the liquidity of firms undertaking a sell-off does not differ significantly from the liquidity five years prior to the announcement.

H_{1l}: One year prior to the announcement firms undertaking a sell-off do have a significantly worse liquidity than five years prior to the announcement.

H_{0g}: One year prior to the announcement the solvency of firms undertaking a sell-off does not differ significantly from the solvency five years prior to the announcement.

H_{1g}: One year prior to the announcement firms undertaking a sell-off do have a significantly worse solvency than five years prior to the announcement.

H_{0h}: The shareholder value creation of firms that use the proceeds to reduce the outstanding debt and of firms that utilize the proceeds for other purposes during the three years post-divestiture does not differ significantly.

H_{1h}: Firms that use the proceeds to reduce the outstanding debt create significantly larger shareholder value during the three years post-divestiture than firms that utilize the proceeds for other purposes.

3. Data and methodology

3.1. Data and sample selection

3.1.1. Description of the data source

The predominant data source is *ThomsonOne*, which collects financial data from annual reports, as well as data about corporate deals such as mergers & acquisitions, IPOs, and most importantly corporate divestitures. It mainly contains data about listed corporations. The advantage over other databases is, that ThomsonOne also includes data about European deals. I obtain samples of spin-offs and sell-offs through the mergers & acquisitions database embedded in ThomsonOne. To test the merger activity hypothesis, I use the same database to complement the spin-off sample with information regarding the merger activity of spun-off entities during the three years post-divestiture.

I collect the daily returns as well as the annual accounting figures *Operating Margin*, *Interest Coverage Ratio*, *Net Cash*, *Cash*, *Debt-to-Equity*, and *Debt-to-Total-Assets* for the sample through the database *Eikon*. Eikon grants access to the databases from *Datastream*, *Worldscope* and ThomsonOne.

3.1.2. Sample selection

In this research I focus on spin-offs and sell-offs on the European market, that took place between January 1998 and December 2016. I deliberately choose this time frame for two reasons. First, to receive a high and most recent sample. Second, to include two significant shocks, that may have affected the deal behaviour of the corporations, namely the so-called *dot-com bubble* in 2000 and the financial crisis in 2007-2008. I do not include announcements after 2016 because I also test the long-run performance post-divestiture and intend to use the same sample throughout the three general hypotheses.

Through the mergers & acquisitions database you receive an initial sample of 336 spin-offs after applying the following sample criteria:

- (i) Target Ultimate Parent Nation: include Europe.
- (ii) Target Ultimate Parent Public Status: include Public
- (iii) Date Announced: Between 01/01/1998 to 31/12/2016.
- (iv) Deal Status: Include Completed.
- (v) Acquisition technique: Include Spin-offs.

Point (i) ensures that the parent company is located on the European market. Further, point (ii) ensures that the parent company is publicly traded. Point (iii) sets the time frame. With point (iv) I ensure that only completed spin-offs are included in the sample as this study also tests the long-term performance of the spun-off entities. Lastly, (iv) guarantees that out of any corporate deals, only spin-offs are included.

In the next step, I exclude samples with incomplete data. Furthermore, if a parent company is ultimately owned by a company in the financial sector with primary SIC codes 60-69, it is excluded because they may follow different strategies and have motives other than the motives presented in the theoretical framework. Table 3 indicates the transition from an initial sample of 336 spin-offs to the final sample of 116 transactions to test the corporate focus hypothesis and to the final sample of 106 transactions to test the merger activity hypothesis.

Table 3. Adjustments of initial spin-off sample

This table indicates the amount of excluded spin-off samples, differentiated between the reasons for the exclusion. Predominantly, missing data within the database *ThomsonOne* leads to the exclusion of samples.

Initial sample	336
Exclusion due to	
- missing data within ThomsonOne	-173
- missing data within Eikon	-27
- ultimate parent company belongs to financial sector	-20
Final sample corporate focus hypothesis	116
- missing data within Eikon	-10
Final sample merger activity hypothesis	106

The sample selection for sell-offs follows the same approach. Through the mergers & acquisitions database you receive an initial sample of 2,375 sell-offs after applying the following sample criteria:

- (i) Acquiror ultimate parent nation: include Europe.
- (ii) Target ultimate parent nation: include Europe.
- (iii) Target ultimate parent public status: include public.
- (iv) Date announced: between 01/01/1998 to 31/12/2016.
- (v) Percent of shares acquired in transaction: between 100 to 100.
- (vi) Deal attitude: exclude hostile.
- (vii) Deal status: include completed.
- (viii) Deal synopsis: include “subsidiary”, “division”, “unit”, “selloff”, “sell-off”.
- (ix) Consideration sought: include assets
- (x) Consideration offered category: include cash.

The reasoning for (ii), (iii), (iv), and (vii) is identical to the reasoning presented in the context of spin-offs. Point (i) ensures that not only the seller, but also the acquirer is located on the European market. Point (v) guarantees that sell-offs, for which the seller keeps a stake, are excluded. Hostile sell-offs are excluded through (vi), since they are not in line with the theoretical motives presented before. Criteria (viii) shall help to increase the accuracy of filtering for sell-offs. Eventually, the points (ix) and (x) ensure that only sell-offs are included, for which assets from the seller are traded against cash from the acquirer. Because I also analyse the financing hypothesis in this paper, it is crucial that sell-offs involve the exchange against cash.

Again, I exclude samples with incomplete data and samples that belong to the financial sector in the next step. Table 4 indicates the transition from an initial sample of 2,375 sell-offs to the final sample of 1,485 transactions to test the corporate focus hypothesis and to the final sample of 905 transactions to test the financing hypothesis.

Table 4. Adjustments of initial sell-off sample

This table indicates the amount of excluded sell-off samples, differentiated between the reasons for the exclusion. Predominantly, missing data within the database *ThomsonOne* leads to the exclusion of samples.

Initial sample	2,375
Exclusion due to	
- missing data within ThomsonOne	-75
- missing data within Eikon	-202
- ultimate parent company belongs to financial sector	-613
Final sample corporate focus hypothesis	1,485
- missing data within Eikon	-580
Final sample financing hypothesis	905

3.2. Methodology

3.2.1. Corporate focus hypothesis

To test the corporate focus hypothesis, I analyse a sample of European spin-offs and sell-offs during the period from January 1998 to December 2016. Table 5 and Table 6 present the annual and the geographical distribution of the spin-off sample and the sell-off sample, respectively. Table 5 shows that with 28% the UK is strongly represented in the spin-off sample. Sweden and Russia with 16% and 8%, respectively, also have a rather high proportion within the sample. In the European spin-off sample from Veld & Veld-Merkoulova (2004) with 44% the UK and with 13% Sweden also have the highest and the second-highest proportion in the sample, respectively. Since Veld & Veld-Merkoulova exclude Eastern European countries, Russia is

not represented. Nevertheless, it seems that in the UK and in Sweden spin-offs as a measure to divest part of the business are rather popular. With 35 (30%) and 34 (29%) announcements, the spin-off sample shows a concentration during the period from 1998 to 2001 and from 2006 to 2008, respectively. This could be related to the dot-com bubble and the financial crisis that were emerging during these periods.

Table 5. Spin-off announcements by year and country

This table shows the distribution of European companies that announced a spin-off in the period from January 1998 to December 2016 by announcement year and country of the parent company. The source of the announcements is the ThomsonOne Mergers and Acquisitions Database. Countries are denoted as follows: UK for United Kingdom, SWE for Sweden, RUS for Russia, FIN for Finland, FRA for France, GER for Germany, NOR for Norway, CH for Switzerland, ITA for Italy, NL for Netherlands, BEL for Belgium, POR for Portugal, Others for Cyprus, Denmark, Ireland, Luxembourg, and Spain.

Year	UK	SWE	RUS	FIN	FRA	GER	NOR	CH	ITA	NL	BEL	POR	Others	Total
1998	5	3	0	0	0	1	1	0	0	2	0	0	0	12
1999	3	1	0	1	0	1	0	1	0	0	1	0	0	8
2000	5	1	0	1	0	0	0	0	0	0	0	0	0	7
2001	2	1	0	0	4	0	0	1	0	0	0	0	0	8
2002	2	0	0	0	0	0	0	0	0	1	0	0	0	3
2003	1	0	0	0	0	0	1	0	1	0	0	0	1	4
2004	2	0	0	3	0	1	0	0	0	0	0	0	1	7
2005	1	2	0	1	0	0	0	0	1	0	1	0	1	7
2006	5	4	1	0	0	0	1	1	0	0	0	1	0	13
2007	4	1	7	0	1	0	2	0	0	0	0	0	1	16
2008	1	1	0	0	0	0	0	1	0	0	0	1	1	5
2009	1	0	0	0	0	0	0	0	0	0	0	0	0	1
2010	0	1	0	0	1	0	0	0	1	1	0	0	1	5
2011	1	0	0	0	0	0	1	1	0	0	0	0	0	3
2012	0	0	0	0	0	1	0	0	0	0	0	0	2	3
2013	0	0	0	1	0	0	0	0	0	0	0	0	1	2
2014	0	0	0	0	1	1	0	1	1	0	0	0	1	5
2015	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2016	0	2	1	0	0	1	0	0	1	0	0	0	1	6
Total number of observations	33	18	9	7	7	6	6	6	5	4	2	2	11	116

Like within the spin-off sample, Table 6 shows that the UK with 50% is most heavily represented in the sell-off sample and therefore accounts for half of the total sample. The UK is followed by France, Germany, Spain, and Sweden with proportions of 8%, 8%, 5%, and 5%, respectively. With 675 announcements, accounting for 45% of the overall sell-off sample, the sample shows a strong concentration in the period from 1998 to 2001. It could be possible that this disproportionately high representation is related to the dot-com bubble that was emerging during this time. Furthermore, the annual distribution shows a consistently decreasing trend

with a spike in 2007. Again, it could be possible that this spike is related to the financial crisis as external factor. In conclusion, both the geographical and annual distribution of sell-offs is quite disproportionate.

Table 6. Sell-off announcements by year and country

This table shows the distribution of European companies that announced a sell-off in the period from January 1998 to December 2016 by announcement year and country of the parent company. The source of the announcements is the ThomsonOne Mergers and Acquisitions Database. Countries are denoted as follows: UK for United Kingdom, FRA for France, GER for Germany, ESP for Spain, SWE for Sweden, NL for Netherlands, ITA for Italy, NOR for Norway, DNK for Denmark, FIN for Finland, BEL for Belgium, CH for Switzerland, Others for Austria, Bulgaria, Cyprus, Czech Republic, Estonia, Greece, Hungary, Iceland, Ireland, Luxembourg, Poland, Portugal, Romania, Russia, and Turkey.

Year	UK	FRA	GER	ESP	SWE	NL	ITA	NOR	DNK	FIN	BEL	CH	Others	Total
1998	154	9	10	9	9	5	2	3	2	2	0	2	4	211
1999	107	13	9	4	7	4	3	6	2	1	2	4	9	171
2000	88	15	9	5	4	9	5	6	3	2	1	3	6	156
2001	76	13	11	6	7	6	4	2	2	2	3	2	3	137
2002	58	6	10	9	5	4	6	3	2	1	3	1	6	114
2003	49	11	11	9	7	4	4	3	3	1	5	1	8	116
2004	38	10	5	7	7	4	6	4	4	4	2	0	8	99
2005	34	6	7	6	5	6	6	2	1	4	2	2	8	89
2006	29	11	13	6	7	4	8	1	1	3	3	2	8	96
2007	40	15	10	6	3	7	3	4	5	4	3	2	10	112
2008	25	11	1	2	3	3	4	4	4	3	1	3	4	68
2009	26	1	11	7	3	1	0	2	3	0	0	1	7	62
2010	4	0	1	1	2	0	0	0	0	0	0	0	0	8
2011	4	0	2	0	2	1	0	0	0	0	0	0	1	10
2012	7	1	2	0	1	1	1	1	1	0	0	1	2	18
2013	3	0	1	0	0	0	0	1	0	0	0	1	0	6
2014	0	0	3	0	0	0	0	0	1	0	0	0	2	6
2015	0	0	1	1	0	0	0	0	0	0	0	0	0	2
2016	1	1	0	0	0	1	0	0	0	0	0	0	1	4
Total number of observations	743	123	117	78	72	60	52	42	34	27	25	25	87	1,485

I denote the cumulative average abnormal return (CAAR) at announcement date as dependent variable throughout the analysis of the corporate focus hypothesis. The CAAR functions as estimation of the shareholder wealth effects due to corporate divestitures. To calculate the CAAR, I accumulate daily return data through Eikon. Furthermore, I winsorize the bottom and top 5% of the spin-off sample and the bottom and top 7.5% of the sell-off sample to mitigate skewness and kurtosis. As independent variables I use the following variables.

Focus. The variable Focus is a dummy variable, which equals one if the sell-off is focus-increasing and zero otherwise. Beforehand, I separate the overall sample of spin-offs and sell-

offs into the sub-populations *focus-increasing* and *non-focus-increasing*, respectively. A corporate divestiture is defined as focus-increasing if the parent company and the divested business unit have different two-digit SIC-codes.

Transaction Value. The variable Transaction Value reflects the market value of the sold-off entity at announcement date. It is denoted in million US-Dollar. To mitigate skewness and kurtosis, I use the logarithm of Transaction Value in the linear regressions. The source of data is the mergers & acquisitions database within ThomsonOne.

Relative Size. The variable Relative Size equals the Transaction Value in relation to the enterprise value of the parent company at announcement date, denoted as Enterprise Value. The Enterprise Value is given in million US-Dollar. To mitigate skewness and kurtosis, I winsorize the bottom and top 5% of the spin-off sample and the bottom and top 10% of the sell-off sample. The source of data is the mergers & acquisitions database within ThomsonOne.

Table 7 and Table 8 show the descriptive statistics of the spin-off sample and the sell-off sample, respectively. The total spin-off sample of 116 transactions is composed of 66 focus-increasing and 50 non-focus-increasing spin-offs.

Table 7. Descriptive statistics of the spin-off sample

This table shows descriptive statistics for the overall spin-off sample as well as for the two sub-populations *focus-increasing* and *non-focus-increasing*. The cumulative average abnormal return and the Relative Size have been winsorized for the bottom and top 5% of the sample to mitigate skewness and kurtosis.

Variable	Obs.	Mean	Median	Std. Dev.	Skewness	Kurtosis
<i>(A) Spin-offs</i>						
Cumulative average abnormal return ¹⁾	116	0.0196	0.0107	0.0581	0.4952	2.6917
Logarithm of Transaction Value	116	6.5790	6.4844	1.8110	-0.4161	3.0180
Relative Size	116	0.7524	0.7499	0.3447	0.5606	3.1011
<i>(B) Focus-increasing spin-offs</i>						
Cumulative average abnormal return ¹⁾	66	0.0195	0.0141	0.0585	0.6039	2.9026
Logarithm of Transaction Value	66	6.4057	6.1359	1.7076	-0.2041	2.7886
Relative Size	66	0.7653	0.7228	0.3374	0.6081	3.2952
<i>(B) Non-focus-increasing spin-offs</i>						
Cumulative average abnormal return ¹⁾	50	0.0198	0.0101	0.0582	0.3485	2.4070
Logarithm of Transaction Value	50	6.8078	6.9534	1.9328	-0.6990	3.3879
Relative Size	50	0.7353	0.7653	0.3568	0.5240	2.8775

¹⁾ Shows the cumulative average abnormal return for the event window [-1,1]

As illustrated in Table 8, the total sell-off sample of 1,485 transactions consists of 892 focus-increasing sell-offs and 593 non-focus-increasing sell-offs.

For both spin-offs and sell-offs, the distribution of focus-increasing and non-focus-increasing divestitures indicates that parent companies seem to favour the divestment of business units that are unrelated to the core business.

Table 8. Descriptive statistics of the sell-off sample

This table shows descriptive statistics for the overall sell-off sample as well as for the two sub-populations *focus-increasing* and *non-focus-increasing*. The cumulative average abnormal return and the Relative Size are winsorized for the bottom and top 7.5% and 10% of the sample, respectively, to mitigate skewness and kurtosis.

Variable	Obs.	Mean	Median	Std. Dev.	Skewness	Kurtosis
<i>(A) Sell-offs</i>						
Cumulative average abnormal return ¹⁾	1,485	0.0085	0.0028	0.0418	0.4781	2.7501
Logarithm of Transaction Value	1,485	3.2159	3.1108	2.1819	0.0026	2.5775
Relative Size	1,485	0.1463	0.0353	0.2177	1.5612	3.9617
<i>(B) Focus-increasing sell-offs</i>						
Cumulative average abnormal return ¹⁾	892	0.0085	0.0034	0.0399	0.4758	2.8581
Logarithm of Transaction Value	892	3.0912	3.0663	2.2001	-0.0630	2.5227
Relative Size	892	0.1288	0.0277	0.2049	1.7748	4.7754
<i>(B) Non-focus-increasing sell-offs</i>						
Cumulative average abnormal return ¹⁾	593	0.0087	0.0021	0.0444	0.4747	2.5816
Logarithm of Transaction Value	593	3.4023	3.1997	2.1428	0.1235	2.5877
Relative Size	593	0.1728	0.0526	0.2334	1.2920	3.0985

¹⁾ Shows the cumulative average abnormal return for the event window [-1,1]

Following the generality of academic literature, I apply event study methodology to calculate the CAAR and thereby estimate the shareholder wealth effects due to corporate divestitures. The underlying assumption of event studies is the semi-strong efficient market hypothesis, which means that all public information is incorporated in the security prices. This implies that investors are not able to realize an abnormal return higher than the market return since security prices already mirror all available information. The announcement of a corporate divestiture then poses new public information, that is not yet incorporated in the security prices. Due to the emergence of new information, investors might change their expectations and thus their valuations accordingly. Eventually, security prices adjust in line with the change in investors' expectations (MacKinlay, 1997).

The abnormal return captures the shareholder wealth effects caused by the corporate divestiture (Teschner & Paul, 2020). It is given as the difference between the normal return and the actual return after the announcement, whereas the normal return is defined as the expected

return previously to the announcement. Following the definition from MacKinlay (1997), for firm i and event date t the abnormal return is measured by

$$AR_{it} = R_{it} - E(R_{it}|x_t) \quad (1)$$

where AR_{it} , R_{it} , and $E(R_{it}|x_t)$ indicate the abnormal, actual, and normal return respectively. x_t represents the conditioning information for the normal return model, which approximates the expected return previously to the announcement. In line with most of the previous event studies, throughout this paper, I use the market model where x_t represents the market return. This shall allow for more accurate comparisons with earlier studies.

The market model supposes a linear relationship between the market portfolio's return and the return of any security. MacKinlay (1997) defines the market model for any security i as

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (2)$$

$$E(\varepsilon_{it} = 0) \quad \text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_i}^2$$

where R_{it} and R_{mt} equal the return of security i and market portfolio m , respectively, at point t . ε_{it} equals the zero mean disturbance and α_i , β_i , and $\sigma_{\varepsilon_i}^2$ represent the market models' parameters. In this paper, I use the MSCI Europe (Symbol: MSEROP\$) as approximation for the market portfolio since it is one of the largest European indices.

To estimate the market models' parameters, an ordinary least square (OLS) regression is used. The estimation window equals the 200 trading days from day -220 to day -21 prior to the announcement. This aims to reduce potential estimation errors without ignoring recent parameter changes. Most importantly, however, this approach ensures that the estimation period and the event window do not overlap and therefore prevents that the actual event effect biases the model parameters.

In conclusion, the market model measures the abnormal return of security i at time t as follows

$$AR_{it} = R_{it} - E(R_{it}|x_t) = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt}), \quad (3)$$

where the parameters are in line with the previous definitions.

To quantify the total event effect, the abnormal returns of the days included in the event window need to be accumulated over time. I define three event windows. The first event window is defined as the three $([-1,1])$ days surrounding the announcement. Although event studies assume semi-strong efficient capital markets, the trading day just before the announcement is included to account for potential information leakages. The day after the announcement of the divestiture is considered for two reasons. First, divestitures may be

announced after the closing of the stock market, thereby shifting the point of time at which abnormal returns are realized. Second, in the case of overreactions at t_0 , the next day may account for market corrections (Teschner & Paul, 2020). In addition, I define two further event windows, namely $[-3,3]$ and $[-5,5]$ to analyse to what extent the abnormal returns alter when the event window increases. The timeline is further illustrated in Figure 1.

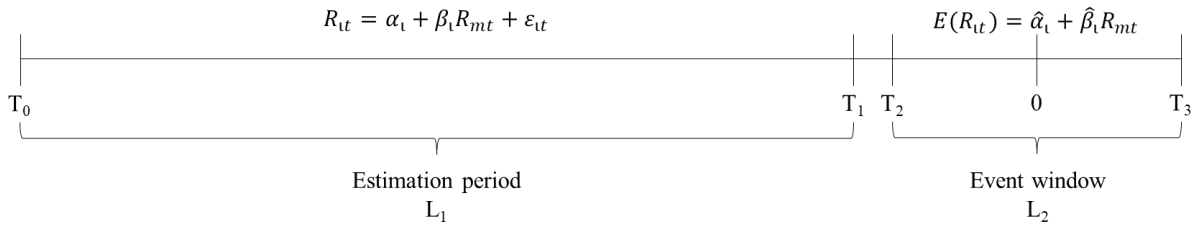


Figure 1. Timeline of the event study

Adapted source: Teschner & Paul (2020).

The cumulative abnormal return (CAR) is then measured as

$$CAR_{i,(T_2,T_3)} = \sum_{t=T_2}^{T_3} AR_{it}. \quad (4)$$

Besides the accumulation over time, abnormal returns must be accumulated across the securities to make conclusions for the event of corporate divestitures. In line with the approach from Teschner & Paul (2020), I assume an equally weighted portfolio of divesting firms at the respective event dates. Consequently, the average abnormal return (AAR) is given as

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it}, \quad (5)$$

where N equals the sample size, and the other parameters are in line with the previous definitions. Eventually, the cumulative average abnormal return (CAAR) as indicator of primary interest can be derived as

$$CAAR_{(T_2,T_3)} = \frac{1}{N} \sum_{i=1}^N CAR_{it}. \quad (6)$$

I perform several statistical tests to analyse the CAARs for the spin-off and sell-off sample as well as for the respective sub-populations of focus-increasing and non-focus-increasing divestitures. In detail, I perform one-sided one-sample t-tests to test whether the CAARs of divestitures in general, focus-increasing, and non-focus-increasing divestitures are significantly positive. Whether the CAARs of focus-increasing divestitures are significantly greater than the

CAARs of non-focus-increasing divestitures is tested by one-sided two-sample t-tests. Lastly, I perform one-sided two-sample t-tests to assess whether the CAARs of spin-offs are significantly greater than the CAARs of sell-offs.

Furthermore, I perform ordinary least square (OLS) regressions with CAAR as dependent variable and Focus, Transaction Value, and Relative Size as independent variables to test their relationship and assess whether the effect of focus-increasing divestitures might be biased by other factors such as the deals' magnitude.

3.2.2. *Merger activity hypothesis*

To test the merger activity hypothesis, I use the same sample of spin-offs as for the corporate focus hypothesis. Due to missing data, however, I exclude ten transactions, leading to a revised sample of 106 European spin-offs from January 1998 to December 2016.

First, I separate the overall sample into the two sub-populations *Acquired* and *Non-acquired*. A unit belongs to the sub-population *Acquired* if a third party acquired more than 3% of the ordinary share capital during the three years after the realization of the spin-off. Otherwise, a unit belongs to the sub-population *Non-acquired*. The information whether a third party acquired more than 3% of a spun-off entity's ordinary share capital during the three years post-divestiture, is accessed through ThomsonOne's mergers & acquisitions database. I determine the threshold of 3% in line with German law. According to § 33 of the German Securities Trading Act (WpHG), acquisitions of 3% or more of the ordinary share capital must be reported immediately to the share issuer as well as to the Federal Institution. The law follows the intention to increase transparency of the financial market and support investors. The German Federal Financial Supervisory Authority (BaFin) argues that such share acquisitions can and do influence share prices, making it necessary to ensure a sufficient information flow. I augment the argumentation and state that investors who acquire 3% or more of a company's ordinary share capital have a sincere and long-term interest in the company and, in addition, can exert influence on strategic decisions to some extent. Consequently, I argue that acquisitions of 3% or more reflect strategic investment decisions and confirm that spun-off entities became an attractive target.

Since I want to assess whether the merger activity of spun-off entities post-divestiture influences the long-term shareholder value creation, I calculate the mean long-term returns in the second step, whereas long-term is defined as the three years immediately after the realization of the spin-off. Under the assumption of a buy-and-hold investment strategy, the individual long-term returns of the spun-off entities are evaluated as follows:

$$R_{iT} = \left[\prod_{t=1}^T (1 + r_{it}) \right] - 1, \quad (7)$$

where r_{it} equals the return (share price appreciation and potential dividends) for security i at time t . The arithmetic mean of the N individual long-term returns for T periods then equals

$$\bar{R}_T = \frac{\sum_{i=1}^N R_{iT}}{N}. \quad (8)$$

If a spun-off entity stops trading during the three years post-divestiture, the long-term return is calculated based on the stock price at the last available trading day. Lastly, I winsorize the bottom and top 5% to mitigate skewness and kurtosis.

Eventually, I perform a one-sided two-sample t-test to assess whether the mean long-term return of spun-off entities that belong to the sub-population Acquired is significantly larger than the mean long-term return of spun-off entities that belong to the sub-population Non-acquired.

3.2.3. *Financing hypothesis*

To test the financing hypothesis, I use the same sample of sell-offs as for the corporate focus hypothesis. Due to missing data regarding the accounting figures, however, I exclude 580 transactions, leading to a revised sample of 905 European sell-offs from January 1998 to December 2016.

Throughout the analysis I aim to investigate whether the profitability, liquidity, and/or solvency of the parent company pre-divestiture motivates the decision to divest a part of the business through a sell-off. Therefore, I define the following variables to measure profitability, liquidity, and/or solvency.

Operating Margin. The operating profit margin measures a company's profitability, whereas a higher margin indicates a higher profitability. The ratio shows whether a company is able to generate sustainable profits, that can be reinvested into the growth of the company or used to reduce outstanding debt. It is calculated as follows:

$$\text{Operating Margin}_{it} = \frac{\text{Operating Income}_{it}}{\text{Revenues}_{it}} * 100, \quad (9)$$

where the Operating Income equals the Earnings Before Interest and Tax (EBIT). The top and bottom 5% are winsorized to mitigate skewness and kurtosis.

Cash. The variable Cash shows the balance of cash and near equivalents. It is the most liquid of all the company's assets and therefore, to some extent, measures a company's liquidity. It is denoted in US-Dollar. The logarithm of Cash is used to mitigate skewness and kurtosis.

Net Cash. Solely looking at Cash can be misleading since it does not give information about short-term debt. If short-term debt exceeds cash, money is tight and a company has a high default risk. Thus, I use Net Cash to account for a company's debt structure and thereby receive a more reliable estimation of a company's liquidity. It is denoted in US-Dollar and calculated as follows:

$$\begin{aligned} \text{Net Cash}_{it} \\ = \text{Cash}_{it} - \text{Short-term Debt \& Current Portion of Long-term Debt}_{it}. \end{aligned} \quad (10)$$

The top and bottom 10% are winsorized to mitigate skewness and kurtosis.

Interest Coverage Ratio. The variable Interest Coverage Ratio indicates a company's ability to pay the interest expenses on outstanding debt with its operating income. It therefore implies whether a company faces the risk of debt defaults. In general, a higher ratio represents a higher solvency. The ratio is calculated as follows:

$$\begin{aligned} \text{Interest Coverage Ratio}_{it} \\ = \frac{\text{Operating Income}_{it}}{\text{Interest Expenses on Outstanding Debt}_{it}}. \end{aligned} \quad (11)$$

The top and bottom 7.5% are winsorized to mitigate skewness and kurtosis.

Debt-to-Equity. The Debt-to-Equity-Ratio evaluates a company's financial leverage and therefore functions as a measure of solvency as well. On the one side, the ratio shows to what extent a company finances its business through debt. On the other side, it indicates the ability of shareholder equity to cover all outstanding debt in the case of bankruptcy. A higher ratio indicates a higher leverage and therefore a higher risk to shareholders. It is calculated as follows:

$$\text{Debt-to-Equity}_{it} = \frac{\text{Long-term Debt} + \text{Short-term Debt}_{it}}{\text{Common Equity}_{it}} * 100. \quad (12)$$

The top and bottom 5% are winsorized to mitigate skewness and kurtosis.

Debt-to-Total-Assets. Like the Debt-to-Equity-Ratio, the Debt-to-Total-Assets-Ratio is an indicator of a company's financial leverage. It shows to what extent a company finances its assets through debt. When evaluated over a few years, the ratio illustrates whether a company has financed its growth through debt or through equity. A consistently increasing ratio, therefore, could imply that a company needed to take on more and more debt to keep the business running, which, in turn, implies that the company faces an increasing risk of tight money. The ratio is calculated as follows:

$$\text{Debt-to-Total-Assets}_{it} = \frac{\text{Long-term Debt} + \text{Short-term Debt}_{it}}{\text{Total Assets}_{it}}. \quad (13)$$

The top and bottom 2% are winsorized to mitigate skewness and kurtosis.

I accumulate data of the above-mentioned variables at several points of time. This allows me to evaluate the development of the variables over time and detect potential trends. Based on the developments, I can then test whether profitability, liquidity, and/or solvency motivate corporate divestitures and, in addition, investigate the impacts on the mean long-term returns. Figure 2 illustrates the focal points in this study. Year t_{-5} is five years prior to the year of the sell-off announcement. Accordingly, Year t_{-1} is one year prior to the announcement year. Year t_0 represents the year of the sell-off announcement. Year t_{+1} reflects the year of the realization of the sell-off. This can be equal to t_0 , but not necessarily. Lastly, Year t_{+4} is three years after the realization of the sell-off.

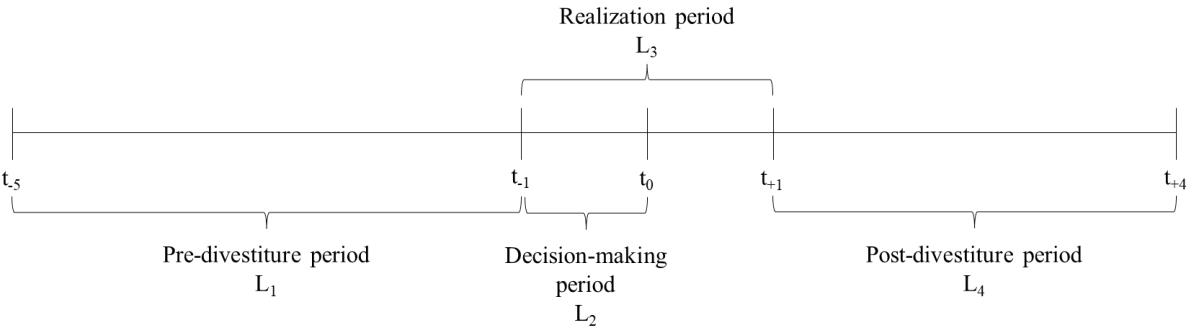


Figure 2. Focal points throughout the analysis of the financing hypothesis

Table 9 shows the descriptive statistics of the above-mentioned variables at the respective focal points of time according to Figure 2. The mean Operating Margin appears to remain at similar levels through time. Prior to the announcement of the sell-off, Net Cash shows a decreasing trend from 92,798.16 USD to 71,557.29 USD, thereby indicating a decreasing liquidity. From t_{-1} until t_{+1} , mean Net Cash increases to 254,996.40 USD, reflecting the cash inflow due to the sell-off. The variables Interest Coverage Ratio, Debt-to-Equity, and Debt-to-Total-Assets show an analogous development during the five years prior to the announcement, which implies a decreasing solvency.

Table 9. Descriptive statistics of the variables to test the financing hypothesis

This table shows descriptive statistics of the variables Operating Margin, Cash, Net Cash, Interest Coverage Ratio, Debt-to-Equity, and Debt-to-Total-Assets at the following points of time: t_{-5} = five years prior to the year of the announcement, t_{-1} = one year prior to the year of the announcement, t_0 = the year of the announcement, t_{+1} = the year of the realization of the sell-off, t_{+4} = four years after the year of the realization of the sell-off. The Operating Margin, Net Cash, Interest Coverage Ratio, Debt-to-Equity-Ratio, and Debt-to-Total-Assets-Ratio are winsorized for the bottom and top 5%, 10%, 7.5%, 5%, and 2%, respectively, to mitigate skewness and kurtosis. Further, the logarithm of Cash is used to mitigate skewness and kurtosis.

Variable	Obs.	Mean	Median	Std. Dev.	Skewness	Kurtosis
<i>(A) Profitability</i>						
Operating Margin t_{-5}	905	7.2969	6.27	6.5572	0.4410	2.5266
Operating Margin t_{-1}	905	7.5329	6.58	6.7246	0.5110	2.6942
Operating Margin t_0	905	7.3805	6.56	7.0137	0.2758	2.6715
Operating Margin t_{+1}	905	7.3817	6.56	7.0451	0.2973	2.7026
Operating Margin t_{+4}	905	7.3737	6.82	6.9948	0.3050	2.6361
<i>(B) Liquidity</i>						
Logarithm of Cash t_{-5}	905	11.3393	11.6293	2.5569	-0.8179	4.5437
Logarithm of Cash t_{-1}	905	11.7715	11.9855	2.4910	-0.6514	3.7546
Logarithm of Cash t_0	905	11.9342	11.9746	2.4560	-0.5186	3.4224
Logarithm of Cash t_{+1}	905	11.9409	11.9977	2.4346	-0.5190	3.4311
Logarithm of Cash t_{+4}	905	12.0295	12.0352	2.5533	-0.5345	3.2984
Net Cash t_{-5}	905	92,798.16	2,973.38	629,417.9	0.4609	3.2490
Net Cash t_{-1}	905	71,557.29	1,770.89	737,971.1	0.3592	3.1277
Net Cash t_0	905	218,783.30	11,709.03	938,407.7	0.8479	3.4021
Net Cash t_{+1}	905	254,996.40	13,236.84	950,673.6	0.9856	3.4893
Net Cash t_{+4}	905	480,173.80	30,474.55	1,173,198.0	1.4927	4.0687
<i>(C) Solvency</i>						
Interest Coverage Ratio t_{-5}	905	6.1731	4.364	5.4620	1.1704	3.4404
Interest Coverage Ratio t_{-1}	905	5.1645	4.101	5.2905	0.7987	3.1648
Interest Coverage Ratio t_0	905	5.0445	3.805	5.8771	0.9649	3.5170
Interest Coverage Ratio t_{+1}	905	5.1160	3.791	5.8228	1.0310	3.5864
Interest Coverage Ratio t_{+4}	905	5.7906	3.905	6.7472	1.2773	3.9791
Debt-to-Equity t_{-5}	905	84.2473	63.89	69.4122	1.1454	3.5077
Debt-to-Equity t_{-1}	905	113.9232	79.83	101.7378	1.4177	4.2102
Debt-to-Equity t_0	905	117.0409	79.41	111.2051	1.5397	4.8259
Debt-to-Equity t_{+1}	905	112.1188	78.55	101.7801	1.3573	4.1435
Debt-to-Equity t_{+4}	905	94.0242	73.41	78.5905	1.1474	3.6994
Debt-to-Total-Assets t_{-5}	905	23.3699	22.45	13.3123	0.4715	2.6833
Debt-to-Total-Assets t_{-1}	905	27.8892	26.42	14.5430	0.3481	2.4503
Debt-to-Total-Assets t_0	905	28.1098	26.19	15.1226	0.3081	2.3801
Debt-to-Total-Assets t_{+1}	905	27.9454	26.17	15.1034	0.3061	2.3940
Debt-to-Total-Assets t_{+4}	905	26.7612	25.00	14.5840	0.3355	2.5997

To test the financing hypothesis, I perform the following steps. First, I analyse the variables during the pre-divestiture period L_1 . I argue that significant deteriorations of profitability, liquidity, and/or solvency during the pre-divestiture period might motivate the parent company to divest part of the business through a sell-off to reduce the risk of debt default. Consequently, I perform one-sided paired t-tests between the variables at point t_{-5} and at point t_{-1} to assess the significance of the potential deteriorations. For this statistical comparison, I deliberately choose point t_{-1} and not t_0 , because I argue that executives start to evaluate a potential sell-off at least one year earlier to the official announcement of the corporate divestiture. Thus, only operational and financial performance indicators prior to the decision-making period play a role and might motivate the divestment decision.

Second, I analyse the development of the variables during the realization period. If the sell-off is an efficient measure to generate fundamental cash inflow, then we should see a significant improvement in liquidity during this period. Thus, I perform one-sided paired t-tests between the variables at point t_{-1} and at point t_{+1} to assess the significance of the expected improvement. I do not expect significant improvements in profitability and solvency immediately after the realization of the sell-off. Significant improvements of the Operating Margin are hardly possible as this often requires comprehensive and long-term cost-cutting programs. Furthermore, significant reductions in outstanding debt and thereby improvements in the solvency in the short run are unlikely to be beneficial. In general, the redemption of long-term debt follows a pre-defined amortization schedule. Unscheduled repayments of debt often cause prepayment penalties, which makes it preferable to comply with the amortization schedule.

Third, I extend the analysis of the variables during the realization period by the post-divestiture period to test the impact of sell-offs in the long-term. If sell-offs are an efficient measure to improve profitability, liquidity, and/or solvency, then we should see significant improvements in the above-mentioned variables during the period from t_{-1} until t_{+4} .

Finally, I perform OLS-regressions with mean long-term return as dependent variable and Operating Margin, Cash, Net Cash, Interest Coverage Ratio, Debt-to-Equity, and Debt-to-Total-Assets as independent variables. Under the assumption of a buy-and-hold investment strategy, the individual long-term returns of the firms undertaking a sell-off are evaluated based on the same approach as presented in equation (7) and (8). Likewise, I winsorize the bottom and top 5% of the long-term returns to mitigate skewness and kurtosis. The performance of the OLS-regressions aims to assess the relationship between the mean long-term returns and the independent variables. Particularly, I want to test whether companies that use the proceeds to reduce their debt significantly outperform companies that use the proceeds for other purposes.

4. Empirical results

In the following sub-sections I test the corporate focus hypothesis, the merger activity hypothesis, and the financing hypothesis in chronological order.

4.1. Corporate focus hypothesis

The corporate focus hypothesis states that an increase of corporate focus due to the divestment of non-related business units generates shareholder value. The literature offers a range of theoretical rationales for the creation of shareholder value. Following the academic literature, the main theoretical rationales for the creation of shareholder value are the reduction of the diversification discount (Berger & Ofek, 1995), improvements in the operating performance (John & Ofek, 1995; Daley et al., 1997), improvements in the managerial efficiency (Desai & Jain, 1999; Chemmanur et al., 2014), or the mitigation of inefficiencies in the internal capital allocation (Dittmar & Shivdasani, 2003). Based on this, I test the effects of focus- and non-focus-increasing spin-offs and sell-offs on shareholder value at the announcement date throughout this section. Nevertheless, to put the empirical results of focus- and non-focus-increasing divestiture announcements in context, I first test the overall effect of spin-off and sell-off announcements on shareholder value. Afterwards I test the remaining hypotheses in chronological order for both spin-offs and sell-offs. Last, I compare the results for the two types of divestitures against each other.

H_{0a}: The announcement of corporate divestitures does not create shareholder value.

H_{1a}: The announcement of corporate divestitures does create significantly positive shareholder value.

Table 10. Spin-offs' cumulative average abnormal returns at announcement date

The table shows the CAARs for the overall sample of 116 spin-off announcements by European companies from January 1998 to December 2016. The source of the announcements is the ThomsonOne Mergers and Acquisitions Database. Abnormal returns are calculated with the market model. The estimation window equals the 200 days from day -220 to day -21 prior to the announcement. The CAARs have been winsorized for the bottom and top 5% of the sample to mitigate skewness and kurtosis. Whether the CAARs are significantly greater than zero is tested by a one-sided one-sample t-test. Asterisks indicate significance at the 10% - (*), 5% - (**), and 1% - (***) level.

Event window	Mean	Std. Dev.	t-Statistic	p-Value
-1 to 1	0.0196***	0.0581	3.6384	0.0002
-3 to 3	0.0140***	0.0595	2.5288	0.0064
-5 to 5	0.0122**	0.0713	1.8364	0.0344

Table 10 shows the event study results for the spin-off sample. For the event window [-1,1], the CAAR of the total sample equals 1.96%, which is significant at the 1%-level. The CAARs of the [-3,3] and [-5,5] event windows equal 1.40% and 1.22% and are significant at the 1%-level and 5%-level, respectively. Furthermore, Table 10 indicates that the effect's magnitude of a divestiture announcement decreases as the event window increases. This indicates that the abnormal returns are highest at announcement date and the two adjacent days.

Table 11. Sell-offs' cumulative average abnormal returns at announcement date

The table shows the CAARs for the overall sample of 1,485 sell-off announcements by European companies from January 1998 to December 2016. The source of the announcements is the ThomsonOne Mergers and Acquisitions Database. Abnormal returns are calculated with the market model. The estimation window equals the 200 days from day -220 to day -21 prior to the announcement. The CAARs have been winsorized for the bottom and top 7.5% of the sample to mitigate skewness and kurtosis. Whether the CAARs are significantly greater than zero is tested by a one-sided one-sample t-test. Asterisks indicate significance at the 10% - (*), 5% - (**), and 1% - (***) level.

Event window	Mean	Std. Dev.	t-Statistic	p-Value
-1 to 1	0.0085***	0.0418	7.8769	0.0000
-3 to 3	0.0094***	0.6060	5.9781	0.0000
-5 to 5	0.0121***	0.0730	6.3920	0.0000

Table 11 shows the event study results for the sell-off sample. For the event window [-1,1], the CAAR of the total sample equals 0.85%, which is significant at the 1%-level. The CAARs of the [-3,3] and [-5,5] event windows equal 0.94% and 1.21%, respectively. Both abnormal returns are significant at the 1%-level. In contradiction to the spin-off sample, for the sell-off sample the effect's magnitude of a divestiture announcement increases as the event window increases. Thus, the abnormal returns are highest for the largest event window.

In conclusion, the empirical evidence is sufficient to reject H_{0a} and to assume that both spin-offs and sell-offs, on average, create significantly positive shareholder value at the announcement date. In the next step, I test whether the significantly positive shareholder value creation also holds for the focus-increasing sub-population.

H_{0b}: An increase in corporate focus due to divestitures does not affect short-term shareholder value.

H_{1b}: An increase in corporate focus due to divestitures does positively affect short-term shareholder value.

Table 12. Cumulative average abnormal returns of focus- and non-focus-increasing spin-offs at announcement date

The table shows the CAARs for the overall sample of 116 spin-off announcements by European companies from January 1998 to December 2016, distinguished between focus- and non-focus-increasing spin-offs. The sample of focus-increasing spin-offs consists of 66 transactions. The sample of non-focus-increasing spin-offs consists of 50 transactions. The source of the announcements is the ThomsonOne Mergers and Acquisitions Database. Abnormal returns are calculated with the market model. The estimation window equals the 200 days from day -220 to day -21 prior to the announcement. The CAARs have been winsorized for the bottom and top 5% of the sample to mitigate skewness and kurtosis. Whether the CAARs are significantly greater than zero is tested by a one-sided one-sample t-test. Asterisks indicate significance at the 10% - (*), 5% - (**), and 1% - (***) level.

Event window	Focus-increasing				Non-focus-increasing			
	Mean	Std. Dev.	t-Statistic	p-Value	Mean	Std. Dev.	t-Statistic	p-Value
-1 to 1	0.0195***	0.0585	2.7088	0.0043	0.0198**	0.0582	2.4058	0.0100
-3 to 3	0.0145**	0.0586	2.0184	0.0238	0.0132*	0.0614	1.5234	0.0670
-5 to 5	0.0135*	0.0711	1.5445	0.0637	0.0104	0.0722	1.0142	0.1577

Table 12 shows the event study results for the spin-off sample, distinguished between focus-increasing and non-focus-increasing divestitures. For the event window [-1,1], the CAAR of focus-increasing spin-offs equals 1.95%, whereas the CAAR of non-focus-increasing spin-offs equals 1.98%. These abnormal returns are significant at the 1%-level and the 5%-level, respectively. For the larger event windows [-3,3] and [-5,5], the abnormal returns of focus-increasing spin-offs, on average, are positive and significant at the 5%-level. The abnormal returns of non-focus-increasing spin-offs are significant at the 10%-level for the event window [-3,3] and become insignificantly different from zero for the largest event window. Similar to the overall spin-off sample, the abnormal returns are highest for the smallest event window, on average.

Table 13. Cumulative average abnormal returns of focus- and non-focus-increasing sell-offs at announcement date

The table shows the CAARs for the overall sample of 1,485 sell-off announcements by European companies from January 1998 to December 2016, distinguished between focus- and non-focus-increasing sell-offs. The sample of focus-increasing sell-offs consists of 892 transactions. The sample of non-focus-increasing sell-offs consists of 593 transactions. The source of the announcements is the ThomsonOne Mergers and Acquisitions Database. Abnormal returns are calculated with the market model. The estimation window equals the 200 days from day -220 to day -21 prior to the announcement. The CAARs have been winsorized for the bottom and top 7.5% of the sample to mitigate skewness and kurtosis. Whether the CAARs are significantly greater than zero is tested by a one-sided one-sample t-test. Asterisks indicate significance at the 10% - (*), 5% - (**), and 1% - (***) level.

Event window	Focus-increasing				Non-focus-increasing			
	Mean	Std. Dev.	t-Statistic	p-Value	Mean	Std. Dev.	t-Statistic	p-Value
-1 to 1	0.0085***	0.0399	6.3262	0.0000	0.0087***	0.0444	4.7460	0.0000
-3 to 3	0.0102***	0.0583	5.2128	0.0000	0.0082***	0.0640	3.1369	0.0009

-5 to 5	0.0130***	0.0706	5.4815	0.0000	0.0108***	0.0765	3.4477	0.0003
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Table 13 shows the event study results for the sell-off sample, distinguished between focus-increasing and non-focus-increasing divestitures. For the event window [-1,1], the CAAR of focus-increasing sell-offs equals 0.85%, whereas the CAAR of non-focus-increasing sell-offs equals 0.87%. In both cases, the abnormal returns are significant at the 1%-level. Further, the abnormal returns for both focus- and non-focus-increasing sell-offs for the event windows [-3,3] and [-5,5] remain significant at the 1%-level.

Consequently, the empirical evidence is sufficient to reject the null hypothesis H_{0b} and to assume that an increase in corporate focus due to divestitures does positively affect short-term shareholder value. This also holds for non-focus-increasing spin-offs in the case of the event windows [-1,1] and [-3,3] and for non-focus-increasing sell-offs in all instances.

The empirical results of spin-offs are not in line with previous papers, which are presented in Table 1. Veld & Veld-Merkoulova (2004), whose research also focuses on spin-offs from European companies and is based on a similar methodology, find partially different results. For a sample of 108 completed spin-offs by European companies from January 1987 to September 2000, they find a CAAR of 2.66% based on the event window [-1,1]. Likewise, these abnormal returns are significant at the 1%-level. For focus-increasing spin-offs, Veld & Veld-Merkoulova find a CAAR of 3.57%, which is significant at the 1%-level. For non-focus-increasing spin-offs, however, they find an insignificant CAAR of 0.76%, thereby contradicting my results. Further, the CAAR of focus-increasing spin-offs is more than four times as large as the CAAR of non-focus-increasing spin-offs, whereas in this paper the CAARs of focus- and non-focus-increasing spin-offs are quite similar. In line with Veld & Veld-Merkoulova, Daley et al. (1997) and Desai & Jain (1999) also find larger average returns for focus-increasing spin-offs than for non-focus-increasing spin-offs.

For sell-offs, however, the results are in accordance with previous research, as illustrated by Table 2. Dittmar & Shivdasani (2003) analyse sell-offs in the USA that were announced between 1983 and 1994. They find that, on average, focus- and non-focus-increasing sell-offs yield abnormal returns of 3.50% and 3.40%, respectively, which are significant at the 1%-level. While their average abnormal returns are larger, they show a similar pattern for the distribution between focus- and non-focus-increasing sell-offs.

After proving that both focus-increasing spin-offs and focus-increasing sell-offs seem to influence shareholder value significantly and positively at announcement, I now test whether

focus-increasing divestitures outperform non-focus-increasing divestitures. In addition, I perform multiple linear regressions to test whether the effect of focus-increasing divestitures is biased by the independent variables Transaction Value and Relative Size. I state the following hypotheses:

H_{0c}: The effects' magnitude of focus-increasing divestitures and non-focus-increasing divestitures on short-term shareholder value does not differ significantly.

H_{1c}: The effect's magnitude of focus-increasing divestitures on short-term shareholder value is significantly larger than the effect's magnitude of non-focus-increasing divestitures.

Table 14. Focus-increasing vs. non-focus-increasing divestitures: Results of a one-sided two-sample t-test of cumulative average abnormal returns at announcement data

The table shows the statistical comparison of CAARs of focus- and non-focus-increasing divestitures, distinguished between spin-offs and sell-offs. Abnormal returns are calculated with the market model. The estimation window equals the 200 days from day -220 to day -21 prior to the announcement. The difference in means is calculated as the CAAR of focus-increasing divestitures subtracted by the CAAR of non-focus-increasing divestitures. Whether the CAARs of focus-increasing divestitures are significantly greater than the CAARs of non-focus-increasing divestitures is tested by a one-sided two-sample t-test. Asterisks indicate significance at the 10% (*), 5% (**), and 1% (***) level.

Event window	Spin-offs			Sell-offs		
	Difference in means	t-Statistic	p-Value	Difference in means	t-Statistic	p-Value
-1 to 1	-0.0003	-0.0266	0.4894	-0.0002	-0.0904	0.4640
-3 to 3	0.0013	0.1169	0.4536	0.0019	0.5922	0.2769
-5 to 5	0.0032	0.2347	0.4075	0.0021	0.5397	0.2948

Table 14 shows the results of a one-sided two-sample t-test for both spin-offs and sell-offs. Neither for spin-offs nor for sell-offs are the CAARs of focus-increasing divestitures significantly greater than the CAARs of non-focus-increasing divestitures. This holds for all three event windows. Thus, the empirical evidence is not sufficient to reject the null hypothesis **H_{0c}**. For both spin-offs and sell-offs, focus-increasing divestitures do not create significantly larger shareholder value than non-focus-increasing divestitures.

The results for spin-offs clearly contradict the results from Daley et al. (1997), who test the corporate focus hypothesis for spin-off transactions in the USA that have been announced between 1975 and 1991. According to their results, the overall abnormal returns of 3.40% are driven by focus-increasing spin-offs. Daley et al. express that focus-increasing spin-offs yield an average abnormal return of 4.30% opposed to an average abnormal return of only 1.40% for

non-focus-increasing spin-offs. A two-sided two-sample t-test shows that the equality of means is rejected at the 1%-level. Desai & Jain (1999) confirm their results and find a statistically significant difference between the CAARs of focus-increasing and non-focus-increasing spin-offs in the USA that have been announced between 1975 and 1991. The different outcome is not likely to be related to the geographical difference between the sample from Daley et al. and Desai & Jain and my sample, since Veld & Veld-Merkoulova (2004) conduct comparable research for the European market and also find that the abnormal returns of focus-increasing spin-offs are significantly larger than the abnormal returns of non-focus-increasing spin-offs. A potential driver for the discrepancy could be the temporal difference of the samples. While the above-mentioned three studies' sample consists of transactions before the turn of the millennium, the sample of this study consists of transactions that have been announced between January 1998 and December 2016. Furthermore, two economic crises, namely the dot-com bubble in 2000 and the financial crisis in 2007-2008, took place during this period and could have influenced the abnormal returns of corporate divestitures. As discussed in the theoretical framework, a high degree of diversification is likely to be valuable during recessionary periods. Dimitrov & Tice (2006) argue that diversification decreases volatility and therefore mitigates the risks during recessionary periods. They find that firms with a high degree of diversification have a better performance than focused firms during recessions. Since this sample of spin-off announcements shows a high concentration around the two economic crises, as illustrated by Table 5, it could have a negative effect on the CAAR of focus-increasing divestitures. Following the argumentation from Dimitrov & Tice, rational shareholders would perceive the timing of such divestitures as a negative signal, leading to lower abnormal returns. Furthermore, the findings from Erdorf et al. (2013) imply that the extent of the diversification discount varies throughout the business cycles. Due to the strong relation between the diversification discount and the shareholder value creation through corporate divestitures, this could imply that also the magnitude of shareholder value creation through corporate divestitures varies throughout the business cycles. The findings in this paper support my argumentation that focus-increasing corporate divestitures create less value during recessionary periods. This could be of high interest for future research.

The results for sell-offs contradict the findings from John & Ofek (1995), who perform a linear regression to test the relation between the abnormal returns and the increase in focus. They find a positive relation, which is significant at the 1%-level. In detail, focus-increasing divestitures yield 2.40% higher abnormal returns than non-focus-increasing divestitures. More recent studies like Dittmar & Shivdasani (2003) and Teschner & Paul (2020), however, confirm

the empirical results for sell-offs in this study. For sell-offs in the USA between 1983 and 1994, Dittmar & Shivdasani do not find a significant difference between the abnormal returns of focus- and non-focus-increasing transactions. Likewise, Teschner & Paul do not find clear evidence that focus-increasing sell-offs yield superior abnormal returns. They argue that the decreasing effect of focus-increasing sell-offs could be driven by the increasing relevance of shareholder value focus. Already in the mid-1990s many companies recognised the benefits of less diversified businesses and realised restructuring programs to focus on the core values again. This could imply that the more recent transactions only led to minor increases in focus and therefore have a weaker effect on shareholder value. This could also explain the less pronounced effects of focus-increasing spin-offs, which is an interesting subject of future research as well.

Apart from the factor Focus, other variables could also influence the abnormal returns at announcement date. Therefore, I perform multiple linear regressions to test the relation between CAAR as dependent variable, and Focus, Transaction Value, and Relative Size as independent variables. The results of the multiple linear regressions are illustrated in Table 15 and Table 16.

Table 15. Linear regression results for the relationship between spin-offs' CAARs and the independent variables Focus, Transaction Value, and Relative Size

The table shows the linear regression results for the relationship between spin-offs' CAARs as dependent variable and Focus, Transaction Value, and Relative Size as independent variables. The cumulative average abnormal return and the Relative Size have been winsorized for the bottom and top 5% of the sample to mitigate skewness and kurtosis. The variable Focus is a dummy variable, which equals one if the spin-off is focus-increasing and zero otherwise. The variable Transaction Value reflects the market value of the spun-off entity at announcement date. To mitigate skewness and kurtosis, I apply the logarithm of Transaction Value. The variable Relative Size equals the transaction value in relation to the market value of the parent company at announcement date. Robust standard errors are shown in parentheses. Asterisks indicate significance at the 10%- (*), 5%- (**), and 1%- (***) level.

Independent variable	Cumulative average abnormal returns			
	1	2	3	4
<i>(A) Event window -1 to 1</i>				
Focus	-0.0003 (0.0109)	0.0003 (0.0112)	-0.0007 (0.0109)	-0.0002 (0.0112)
Transaction Value		0.0014 (0.0037)		0.0012 (0.0037)
Relative Size			0.0151 (0.0139)	0.0148 (0.0141)
Constant	0.0198** (0.0082)	0.0105 (0.0273)	0.0087 (0.0138)	0.0005 (0.0283)
Observations	116	116	116	116
R-squared	0.0000	0.0018	0.0080	0.0094

Adjusted R-squared	-0.0088	-0.0159	-0.0096	-0.0171
<hr/>				
<i>(B) Event window -3 to 3</i>				
Focus	0.0013 (0.0113)	0.0028 (0.0114)	0.0012 (0.0113)	0.0027 (0.0114)
Transaction Value		0.0036 (0.0038)		0.0036 (0.0038)
Relative Size			0.0044 (0.0155)	0.0035 (0.0157)
Constant	0.0132 (0.0087)	-0.0115 (0.0273)	0.0100 (0.0152)	-0.0139 (0.0289)
Observations	116	116	116	116
R-squared	0.0001	0.0122	0.0008	0.1260
Adjusted R-squared	-0.0086	-0.0053	-0.0169	-0.0138
<hr/>				
<i>(C) Event window -5 to 5</i>				
Focus	0.0032 (0.0134)	0.0059 (0.0134)	0.0039 (0.0134)	0.0068 (0.0134)
Transaction Value		0.0067 (0.0045)		0.0070 (0.0045)
Relative Size			-0.0259 (0.0191)	-0.0276 (0.0194)
Constant	0.0104 (0.0102)	-0.0355 (0.0327)	0.0294* (0.0175)	-0.0168 (0.0332)
Observations	116	116	116	116
R-squared	0.0005	0.0294	0.0162	0.0471
Adjusted R-squared	-0.0083	0.0122	-0.0012	0.0216
<hr/>				

As illustrated by Table 15, the effect of Focus for spin-offs is slightly negative for the event window [-1,1], but becomes positive for the two larger event windows. In all instances, however, the effect is not significant. The insignificance does not alter, while controlling for the remaining independent variables. For all three event windows, Transaction Value has a positive but insignificant effect on the CAAR of spin-offs. The same holds for Relative Size for the event windows [-1,1] and [-3,3]. For the event window [-5,5], the effect of Relative Size becomes negative but remains insignificant. The finding regarding Relative Size contradicts previous literature. Hite & Owers (1983), Miles & Rosenfeld (1983), and Veld & Veld-Merkoulova (2004) find that the relative size of spin-offs positively and significantly correlates with the abnormal returns at announcement date. In conclusion, the effect of Focus does not seem to be significantly biased by the independent variables Transaction Value and Relative Size.

Table 16. Linear regression results for the relationship between sell-offs' CAARs and the independent variables Focus, Transaction Value, and Relative Size

The table shows the linear regression results for the relationship between sell-offs' CAARs as dependent variable and Focus, Transaction Value, and Relative Size as independent variables. The cumulative average abnormal return and the Relative Size have been winsorized for the bottom and top 7.5% and 10% of the sample, respectively, to mitigate skewness and kurtosis. The variable Focus is a dummy variable, which equals one if the sell-off is focus-increasing and zero otherwise. The variable Transaction Value reflects the market value of the sold-off entity at announcement date. To mitigate skewness and kurtosis, I apply the logarithm of Transaction Value. The variable Relative Size equals the transaction value in relation to the market value of the parent company at announcement date. Robust standard errors are shown in parentheses. Asterisks indicate significance at the 10% (*), 5% (**), and 1% (***) level.

Independent variable	Cumulative average abnormal returns			
	1	2	3	4
<i>(A) Event window -1 to 1</i>				
Focus	-0.0002 (0.0023)	0.0000 (0.0023)	0.0008 (0.0022)	0.0008 (0.0022)
Transaction Value		0.0005 (0.0005)		-0.0001 (0.0005)
Relative Size			0.0228*** (0.0061)	0.0230*** (0.0063)
Constant	0.0087*** (0.0018)	0.0069*** (0.0025)	0.0047** (0.0018)	0.0049** (0.0024)
Observations	1,485	1,485	1,485	1,485
R-squared	0.0000	0.0008	0.0140	0.0140
Adjusted R-squared	-0.0007	-0.0006	0.0127	0.0120
<i>(B) Event window -3 to 3</i>				
Focus	0.0019 (0.0033)	0.0021 (0.0033)	0.0032 (0.0032)	0.0032 (0.0033)
Transaction Value		0.0006 (0.0007)		-0.0002 (0.0007)
Relative Size			0.0288*** (0.0087)	0.0291*** (0.0090)
Constant	0.0082*** (0.0026)	0.0062* (0.0036)	0.0033 (0.0027)	0.0037 (0.0036)
Observations	1,485	1,485	1,485	1,485
R-squared	0.0002	0.0007	0.0108	0.0108
Adjusted R-squared	-0.0004	-0.0007	0.0095	0.0088
<i>(C) Event window -5 to 5</i>				
Focus	0.0021 (0.0039)	0.0023 (0.0040)	0.0035 (0.0039)	0.0034 (0.0039)
Transaction Value		0.0005 (0.0009)		-0.0002 (0.0009)
Relative Size			0.0302*** (0.0103)	0.0308*** (0.0107)
Constant	0.0108*** (0.0031)	0.0090** (0.0044)	0.0056* (0.0033)	0.0063 (0.0044)

Observations	1,485	1,485	1,485	1,485
R-squared	0.0002	0.0005	0.0082	0.0083
Adjusted R-squared	-0.0005	-0.0009	0.0069	0.0063

As presented in Table 16, the effect of Focus for sell-offs is negative for the event window [-1,1] and becomes positive for the event windows [-3,3] and [-5,5]. The effect, however, is insignificant for all three event windows. The effect of Focus becomes positive for the event window [-1,1] after controlling for the remaining variables, but remains insignificant. Transaction Value has an insignificantly positive effect. The effect becomes negative while controlling for Relative Size. For all three event windows, Relative Size has a positive effect, which is significant at the 1%-level. In conclusion, the effect of Focus does not seem to be significantly biased by the independent variables Transaction Value and Relative Size.

Both spin-offs and sell-offs, on average, appear to create positive and significant abnormal returns around the announcement date. This raises the question, whether the effect's magnitude depends on the type of divestiture.

Table 17. Spin-offs vs. sell-offs: Results of a two-sample t-test of cumulative average abnormal returns at announcement data

The table shows the statistical comparison of CAARs of spin-offs and sell-offs, distinguished between focus- and non-focus-increasing divestitures. The overall spin-off sample consists of 116 announcements by European companies from January 1998 to December 2016. The sell-off sample consists of 1,485 announcements by European companies from January 1998 to December 2016. The source of the announcements is the ThomsonOne Mergers and Acquisitions Database. Abnormal returns are calculated with the market model. The estimation window equals the 200 days from day -220 to day -21 prior to the announcement. The difference in means is calculated as the CAAR of spin-offs subtracted by the CAAR of sell-offs. Whether the CAARs of spin-offs are significantly greater than the CAARs of sell-offs is tested by a one-sided two-sample t-test. Asterisks indicate significance at the 10% - (*), 5% - (**), and 1% - (***) level.

Event window	Overall			Focus-increasing			Non-focus-increasing		
	Difference in means	t-Statistic	p-Value	Difference in means	t-Statistic	p-Value	Difference in means	t-Statistic	p-Value
-1 to 1	0.0111**	2.0151	0.0230	0.0110*	1.5082	0.0680	0.0111*	1.3208	0.0961
-3 to 3	0.0046	0.7958	0.2138	0.0044	0.5850	0.2802	0.0050	0.5497	0.2923
-5 to 5	0.0001	0.0060	0.4976	0.0006	0.0611	0.4757	-0.0005	-0.0448	0.5178

As illustrated by Table 17, for the event window [-1,1], the overall CAAR of spin-offs is 1.11%-points greater than the overall CAAR of sell-offs, which is significant at the 5%-level. For focus-increasing divestitures, the CAAR of spin-offs is 1.10%-points greater than the CAAR of sell-offs. This is significant at the 10%-level. Likewise, for non-focus-increasing

divestitures the difference in means equals 1.11%-points, which is also significant at the 10%-level. The statistical significance of the difference in means does not hold for the two larger event windows.

The results presented in Table 17 are in line with previous studies. Rosenfeld (1984) finds a difference in means between spin-offs and sell-offs of 3.23%, which is significant at the 1%-level. Similarly, Prezas & Simonyan (2015) show that spin-offs' abnormal returns, on average, are 2.95%-points greater than sell-offs' abnormal returns. This difference is significant at the 1%-level as well.

Nevertheless, the partially significant outperformance of spin-offs does not necessarily imply, that this type of corporate divestiture is preferable. A fundamental difference between spin-offs and sell-offs is the exchange of assets for cash in the case of sell-offs. Sell-offs, therefore, are likely to be motivated by a demand for liquidity. In section 4.3. *Financing hypothesis*, I test to what extent a corporation's profitability, liquidity, and solvency might motivate the decision to divest a business unit through a sell-off.

4.2. *Merger activity hypothesis*

The merger activity hypothesis states that spin-offs allow for the creation of pure plays for potential buyers and thereby create shareholder value in the long run (Cusatis et al., 1993). In accordance with that, I focus on the mean long-term returns of spun-off entities and test whether they are driven by spin-offs that experience an acquisition of more than 3% of the ordinary share capital during the three years post-divestiture. Thus, I test the following hypotheses.

H_{0a}: The shareholder value created by spun-off entities engaging in merger activity does not differ significantly from the shareholder value created by spun-off entities not engaging in merger activity.

H_{1a}: The shareholder value created by spun-off entities engaging in merger activity is significantly larger than the shareholder value created by spun-off entities not engaging in merger activity.

Table 18. Mean long-term returns of spun-off entities post-divestiture

The table shows the mean long-term return of the spun-off entities in the three years after the realization of the spin-off. The mean long-term returns are winsorized for the bottom and top 5% to mitigate skewness and kurtosis. The sample is based on the final spin-off sample of 116 transactions, reduced by 10 transactions due to missing data, resulting in a final sample of 106 transactions to test the merger activity hypothesis. The overall sample of 106 units is further separated into two sub-populations, namely Acquired and Non-acquired. A unit belongs to the sub-population Acquired if a third party acquired more than 3% of the ordinary share capital during the three years

after the realization of the spin-off. Otherwise, a unit belongs to the sub-population Non-acquired. The information whether a third party acquired more than 3% of a spun-off entity's ordinary share capital during the three years post-divestiture, is accessed through ThomsonOne's mergers & acquisitions database. Whether the mean returns are significantly greater than zero is tested by a one-sided one-sample t-test. Asterisks indicate significance at the 10%- (*), 5%- (**), and 1%- (***) level.

Population	Observations	Mean	Std. Dev.	t-Statistic	p-Value
Overall	106	0.3205***	0.8135	4.0565	0.0000
Acquired	32	0.4070***	0.8172	2.8176	0.0042
Non-acquired	74	0.2831***	0.8145	2.9896	0.0019

Table 18 shows the mean long-term returns of the spun-off entities post-divestiture for the overall sample as well as for the sub-populations Acquired and Non-acquired. During the three years after the realization of the spin-off, the spun-off entities, on average, yield returns of 32.05%. Those entities that experience acquisitions of more than 3% of the share capital, on average, even yield returns of 40.70%. Opposed to that, non-acquired units generate a mean return of 28.31%. For all groups, the mean returns are significant at the 1%-level. The distribution of the mean returns shows the tendency, that acquired entities might be the driver of long-term returns. I perform a one-sided two-sample t-test to test whether the mean return of acquired units is significantly larger than the mean return of non-acquired units.

Table 19. Acquired vs. Non-acquired: Results of a two-sample t-test of mean long-term returns post-divestiture

The table shows the statistical comparison of the mean long-term returns of the two sub-populations Acquired and Non-Acquired. The mean long-term returns are winsorized for the bottom and top 5% to mitigate skewness and kurtosis. A unit belongs to the sub-population Acquired if a third party acquired more than 3% of the ordinary share capital during the three years after the realization of the spin-off. Otherwise, a unit belongs to the sub-population Non-acquired. The information whether a third party acquired more than 3% of a spun-off entity's ordinary share capital during the three years post-divestiture, is accessed through ThomsonOne's mergers & acquisitions database. The difference in means is calculated as the mean return of the sub-population Acquired subtracted by the mean return of the sub-population Non-acquired. Whether the mean return of acquired units is significantly greater than the mean return of non-acquired units is tested by a one-sided two-sample t-test. Asterisks indicate significance at the 10%- (*), 5%- (**), and 1%- (***) level.

Difference in means	Std. Err.	t-Statistic	p-Value
0.1240	0.1727	0.7177	0.2379

The results are shown in Table 19. Although, on average, the mean return of acquired entities is higher, the difference is not statistically significant. Thus, the empirical evidence is not sufficient to reject the null hypothesis H_{0a} . The shareholder value created by spun-off entities engaging in merger activity is not significantly larger than the shareholder value created by spun-off entities not engaging in merger activity.

For a sample of 146 spun-off entities in the USA for the period from 1965 to 1988, Cusatis et al. (1993) find a mean return of 76.0% for the three years post-divestiture, which is also significant at the 1%-level. In contradiction to my results, however, Cusatis et al. find that acquired units significantly outperform non-acquired units. According to their results, acquired entities yield a mean return of 99.3% in the three years post-divestiture, which is significant at the 1%-level, whereas non-acquired entities yield an insignificant mean return of 22.5%. Potential factors of the different outcome could be the geographical or temporary difference as well as the slightly larger sample from Cusatis et al. Alternatively, it could be possible that due to the historical data the likelihood of increased merger activity is already anticipated and priced in the initial valuation of the spun-off entity. Consequently, the entity's shares would initially trade at a higher price, thereby reducing the mean returns.

Mazur (2015) also elaborates on the creation of enhanced M&A-opportunities as predominant motive for spin-offs but argues from a different perspective. While Cusatis et al. (1993) state that spun-off entities are attractive takeover targets, Mazur argues that the creation of an independently traded entity allows the entity to use its stock as currency for future potential acquisitions and thereby creates value. The finding, that most of the companies' executives included in his sample state that acquisition-related advantages are partly responsible for the decision to divest, strengthens his argumentation. Additionally, Mazur finds evidence that, on average, a spun-off entity is involved in five acquisitions, while 22% of the spun-off entities do not engage in any acquisition during the five years after the spin-off. Moreover, the acquisitions' aggregate value equals about 45% of the initial market value, which implies that the high level of merger activity fundamentally contributes to the spun-off entities' growth.

I argue that the theories presented by Cusatis et al. (1993) and Mazur (2015) are not mutually exclusive, but rather address a similar phenomenon. Since this paper could not find evidence for a significant long-term outperformance of spun-off entities, that act as targets during the three years post-divestiture, it would be an interesting subject of future research to test the long-term returns of spun-off entities, that act as bidder. Furthermore, it would be insightful to find out, whether those units indeed prefer the usage of its own stock as currency.

In the next section I test the financing hypothesis for the sell-off sample. Since spin-offs do not involve the exchange of assets against cash, the hypothesis is solely tested for the sell-off sample.

4.3. *Financing hypothesis*

Unlike spin-offs, sell-offs can and do involve the trade of assets against cash. Thus, it seems likely that the generation of additional funds motivates the decision to divest part of the operating business, at least to some extent. Lang et al. (1995) present a similar reasoning and state that an increase in operating efficiency post-divestiture is not the only motive for asset sales. They formulate the financing hypothesis, which states that firms with high leverage and/or poor performance have the motive to divest part of their assets through sell-offs to generate additional funds and strengthen the financial position if this is the cheapest source of financing.

In this section, I test whether the financing hypothesis also holds for the European market. First, I analyse the operational and financial performance of the parent companies during the five years prior to the divestiture announcement to identify whether significant changes of the financial strength could have motivated an asset sale. I state the following hypotheses:

H_{0e}: One year prior to the announcement the profitability of firms undertaking a sell-off does not differ significantly from the profitability five years prior to the announcement.

H_{1e}: One year prior to the announcement firms undertaking a sell-off do have a significantly worse profitability than five years prior to the announcement.

H_{0f}: One year prior to the announcement the liquidity of firms undertaking a sell-off does not differ significantly from the liquidity five years prior to the announcement.

H_{1f}: One year prior to the announcement firms undertaking a sell-off do have a significantly worse liquidity than five years prior to the announcement.

H_{0g}: One year prior to the announcement the solvency of firms undertaking a sell-off does not differ significantly from the solvency five years prior to the announcement.

H_{1g}: One year prior to the announcement firms undertaking a sell-off do have a significantly worse solvency than five years prior to the announcement.

Table 20. Results of one-sided paired t-tests of the operational and financial performance during the five years prior to divestiture announcement

The table shows the statistical comparison of the profitability, liquidity, and solvency five years prior to the divestiture announcement and one year prior to divestiture announcement. The profitability is measured by the Operating Margin, which is denoted in percentages. Operating Margin and profitability are positively related. The liquidity is measured by the Net Cash, which is denoted in USD. Net Cash and liquidity are positively related. The solvency is measured by the Interest Coverage Ratio, Debt-to-Equity, and Debt-to-Total-Assets. The Interest Coverage Ratio is denoted in relative terms and positively related to solvency. Debt-to-Equity and Debt-to-Total-Assets are denoted in percentages and negatively related to solvency. The sources of the accounting key data are the Worldscope and Datastream databases within Eikon. The overall sample consists of 905 European companies

that have announced and realized a sell-off during January 1998 to December 2016. The source of the announcements is the ThomsonOne Mergers and Acquisitions Database. The difference in means is calculated as the accounting key data five years prior to the announcement subtracted by the accounting key data one year prior to the announcement. Whether the accounting key data and therefore the operational and financial performance are significantly worse one year prior to the announcement than five years prior to the announcement is tested by one-sided paired t-tests, respectively. Asterisks indicate significance at the 10%- (*), 5%- (**), and 1%- (***) level.

Variable	Obs.	Difference in Means	t-Statistic	Std. Dev.	p-Value
<i>(A) Profitability</i>					
Operating Margin	905	-0.2360	-1.3437	5.2837	0.9103
<i>(B) Liquidity</i>					
Net Cash	905	21,240.88	0.8485	753,101.1	0.1982
<i>(C) Solvency</i>					
Interest Coverage Ratio	905	1.0086***	4.6906	6.4686	0.0000
Debt-to-Equity	905	-29.6759***	-9.3311	95.6743	0.0000
Debt-to-Total-Assets	905	-4.5193***	-10.2099	13.3161	0.0000

The operating margin, on average, increases by 0.2360 %-points from five years to one year prior to announcement date. This increase, however, is not statistically significant. Consequently, the companies' profitability does not seem to motivate the corporate divestiture. The empirical evidence, therefore, is not sufficient to reject the null hypothesis H_{0e} that one year prior to the announcement the profitability of firms undertaking a sell-off does not differ significantly from the profitability five years prior to the announcement.

The liquidity, measured by Net Cash, decreases by 21,240.88 USD, on average, during the pre-divestiture period. The decrease, however, is not statistically significant. Net Cash is defined as the difference between the parent's balance of cash and near equivalents and its short-term debt and current portion of long-term debt. Thus, the decline in Net Cash implies a decrease in the balance of cash and near equivalents or an increase of short-term debt and the current portion of long-term debt, or both. Although the mean Net Cash one year prior to the announcement is positive, the decline in Net Cash shows that, on average, the companies might face an increasing risk of tight money. Nevertheless, the empirical evidence is not sufficient to reject the null hypothesis H_{0f} and to assume that the worse liquidity motivates the decision to divest part of the business to prevent a debt default.

The solvency is measured by the operating figures Interest Coverage Ratio, Debt-to-Equity, and Debt-to-Total-Assets. The Interest Coverage Ratio is calculated as Earnings Before Interest

and Tax (EBIT) divided by Interest Expenses on Debt. It indicates a company's ability to cover the interest expenses on outstanding debt with the operating income. The empirical evidence shows that the Interest Coverage Ratio decreases by 1.0086 from five years prior to the announcement until one year prior to the announcement. The decrease is significant at the 1%-level. Considering the finding that the Operating Margin of firms undertaking a sell-off does not change significantly, a decrease in EBIT must be proportionate to a decrease of Sales. Otherwise, the Operating Margin would change, thereby contradicting our results. Consequently, the significant decline of the Interest Coverage Ratio implies that, on average, the Sales decrease significantly, or the Interest Expenses increase significantly, or both. On the one side, a decrease of Sales implies that a company is generating less cash inflow from the operating activities, while the fixed costs of the business remain unchanged. Without fundamental restructurings, the risk of tight money is likely to increase. On the other side, an increase in the interest expenses either implies increased interest rates or an increase in interest-bearing debt. In both cases, the debt structure develops into a disadvantage, thereby increasing the risk of tight money. In line with the deteriorating development of the Interest Coverage Ratio, both the Debt-to-Equity-Ratio and the Debt-to-Total-Assets-Ratio soar significantly at the 1%-level. The increase of the Debt-to-Equity-Ratio and the Debt-to-Total-Assets shows that the balance of outstanding debt is increasing faster than the capitalized profits and the asset base, respectively. Apparently, the firms undertaking a sell-off need to take on more and more debt during the five years prior to the announcement to finance their operating activities and keep the business running. This, in turn, causes an increase in Interest Expenses, thereby reducing the Interest Coverage Ratio. In conclusion, the empirical evidence is sufficient to reject the null hypothesis H_{0g} . It is likely that the significant deterioration of the companies' solvency during the five years prior to the announcement motivates the decision to sell-off a part of the corporate's assets.

Table 21 indicates the changes of profitability, liquidity, and solvency after the sell-off is realized. The significant improvement of Net Cash is the logical consequence of the sell-off since corporate assets are exchanged against cash. Profitability and solvency do not improve significantly immediately after the realization of the sell-off.

Table 21. Results of one-sided paired t-tests of the operational and financial performance one year prior to divestiture announcement and immediately after realization of the divestiture

The table shows the statistical comparison of the profitability, liquidity, and solvency one year prior to divestiture announcement and immediately after the realization of the divestiture. The profitability is measured by the Operating Margin, which is denoted in percentages. Operating Margin and profitability are positively related. The liquidity is measured by the Net Cash, which is denoted in USD. Net Cash and liquidity are positively related. The

solvency is measured by the Interest Coverage Ratio, Debt-to-Equity, and Debt-to-Total-Assets. The Interest Coverage Ratio is denoted in relative terms and positively related to solvency. Debt-to-Equity and Debt-to-Total-Assets are denoted in percentages and negatively related to solvency. The sources of the accounting key data are the Worldscope and Datastream databases within Eikon. The overall sample consists of 905 European companies that have announced and realized a sell-off during January 1998 to December 2016. The source of the announcements is the ThomsonOne Mergers and Acquisitions Database. The difference in means is calculated as accounting key data one year prior to the announcement subtracted by the accounting key data immediately after the realization of the divestiture. Whether the accounting key data and therefore the operational and financial performance are significantly better immediately after the realization of the divestiture than one year prior to the announcement is tested by one-sided paired t-tests, respectively. Asterisks indicate significance at the 10% - (*), 5% - (**), and 1% - (***) level.

Variable	Obs.	Difference	t-Statistic	Std. Dev.	p-Value
		in Means			
<i>(A) Profitability</i>					
Operating Margin	905	0.1512	1.2332	3.6889	0.8911
<i>(B) Liquidity</i>					
Net Cash	905	-183,439.1***	-7.7185	714,958.60	0.0000
<i>(C) Solvency</i>					
Interest Coverage Ratio	905	0.0485	0.2941	4.9593	0.6156
Debt-to-Equity	905	1.8043	0.6709	80.9020	0.2512
Debt-to-Total-Assets	905	-0.0561	-0.1865	9.0531	0.5740

The weak effect on solvency could be explained by pre-defined amortization schedules. The sudden increase of the balance of cash and near equivalents is unlikely to lead to a simultaneous reduction of debt since unscheduled repayments of debt often cause prepayment penalties. Therefore, it is more beneficial to comply with the amortization schedule in many instances. Whether or not firms undertaking a sell-off, on average, use the proceeds to reduce debt needs to be evaluated in the long-term. Consequently, I statistically compare the companies' profitability, liquidity, and solvency one year prior to the announcement date with the profitability, liquidity, and solvency three years after the realization of the sell-off through one-sided paired t-tests. The results are presented in Table 22.

Table 22. Results of one-sided paired t-tests of the operational and financial performance one year prior to divestiture announcement and three years after realization of the divestiture

The table shows the statistical comparison of the profitability, liquidity, and solvency one year prior to divestiture announcement and three years after the realization of the divestiture. The profitability is measured by the Operating Margin, which is denoted in percentages. Operating Margin and profitability are positively related. The liquidity is measured by the Net Cash, which is denoted in USD. Net Cash and liquidity are positively related. The solvency is measured by the Interest Coverage Ratio, Debt-to-Equity, and Debt-to-Total-Assets. The Interest Coverage Ratio is denoted in relative terms and positively related to solvency. Debt-to-Equity and Debt-to-Total-Assets are denoted in percentages and negatively related to solvency. The sources of the accounting key data are the

Worldscope and Datastream databases within Eikon. The overall sample consists of 905 European companies that have announced and realized a sell-off during January 1998 to December 2016. The source of the announcements is the ThomsonOne Mergers and Acquisitions Database. The difference in means is calculated as accounting key data one year prior to the announcement subtracted by the accounting key data three years after the realization of the divestiture. Whether the accounting key data and therefore the operational and financial performance are significantly better three years after the realization of the divestiture than one year prior to the announcement is tested by one-sided paired t-tests, respectively. Asterisks indicate significance at the 10% - (*), 5% - (**), and 1% - (***) level.

Variable	Obs.	Difference in Means	t-Statistic	Std. Dev.	p-Value
<i>(A) Profitability</i>					
Operating Margin	905	0.1592	0.7787	6.1503	0.7818
<i>(B) Liquidity</i>					
Net Cash	905	-408,616.5***	-11.4770	1,071,056	0.0000
<i>(C) Solvency</i>					
Interest Coverage Ratio	905	-0.6261***	-2.6609	7.0781	0.0040
Debt-to-Equity	905	19.8989***	6.0154	99.5146	0.0000
Debt-to-Total-Assets	905	1.1280***	2.6027	13.0380	0.0047

Again, the profitability does not improve significantly. The improvement in Net Cash remains significant at the 1%-level three years after the realization of the sell-off, the difference in means is even twice as large as compared to the immediate effect after the divestiture. All three measures of solvency show significant improvements in the long-term. The Interest Coverage Ratio improves by 0.6261, which is significant at the 1%-level. Furthermore, firms undertaking sell-offs reduce their debt significantly in the long-term, which is indicated by the reduction of the Debt-to-Equity-Ratio by 19.90 %-points and the reduction of the Debt-to-Total-Assets-Ratio by 1.13 %-points. The reductions are significant at the 1%-level. The improvement of the Interest Coverage Ratio can be due to the sale of assets, that were generating a negative EBIT, or the reduction of debt, thereby reducing the Interest Expenses, or both. However, in the context of significant improvements in the Debt-to-Equity- and Debt-to-Total-Assets-Ratio it appears more likely, that the reduction of debt is the predominant driver. Furthermore, the sale of assets with negative EBIT would have impacted the Interest Coverage Ratio already immediately after the realization of the sell-off. Since the Ratio did not improve significantly at point t_{+1} this does not hold.

The evidence supports the argumentation that debt reductions are not realized in the short-term because of pre-defined amortization schedules and the resulting prepayment penalties in the case of unscheduled repayments. In conclusion, firms undertaking sell-offs, on average, are

likely to use the proceeds to reduce debt in the long-term, which suggests that sell-offs can function as a measure to reduce the risk of tight money and improve the financial strength.

Eventually, I test whether firms that use the proceeds to reduce the outstanding debt create larger shareholder value than firms that use the proceeds for other purposes. I state the following hypotheses:

H_{0h}: The shareholder value creation of firms that use the proceeds to reduce the outstanding debt and of firms that utilize the proceeds for other purposes during the three years post-divestiture does not differ significantly.

H_{1h}: Firms that use the proceeds to reduce the outstanding debt create significantly larger shareholder value during the three years post-divestiture than firms that utilize the proceeds for other purposes.

Table 23. Linear regression results for the relationship between Mean long-term returns of firms undertaking a sell-off and the independent variables Operating Margin, Interest Coverage Ratio, Net Cash, Cash, Debt-to-Equity, and Debt-to-Total-Assets

The table shows the linear regression results for the relationship between mean long-term returns of firms undertaking a sell-off as dependent variable and Operating Margin, Interest Coverage Ratio, Net Cash, Cash, Debt-to-Equity, and Debt-to-Total-Assets as independent variables. The mean long-term returns are defined as the returns from the first trading day after the realization of the sell-off until three years afterwards and are winsorized for the bottom and top 5% to mitigate skewness and kurtosis. The independent variables are dummy variables, which equal one if the parent company improves the operational figure during the three years after the realization of the sell-off and zero otherwise, respectively. Robust standard errors are shown in parentheses. Asterisks indicate significance at the 10% - (*), 5% - (**), and 1% - (***) level.

Independent variable	Mean long-term returns			
	1	2	3	4
Operating Margin	0.5864*** (0.0553)			
Interest Coverage Ratio		0.4834*** (0.0551)		
Net Cash			0.0628 (0.0546)	
Cash				0.2390*** (0.0542)
Debt-to-Equity				
Debt-to-Total-Assets				
Constant	0.0248 (0.0288)	0.0557* (0.0304)	0.2235*** (0.0397)	0.1234*** (0.0399)
Observations	905	905	905	905
R-squared	0.1224	0.0845	0.0014	0.0208

Adjusted R-squared	0.1215	0.0835	0.0003	0.0198
Mean long-term returns				
Independent variable	5	6	7	8
Operating Margin				0.4738*** (0.0550)
Interest Coverage Ratio				0.2925*** (0.0540)
Net Cash				-0.0850 (0.0532)
Cash				0.2806*** (0.0525)
Debt-to-Equity	0.1930*** (0.0539)		0.0078 (0.0768)	-0.0516 (0.0716)
Debt-to-Total-Assets		0.2543*** (0.0536)	0.2485*** (0.0766)	0.2201*** (0.0729)
Constant	0.1542*** (0.0374)	0.1199*** (0.0374)	0.1189*** (0.0390)	-0.2565*** (0.0501)
Observations	905	905	905	905
R-squared	0.0137	0.0238	0.0238	0.1895
Adjusted R-squared	0.0126	0.0227	0.0216	0.1841

Table 23 presents the linear regression results for the relationship between mean long-term returns of firms undertaking a sell-off and the independent variables Operating Margin, Interest Coverage Ratio, Cash, Net Cash, Debt-to-Equity, and Debt-to-Total-Assets, whereas the independent variables are dummy variables, which equal one if the parent company improves the operational figure during the three years after the realization of the sell-off and zero otherwise.

Firms that increase their Operating Margin after the realization of the sell-off, on average, yield 58.64 %-points higher mean long-term returns. The effect is significant at the 1%-level and remains significant at the 1%-level after controlling for the remaining independent variables as can be seen in the regression model 8 in Table 23. Apparently, the profitability is unlikely to motivate the sell-off beforehand but positively correlates with the mean returns during the three years after the realization of the sell-off. Thus, firms that utilize sell-offs as a measure for strategic restructurings to increase the profitability are likely to yield superior long-term returns.

While the improvement of Net Cash does not lead to significantly higher mean returns, an increased balance of cash and near equivalents offers 23.90 %-points higher returns in the long-term, which is significant at the 1%-level. The effect strengthens to 28.06 %-points higher mean returns and remains significant at the 1%-level, while controlling for the remaining independent

variables. Although the Net Cash does not seem to influence the mean long-term returns, the liquidity appears to be a significant factor for the long-term shareholder value creation after the realization of the sell-off, as demonstrated by the independent variable Cash.

Lastly, firms that improve their Interest Coverage Ratio generate significantly higher mean returns of 53.91%, whereas firms with a deteriorating Interest Coverage Ratio generate mean returns of 5.57%. The outperformance is significant at the 1%-level and remains significant at the 1%-level, while controlling for the remaining independent variables. In regression model 5, the reduction of the Debt-to-Equity-Ratio shows a significantly positive effect on the mean long-term returns. After controlling for the Debt-to-Total-Assets-Ratio, however, the effect becomes insignificant, as illustrated by regression model 7. Thus, the Debt-to-Total-Assets-Ratio seems to positively bias the Debt-to-Equity-Ratio. The model does not suffer from multicollinearity. A reduction of the Debt-to-Total-Assets-Ratio has a positive effect of 25.43 %-points higher mean returns, which is significant at the 1%-level. The effect remains positive and significant at the 1%-level, while controlling for the remaining independent variables. In conclusion, the improvement of the profitability, liquidity, and/ or solvency is likely to have a positive and significant impact on the mean returns during the three years after the realization of the sell-off. In turn, firms that neither improve profitability, nor liquidity, nor solvency tend to generate negative mean long-term returns of -25.65%, which is significant at the 1%-level. The empirical evidence is sufficient to reject the null hypothesis H_{0n} . Firms that use the proceeds to reduce the outstanding debt tend to create significantly larger shareholder value during the three years post-divestiture than firms that utilize the proceeds for other purposes.

Lang et al. (1995) test the financing hypothesis with a slightly different approach. Nevertheless, their results support the empirical results presented in this paper, that in the context of sell-offs the reduction of outstanding debt is a critical factor for the creation of shareholder value. For a sample of 93 sell-offs from 1984 to 1989, Lang et al. show that the cumulative average abnormal returns at the announcement date of the sell-off for firms that are expected to reduce the debt equal 3.92%, while firms that are expected to use the proceeds for other purposes yield a CAAR of -0.48% at announcement date. The average difference in means equals 4.40% and is significant at the 1%-level. Hence, the average and significantly positive CAAR of 1.41% for the total sample of 93 sell-offs is solely driven by the sample of 40 firms that are expected to use the proceeds to reduce debt.

5. Conclusion

In this study I examine whether spin-offs and sell-offs create shareholder value, and if so, why. In the context of the corporate focus hypothesis, I find that both European spin-offs and sell-offs yield significantly positive abnormal returns of 1.96% and 0.85%, respectively, over a three-day event window. This confirms the results of previous academic literature with the focus on divestitures on the US-market. However, the study does not confirm that focus-increasing divestitures significantly outperform non-focus-increasing divestitures and thereby contradicts the previous academic literature. A potential driver for the discrepancy could be the temporal difference of the samples as well as the occurrence of two economic crises, namely the dot-com bubble in 2000 and the financial crisis in 2007-2008. Considering that the spin-off and sell-off announcements are concentrated around these two occurrences, it gives rise to the educated guess of a potential relationship between corporate divestitures' abnormal returns and recessionary periods. Its investigation could be of high interest for future research, especially since the COVID-19 pandemic affects the worldwide economy and stock markets.

In line with prior research, I further find that spin-offs, on average, yield significantly larger abnormal returns than sell-offs. However, I would like to emphasize that this does not suggest that spin-offs are superior to sell-offs in any instances. In fact, the tests of the merger activity hypothesis and the financing hypothesis have shown that spin-offs and sell-offs are likely to follow two completely different purposes and therefore cannot be compared easily.

Referring to the merger activity hypothesis, I do not find that spun-off entities that experience merger activity during the three years post-divestiture yield significantly higher returns than those that do not experience merger activity. This contradicts the results from Cusatis et al. (1993), who find that entities experiencing merger activity account for the significant mean long-term returns of spun-off entities in general. Potentially, the likelihood of increased merger activity is already anticipated and priced in the initial valuation of the spun-off entity due the historical data. Consequently, the entity's shares would initially trade at a higher price, thereby reducing the mean returns. Nevertheless, I argue that spin-offs are an efficient approach to generate long-term shareholder value and emphasize the information hypothesis by Krishnaswami & Subramaniam (1999), presented in the theoretical framework. Following their argumentation spin-offs function as vehicle to reduce the information asymmetry between management and shareholders. By spinning off a subsidiary, the shareholders can perceive its true market value more easily, thereby creating shareholder value in the long-term. I argue that the information hypothesis and merger activity hypothesis follow

a similar reasoning. Thus, the investigation of a potential relationship between the degree of information asymmetry pre-divestiture and the merger activity post-divestiture could be an interesting topic for future research. Mazur (2015) augments the argumentation that spun-off entities are attractive targets and states that spin-offs enable the subsidiary to use its own stock as currency for future potential acquisitions and thereby creates value. I do find this approach very appealing. Spun-off entities could be used as a platform for target-oriented buy-and-build strategies, with potentially significant returns in the long-term. It would be an interesting subject for future research to test the long-term returns of spun-off entities, that act as bidder.

The results of the financing hypothesis strongly indicate that sell-offs are an efficient measure to improve the financial health and therefore are likely to be motivated by a poor liquidity and solvency. In detail, I find a decreasing trend for liquidity and a significant deterioration of solvency pre-divestiture, followed by a significant improvement post-divestiture. Furthermore, those companies that use the proceeds from the sell-off to reduce outstanding debt yield significantly larger mean long-term returns than those companies that use the proceeds for other purposes. These findings indicate that sell-offs are not only sufficient to enhance the financial healthiness but also create significant shareholder value in the long run. Spin-offs, in contrast, do not generate fundamental cash inflow, at least in the short-term. Consequently, they are not likely to be suitable for financially distressed companies, although they yield larger abnormal returns at announcement, on average.

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