

**INVESTING IN SPINOFFS :
AN ACADEMIC AND EMPIRICAL ANALYSIS
OF LONG TERM RETURNS**

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Etude réalisée par Monsieur Matthias Sigrist (MSc in International Finance 2013)
sous la direction de Monsieur Stefano Lovo Professeur à HEC Paris



**Investing in Spinoffs:
An Academic and Empirical Analysis of Long Term Returns**

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Master's Thesis

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Abstract

I examined spinoffs as a potential investment class for investors based on an academic literature review and empirical analysis of 192 spinoffs between 1992 and 2008. I created a degree of relation score that indicates the difference in operations between a parent and its spun off subsidiary to filter the most attractive spinoffs to invest in. I show that a low score of relation implies that a subsidiary inefficiently employed capital sourced from its parent, and therefore is forced to improve named efficiency as a standalone company. Further, I found that the optimal investment period for low degree of relation spinoffs is the 365 days starting with the first day of trading, yielding a positive abnormal return of 36.5%.

Keywords: Spinoff motives, Refocusing effort, Degree of relation, Selling pressure, Long term returns.

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Introduction

Numerous papers have been written on motives to spin off a subsidiary, yet few analyzed spinoffs from the perspective of an investor, particularly with a long term horizon. Cusatis (1992) analyzed spinoff returns during the years 1965 to 1988, and found significantly positive abnormal returns associated with restructuring activity and an unusual high number of post transaction mergers. A study by Desai and Jain (1999) analyzed spinoffs executed to refocus on core activities, and they found positive abnormal return as well during the years 1975 to 1991. These studies led famous investor Joel Greenblatt, founder of Gotham Capital Management, to compare spinoff investments to a fancy restaurant, where “pretty much everything on the menu was going to be good.” Although he calls spinoffs “discarded corporate refuse”, he believes that over time, returns “significantly and consistently outperform the market averages.”¹ So there seems to be this hype about spinoff transactions creating value for investors, which awoke my curiosity as to why that should be the case and if it held true for the past, if these abnormal returns still persist today. This paper revisits the controversial investment field of spinoffs, using empirical evidence to test whether abnormal positive long term returns associated with spinoffs can be observed based on conventional and unconventional theories behind spinoff motives. The study is based on earlier research as well as on an analysis of 192 spinoffs announced during the years 1992 to 2008.

The management of a publicly traded company is mandated to maximize shareholder’s value through various operational, financial and strategic initiatives. Besides operational improvements, marketing initiatives or internally innovated and developed new products, management frequently likes to look elsewhere for potential value creation. Most CEOs enjoy a shopping streak on the M&A market. Besides vertical integration to stream line the production chain, and horizontal integration in search of synergies, companies also execute mergers and acquisitions to diversify their businesses. Diversification intuitively makes sense to strengthen a firm against adverse circumstances. Geographic diversification protects against local turmoil, cross industry diversification reduces cyclical exposure, different products have different raw material price exposure, etc. Accordingly, size and diversification weigh heavily in Standard&Poor’s credit rating profiles as well. A CEO, however, is paid to generate high returns – demanded by equity holders – rather than capital preservation and building a margin of safety – a debt holder’s demand. These large scale acquisitions of unrelated businesses have served the demands of the latter, yet regarding higher returns they have been proven to be value decreasing instead. Therefore it comes to no surprise that Porter (1987) found, that companies that made unsuccessful diversification attempts in the past often initiate a large-scale restructuring program in

¹ Joel Greenblatt. “You can be a stock market Genius”. New York, NY, Fireside, 1999. Pp. 55 – 56

order to set the focus back on core activities. In these cases value is created by going the opposite direction of seeking size and external growth and instead splitting a company in two through the divestiture of a subsidiary. One such divestiture method is called a spinoff, the pro rata issuing of shares to existing shareholders for a newly separated entity, called the spinoff. Indeed, firms focusing on core activities outperform diversified companies as shown in a study by Berger and Ofek (1995), who compared large conglomerates with pro forma peers replicated through stand-alone companies. The diversified companies traded at a 13% to 15% discount relative to their “sum-of-the-part” pro forma peers. Spinoffs provide one option for conglomerates to return to a more focused business model where stock holders keep their ownership in all business lines and entities. One key question has to be addressed though. Why exactly are diversified companies and conglomerates not as efficient as focused companies? After all, should they not reap some benefits from size and diversification, or potential synergies thereof? Academic research addressed this question in various studies.

Literature review

Corporate management has provided various reasons for why spinning off a company is value creating for its shareholders. A commonly used argument by CEOs to spin off a subsidiary is to create more visibility into each business line to help investors understand the true value of each division. One such example is the spinoff of Moody's out of Dun & Bradstreet Corporation. Under pressure from investors to do something to increase value, the Dun & Bradstreet Corporation announced in 1999 to divest its credit-rating subsidiary Moody's Investors Service (“Moody's”) into a separated publicly traded company. The rationale was that Moody's full value was hidden and misunderstood by the market, since only 10% of all Dun & Bradstreet employees work for the credit rating subsidiary, despite generating more than half of all operating profit.¹ By spinning off Moody's, management believed to provide the market with the necessary information to fully understand the value behind each subsidiary since they both would have to report all financial information separately under SEC regulation, and hence, management believed that hidden value would be unlocked once both companies trade as separate entities. The announcement alone drove Dun & Bradstreet's share price up 10%. It took a while though for the market to fully appreciate the spinoff's value. Moody's lost the same 10% of its market value that Dun & Bradstreet gained within just five days of trading. After a year though, Moody's' share price was up 45.6% relative to its closing price after the first day of trading, and after a three year period, its share price more than doubled. It seems that the divestiture was a success for investors who enjoyed the gains from both entities. However, limited visibility into a conglomerate may not be the actual cause of the initial unfavorable

¹ Kenneth N. Gilpin. “Dun & Bradstreet Will Spin Off Moody's”. The New York Times Online, 16 Dec. 1999. <http://www.nytimes.com/1999/12/16/business/dun-bradstreet-will-spin-off-moody-s.html>

valuation. It is merely the preferred way for a CEO to describe the phenomena of joint companies trading at lower valuation multiples than their respective sum-of-the-parts peer conglomerates as documented by Berger and Ofek (1995). The visibility argument has been analyzed and dissected by academia to understand what exactly is causing the lagging performance of conglomerates, and arrived at more precise explanations thereof than companies' press releases.

Academic research provides two key explanations for Berger and Ofek's conglomerate discount, which are reduced managerial incentives and the free rider problem caused by inefficient internal capital markets described in studies by Myerson (1982), Harris, Kriebel, Raviv (1982), Gertner, Scharfstein and Stein (1994), and De Motta (2003). The parent management – the executive management at the headquarter level that is – has most of its duties outside of everyday operations as it is more concerned with questions on a strategic and organizational level. Most of their knowledge of daily operations comes from reports and feedback from subsidiary managers in each respective division of a firm. Hence, the larger and more diversified a company is, the harder it becomes from a parent management level or investor's perspective to understand the individual segments in which conglomerates are divided into. A small focused firm on the other hand has all the focus and attention on a single division which implies that management at the top level likely still has a clear understanding of how operations are run on a daily basis. Parent management's understanding of how operations are run is even more challenged when a firm's different subsidiaries are in different industries, different countries, or even completely unrelated sectors. Naturally, subsidiary management much better understands what its respective division's operations need to be run profitably in terms of employees, capital, material and equipment, as well as to whether this division is actually run efficiently to begin with. Hence, the more diversified a company, the larger the discrepancy between the parent management's and subsidiary management's knowledge of each respective division. This information asymmetry regarding the profitability and efficiency of operations becomes crucial when trying to assess how much capital is needed to run a given subsidiary profitably and efficiently. A certain level of profit within a subsidiary can be achieved either by employing more capital, or by running the subsidiary more efficiently at a cost to the subsidiary managers, for instance in terms of additional workload. A typical decision might be whether to repair a machine for little cost but much time and effort, or to simply prematurely replace the machine with a new one for little effort but costly to the company. Subsidiary managers are better informed than parent managers on these decisions and on how a subsidiary's respective profit has been achieved, meaning whether the generated cash flow stems from a disproportionately large usage of capital or highly efficient management thereof. From the assumption that subsidiary management prefers to employ more capital rather than working harder to solve a problem, we conclude that subsidiary management demands more capital than necessary. Since capital is raised at the parent level though, the parent management distributes any raised funds among all subsidiaries according to each subsidiary's perceived needs. The studies argue, that while subsidiary managers know their respective subsidiary's actual need of

capital, parent management will due to the mentioned asymmetric information rely on the subsidiary managers' claims when trying to efficiently allocate capital. Hence, an inefficiently run subsidiary may gain access to capital which it would not have access to as a free standing entity. This inefficient internal capital allocation is caused by what Motta called the free rider problem, and it may explain the reduced value in large conglomerates found by Berger and Ofek (1995). The earlier described example of a prematurely replaced machine presents a classic example of a net present value project analysis misguided by the wrong incentives and motives. These sub optimal projects that are invested in merely due to an excessive access to capital have been documented by Jensen (1986). He found that as divisions gain access to capital which they would not have access to as stand-alone entities, they tend to invest more into negative NPV projects destroying firm value. The lower profitability of diversified conglomerates consequentially translates into lower returns on the stock market, since more capital is employed than needed to generate a given amount of profit. Further, the negative relationship between stock returns and excessive diversification has been documented in a study by Comment and Jarrell (1996). The study found a negative relationship between abnormal stock returns and various types of diversification measurements including the number of divisions within a firm and Herfindahl indexes with respect to revenue and assets.

These described dynamics change though once a division becomes an alone standing company. After a company is spun off, capital must be raised directly on the market. The former subsidiary management is now in charge of raising capital, and as such, it must convince lenders of capital and investors that the spinoff efficiently deployed all capital and demonstrate profitability. Since all information and financial statements of the spinoff are now reported publicly, the market now has a much improved assessment of profitability and whether generated cash stems from efficient management or excessive capital employment. Hence, the spinoff can no longer enjoy free riding its former parent's external perception. The comfort of its former parent's cheap access to capital vanished, and being much smaller and no longer able to hide behind more profitable business lines within the former conglomerate, the newly formed entity's management's incentives shifted towards improving efficiency and profitability. These findings led De Motta (2003) to suggest that as external capital markets continue to develop and become more sophisticated, the value of diversification will further decrease. The resulting shift in managerial incentives and expected increase in efficiency may explain Desai and Jain's (1999) observed long term returns. Desai and Jain (1999) analyzed 111 firms that divested unrelated subsidiaries through spinoffs to refocus on core competencies. The 111 focus increasing spinoffs recorded a 33.4% positive abnormal return over a three year period following the spinoff date. Although parent management might be less accurately informed than subsidiary management, it is still capable of a relative comparison with potential peers. Should a subsidiary's performance fall behind its peer groups, management can be expected to take action. This thought process is supported by a study in 1991. Aron (1991) found that spinoffs come in waves in industries that in retrospect turned out to have been in a period of increasing profitability.

As a conclusion, spinoffs conducted to refocus can be expected to increase efficiency over time. Efficiency does not necessarily refer to units of output per unit of time, but rather capital needed for a certain number of units of output. Either efficiency measurement enhances the return on capital employed, and hence, impacts the performance of the share price. Whether these efficiency improvements are anticipated by the market, or whether the market's reaction will not materialize until after such improvements become visible in the financial statements, determine the timing of the expected abnormal returns of the spinoff stock. The materialization thereof within a three year time frame post spinoff, and whether an abnormal return can be observed at all, will be addressed in the empirical section of this study.

Said efficiency and profitability gains may sound intriguing, yet are management's intentions really always so noble as to create value through refocusing? Some spinoffs – or “menu choices” as Joel Greenblatt called them – seem to be prepared for less appetizing purposes. Sara Lee, a producer of frozen and packaged foods, divested its subsidiary Hanesbrands in 2005, an American clothing company. What was announced to be a restructuring effort to refocus – much like discussed above – seemed to have less noble intentions. The parent management at Sara Lee loaded the about to be spun off subsidiary Hanesbrands with \$2.6bn in debt, and transferred the raised cash back to the parent Sara Lee in form of a special dividend. In doing so, Sara Lee could take care of any remaining leverage issues by paying down debt while even having sufficient cash left to buy back stocks. Meanwhile, Hanesbrands faced the debt burden alone, forced to spend most incoming cash flow over the upcoming years solely on debt service, the Bloomberg Business Week Magazine¹ reported. It further stated that, “overburdening Hanes with debt [left] it in a weaker financial position than many of its rivals.” This implies that the difference in leverage between parent and spinoff was not simply due to differences in their industries' respective common leverage and capital structures. Hanesbrands' critical financial situation was reflected in its credit rating of B+, which it subsequently received by Standard&Poors. Parent management enjoyed a bright future as financial flexibility was regained and share buyback programs were expected to boost earnings per share. This example clearly raises a valid concern about the priority of stockholders in spinoff transaction, and as to whether spinoffs are always overly levered, and whether the high returns found by Cusatis or by Desai and Jain are simply a function of taking on more risk.

Should the parent company be forced to act due to financial distress, than spinning off an entity may allow it to strip some debt off of its balance sheet. Parent management decides on how to allocate all uncollateralized outstanding debt between the parent company and its subsidiary, and hence, it can stir the post spinoff level of leverage of each entity. Parent management could therefore potentially spin off an

¹ Jane Sasseen. “How Sara Lee Left Hanes In Its Skivvies”. Bloomberg Businessweek Magazine Online, 17 Sept. 2006. <http://www.businessweek.com/stories/2006-09-17/how-sara-lee-left-hanes-in-its-skivvies>

underperforming business line and load it with debt. For an investor, this would imply that the underperforming overly leveraged spinoff is not necessarily divested in shareholders' best interest – they keep their stake in both parent and spun off subsidiary – but much rather in the parent management's personal interest, as they are expected to remain with the parent company. In this case, the divestiture motive is driven by financial distress due to an unbearable debt burden combined with selfish motives of parent management. One may think intuitively of alternatives such as public secondary seasoned stock offerings ("secondary stock offering") – that is to sell a subsidiary to the public market – and third party sales, as these alternatives to a spinoff raise the needed cash to pay down debt. Although a spinoff yields no cash inflow from external sources, it could potentially improve the parent's financial situation by more than the selling of a business line for cash. When a CEO hires an investment bank to assess the highest price to be obtained in a sale of an asset to a third party or in a secondary stock offering, he or she will have to decide on how much leverage to put on that asset. Any additional debt λ loaded onto the asset up for sale will decrease its equity value E though (and therefore cash received), as the buyer will simply subtract all assumed debt D from the enterprise value EV , the commonly used valuation metric and agreed on price in corporate deals. The below equation illustrates the limitation of debt reduction with C standing for cash and cash equivalents.

$$E = EV_{Subsidiary} - (D - C)$$
$$E - \lambda = EV_{Subsidiary} - (D + \lambda - C)$$

Accordingly, neither a secondary stock offering nor an asset sale to a third party will reduce the net debt ($D - C$) on the parent's balance sheet by more than the fair value of the unlevered asset as any additional dollar of shed debt is offset by a missing dollar of received cash. A spinoff though, at least theoretically speaking, can be levered as far as covenants permit as seen in Sara Lee's divestiture of its Hanesbrands business.

In order for such financial engineering to work, the parent and subsidiary must cut all ties post spinoff so that the subsidiary's financial burden cannot affect the parent company. Some parent subsidiary relationships though remain financially interdependent even as legally separated entities, and therefore are unable to completely detach themselves from financial issues experienced at the other entity. This would suggest that deleveraging can technically not be a common intention to spin off a subsidiary. For instance, Ford Motor Company ("Ford") was forced to repeatedly bail out its supplier Visteon, a former subsidiary that was spun off in 2000. Ford's operation and production assembly depended on parts being supplied on a timely and reliable manner by Visteon, since any supply chain interruption could have a material adverse impact on Ford's financial performance. In this example from the automotive industry, it would not have made sense for the parent company to allocate any excessive debt to the spinoff, as they remained financially attached through operational dependence.

While in rare cases levering the spinoff entity seemed to be a temptation to unload debt, Mehrotra, Mikkelson and Partch (2003) found that this is usually not the

case. The study analyzed 98 spinoffs between 1979 and 1997 to examine differences in financial leverage between parents and subsidiaries that emerge from corporate spinoffs. The study concluded that spinoffs are levered relative to metrics such as the ratio of cash flow to assets and relative to industry variability of operating income, stating that “most finance scholars intuitively argue that the level and variability of cash flow are important determinants of leverage”. Hence, the study’s results oppose the view that spinoffs might be used to reduce debt on the parent company’s balance sheet, but much rather debt is allocated according to commonly used credit metrics and ratios. Furthermore, the study concluded that the spinoffs’ leverage have been in line with the leverage of not-spun-off peers, and the design of the capital structure was determined by the ability to cover debt payments.

Joel Greenblatt made an interesting remark in his book about special investment opportunities, as he describes the split up of the hotel business Host Marriott and the management service business Marriott International.¹ CFO Stephen Bollenbach engineered the spinoff by loading most debt onto Host Marriott, the already less profitable business line which was sitting on unsalable hotels in the early 1990s’ real estate market crash. Surprisingly enough though, Stephen Bollenbach would not leave the highly levered spinoff alone with its pile of debt (as was the case with executive management in the Sara Lee example), but instead became CEO of Host Marriott, the spun off subsidiary. The fact that those with insider information – we expect a CFO to understand the financial situation of a company better than investors – decided to stay with the levered up subsidiary led Greenblatt to believe that the divestiture was not executed to unload debt, and ultimately led him to invest in the subsidiary. Mehrotra, Mikkelson and Partch (2003) analyzed these form of assessment as well and found another strong argument opposing the claim that spinoffs are abused by the parent management. The study shows that debt allocation is unrelated to where executive management’s interests remain post spinoff. In a parent company’s deleveraging attempt, one would expect the management and board to remain with the parent company, however, Mehrotra, Mikkelson and Partch (2003) found neither any correlation between debt allocation and board composition, nor debt allocation and CEO’s ownership of stock in the subsidiary, nor debt allocation and whether the CEO remained with the parent or stayed with the spinoff company. Although sometimes a spinoff is loaded with a large amount of debt, as long as parent management’s interest is not detached from the spinoff, it would be false to assume that the spinoff is simply created to benefit the parent company and its management. A study by Schipper and Smith (1983) further clarified the matter. The study analyzed the debt allocation in spinoffs net of any collateralized debt – collateralized debt must stay with the collateral asset and management has no flexibility in allocating it – for 93 voluntary spinoff announcements between 1963 and 1981. The study found that on average the nominal debt to total assets ratio was at 0.59 before the spin off date (parent and spinoff combined) and decreased to 0.51 for the spun off subsidiary. This further supports the

¹ Joel Greenblatt. “You can be a stock market Genius”. New York, NY, Fireside, 1999. Pp. 66-68

argument that spinoff investments are not subject to any debt traps, and are fairly if not advantageously levered.

In 2007, Belo Corporation announced the separation of its newspaper segment from its television segment. While the TV segment's revenue have been growing by 2.5% per year, the newspaper in line with the general newspaper market in the US shrunk by 8.5%.¹ The financial underperformance has been an ongoing concern as the TV segment was hindered to prosper while having to support a news delivery vehicle which was considered a dying breed. Spinning off the newspaper was declared a strategic move to focus on the faster growing television market. At the day of announcement, Belo Corporation's shares soared 19% to reflect shareholder's excitement about the divestiture.² After the first five trading days, the newspaper segment – now called AH Belo Corporation – was down 18% in share price. One month later, shares traded 26% down and after a year 87% down, which reflects the miserable state AH Belo Corporation and the entire newspaper industry was in, substantiating why Belo Corporation – the TV segment – wanted to divest its underperforming business.

This is an interesting example of a spinoff as it touches on neither subject discussed this far. The spinoff does not serve to unload debt, nor are the divisions in different sector, or industry groups even. The rationale to divest the underperforming division leaves parent management with a nicely growing business, yet shareholders keep stakes in both companies. Since one division is underperforming due to reason unrelated to internal capital allocation issues, why did management chose the spinoff method rather than selling the division to a third party. To fully understand, it is important to understand alternative options and methods to divest a division first.

While the arguments of strategic refocusing and granting more visibility into the companies both seem plausible, companies find themselves often in less favorable situations, and are forced to make strategic decisions. French building materials company Lafarge was hit hard when the US mortgage crisis brought the booming housing market to a sudden halt. The Orascom acquisition in 2007 doubled Lafarge's debt to over €16bn, an amount that turned out to be unbearable during the following credit crisis. After an initial rights issue proved to be insufficient to resolve the leverage issues, Lafarge was ultimately forced to sell its gypsum division in 2011 to raise the needed cash. This example illustrates an important aspect in choice of divestiture method. While the method of selling a division to a third party or a public secondary seasoned stock offering both raise cash for the parent company, we arrived at the conclusion that, although rarely seen, spinoffs provide an interesting alternative to reduce leverage at the parent company as well. Hence force, financial difficulties do not explain how parent management choses its preferred method of divestiture. There

¹ Martin Zimmerman. "Belo to spin off newspaper unit". Los Angeles Times Online, 2 Oct. 2007. <http://articles.latimes.com/2007/oct/02/business/fi-belo2>

² Share price information from Bloomberg Terminal.

are two distinct differences between the public secondary seasoned stock offering (or third party sale) and the spinoff option. One difference lies in the cash received by the parent company when selling a business in a public secondary seasoned stock offering or to a third party, whereas a spinoff yields no cash. The second difference lies in shareholders' interest post divestiture. When a subsidiary is sold or offered on the market, existing shareholders cease to own the sold subsidiary unless they buy it themselves or participate in the secondary stock offering. In a spinoff, however, all interest remains with the existing shareholders as shown in Table I.

Table I: Divestiture methods

Divestiture method	Cash received	Interest lost	Strip excessive debt
Secondary stock offering	Yes	Yes	No
Third party sale	Yes	Yes	No
Spinoff	No	No	Potentially

It turns out that forces other than cash and debt play a more significant role in the choice of divestiture. Lovo, Slovin and Sushka (2012) investigated the choice of divestiture method. They identified four different divestiture methods. First, a third party sale, in which a firm buys the subsidiary in search for synergies. Second, a spinoff, in which the parent's ownership in the subsidiary is distributed to shareholders on a pro rata basis. Third, the subsidiary is bought by the subsidiary's management ("sub buy out"). And fourth, a public secondary seasoned stock offering ("secondary stock offering"), in which the parent is selling the subsidiary to the public market. The study identifies two main motives to initiate an asset divestiture. One, the subsidiary can be run more efficiently by another company or as a standalone due to better synergies or better managerial expertise; an efficiency based motive. Two, a motive based on the "influence cost hypothesis". Owning the subsidiary comes at a cost to the parent similar to the earlier discussed inefficient internal capital markets and the ensuing free rider problem. The model used in the study implies that both parent management and subsidiary (divisional) management have private information regarding efficiency, influence cost, and potential synergies. Using this framework, the study arrives at the optimal choice of divestiture as would be advised by an independent advisory firm that gives guidance to the parent. Table II illustrates the four divestiture methods paired with the parent's and subsidiary's management information and potential synergies with an unrelated acquirer.

Table II: Divestiture methods analyzed in Lovo, Slovin and Sushka (2012)

Divestiture method	Parent information	Subsidiary information	Synergies
Third party sale	n.m.	n.m.	High
Secondary stock offering	Negative	Negative	n.a.
Sub buy out	Positive	Positive	n.a.
Spinoff	Positive	Negative	n.a.

When a third party believes to have sufficiently large synergies, the parent's and subsidiary's private information become irrelevant, as they are likely overpowered by the premium the third party is willing to offer to capture the synergies. Accordingly,

should there be high synergies, the advised divestiture method is selling to the interested acquirer.

Lovo, Slovin and Sushka (2012) explain further that secondary stock offerings result from double negative information. The subsidiary's management is not interested in owning the subsidiary, and the parent's management's view of the subsidiary is so negative, that it prefers for its shareholders not to continue owning it, as they would in a spinoff. Accordingly, the advised method would be to sell the company on the market in a secondary stock offering. Naturally, the offering comes at a discount to reflect the negative signal of the double negative information. The parent company is willing to proceed as the gains from the eliminated influence cost exceed the cash left on the table due to the discount.

Should the subsidiary's management believe to be able to run its division more efficiently as an independent company, it is incentivized to disclose that information to its parent through an offer for a sub buy out. The parent's gain is the received premium, whereas the subsidiary's management believes that the increased efficiency gains as an independently run company outweigh the paid premium.

The last method of divestiture is the spinoff. In this situation, the parent has positive information on the subsidiary, whereas the subsidiary's management has negative. The parent's management is willing to divest its subsidiary to eliminate influence cost. Would there be no influence cost, it would prefer to keep the subsidiary. The advice for a divestiture structure in which existing shareholder keep ownership in the subsidiary is based on the parent's positive information. This framework nicely points out, that spinoffs must normally be underperforming or inefficiently run business lines, for which the parent company has positive information, meaning, the parent management believes these inefficiencies will revert once the subsidiary is spun off. As standalone companies, these influence costs are eliminated and the subsidiary can be expected to perform at a higher level.

The study by Lovo, Slovin and Sushka (2012) utilizes subsidiaries that have a minority stake traded on the public market prior to the announcement date of the divestiture, which allows the study to take the analysis one step further. It cannot only observe the parent company's stock price reaction, but also the subsidiary's stock price change at the announcement date. Furthermore, by looking at the change in value of the parent's assets that remain after the divestiture (called the "stub"), the study can provide a measure of influence cost, at least as perceived by the market. The changes in stock price at the day of the announcement back up the theory laid out by the study. Specifically for spinoffs, the stubs' values rise to reflect the elimination of influence cost. The parents' values – at this point still consisting of the parent's business lines and the parent's stake in the subsidiary – also rise, showing that the market expects some gains from holding both entities separately. The only price decrease that the study found for the spinoff method was the one of the spinoff entity itself; a statistically significant decrease of negative 4.6%. This implies that most gains from this transaction are expected to materialize at the parent's level. The negative return for the about to be spun off subsidiary comes at a surprise, as the studies by Gertner, Scharfstein and Stein (1994) and De Motta (2003) would imply that managerial

incentives are expected to shift, and since the entity can no longer “free ride” using internal capital markets of the parent company, the spinoff is expected to be forced to improve its lacking efficiency. Furthermore, Jensen (1986) expects less negative NPV investments by the spinoff after it has been divested. These economic intuitions claim that the spinoff will be run better and more efficiently in the future, yet the announcement loss shows that the market expects otherwise.

One likely explanation for this announcement loss is cost of capital. Naturally, as a smaller, less profitable company the cost of capital will rise at first. More efficiently run operations may yield higher future cash flows, but a higher cost of capital will discount those cash flows at a higher discount rate which can reduce the net present value. Should we assume now that spinoffs offer an investment opportunity worse considering, we must determine a buying point. An initial negative abnormal return may provide an opportunity to build a position at a discount, assuming it will revert over time. The initial loss combined with how quickly the market incorporates the expected efficiency improvements in the price – and whether the spinoff management actually succeeds in doing so – will determine the optimal buying point. Finding this buying point will be part of this study.

My study and analysis is based on the assumption that management will act in shareholders’ best interest. As illustrated in earlier examples such as the Sara Lee Hanesbrands spinoff, the stated intentions of the executive management might be questionable in some cases. However, while in theory all doors are open, sometimes certain choices may just not be available. AH Belo Corporation may have not found any appreciation in a public offering, nor was there an interested synergetic buyer, yet it still hurt the TV segment to keep feeding cash to the dying newspaper. Hence, a spinoff may have remained the only option, although parent management would have preferred for its shareholders to no longer own the newspaper. While some spinoffs as described might be initiated for different reasons, most cases in my data – particularly the refocusing spinoffs – follow the logic found by Lovo, Slovin and Sushka (2012).

This far, an academic research review found that most spinoffs are neither undertaken to unload debt from the parent to the subsidiary, nor due to financial distress, nor due to underperformance unrelated to inefficient management of the subsidiary. Hence, spinoffs are a voluntarily undertaken divestiture method for a subsidiary for which the parent company has positive information and therefore shareholders will retain their pro rata ownership therein. However, the business line is not optimally run embedded within the parent company, as this led to issues of managerial incentives regarding efficiency and capital consumption. These issues led to the underperformance of the business line, which can be expected to revert as the subsidiary start reporting all financial information publicly as an independent company. Lovo, Slovin and Sushka (2012) found that although the parent-subsidiary combination reacts positive to the announcement of a spinoff, the subsidiary surprisingly experiences a drop in share price. Never the less, over the long run, at least in the 60s, 70s, and 80s, the spinoff share price tends to outperform the market as the business

is turned around and run more efficiently and profitably according to Desai and Jain (1999). This study will further investigate how long it takes until these improvements are reflected in the share price, and accordingly when to buy and sell a spinoff to take advantage of the investment opportunity.

The efficiency improvements and improved managerial incentives predicted by academia first must be implemented, and shareholders may remain cautious at first in believing in the proclaimed improvements and translation thereof into higher cash flows. Under these considerations, an initial dip in share price seems plausible, if not even exciting for this study. After all, an investment in a spinoff necessarily not only needs a selling, but also a buying point, and it looks like when shares become available it is not too late, as none of the anticipated gains have materialized yet in the share price.

One area that has received no prior attention in academia¹ is the share price performance over the first days following the share distribution of a spinoff. Since I analyze the spinoff investment opportunity from an investor's perspective, and not from an already invested shareholder's perspective, I also need to think about when to buy the spinoff. Usually, the spun off subsidiary makes up only a fraction of the parent company; particularly so when spun out of a conglomerate. Hence, most shareholders hold shares in a company to receive a share in profit of the remaining parent. For instance, Host Marriott, the subsidiary, accounted for only 10-15% of the total value of Marriott International, the parent's name after the spinoff, and it was unlikely that anyone was invested in Marriott Corporation – the parent prior to the spinoff – for Host Marriott exposure alone. Instead, investors are more likely interested in Marriott International when considering shares of Marriott Corporation, as Marriott International is the profit driving division. Furthermore, given that most spinoffs consist of an underperforming subsidiary, it is fair to assume that investors have not been investing in the parent company to hold shares in the about to be spun off subsidiary, but rather are interested in the parent's business. Once the spinning off is finalized, a large amount of shareholders will receive shares in a company – the spinoff that is – that they did not initially want to invest in. Joel Greenblatt explained in his book that he therefore expects these shareholders to dispose of their spinoff shares. "Sales of stock solely for this reason would not be based on the specific investment merits and therefore, might create a buying opportunity."² The drop in share prices of already publicly traded spinoffs at the announcement date found by Lovo, Slovin and Sushka (2012) could, in part, be a sign thereof. What I look for is selling pressure. Selling pressure is defined as a temporary excessive supply of shares on the ask side that consumes the bid side order book which drives the share price down. Similar to the flash crash of the Dow Jones Industrial Index in May 2010, the order book's bid depth was not deep enough to absorb the shares that became available. Accordingly the

¹ I could not find any studies addressing this topic specifically for spinoffs.

² Joel Greenblatt. "You can be a stock market Genius". New York, NY, Fireside, 1999. Pp.

share price drops quickly, until new bid offers arrive in reaction to the now lower share price, and stabilize the share price. Usually such selling pressure is observed when large blocks of shares are sold at once (e.g. Flash Crash). This can drive down the share price, yet the excessive supply and decline in share price is not related to a change in fundamentals of the underlying asset. Once the entire position is sold, the price reverts to its previous level, where fundamentals indicate the stock should be traded at. This issue led to the introduction of dark rooms, a trading platform that does not show the order book, so that large blocks can be sold without impacting share prices as much (when traders smell a block trade, they expect this quick temporary changes in share price, and try to take advantage of it, which they supposedly cannot in a dark room).

While generally any initial abnormal negative share price changes are expected to persist, there are certain selling pressure cases worthy of closer examination. Specifically companies of indexes such as the S&P500 may present a unique investment opportunity caused by negative price pressure due to the holding adjustments of index funds. Index funds try to mirror an index return by holding exactly the same companies in the same proportion as the tracked index does. When examining single division spinoffs of large conglomerates, the parent companies may continue to be part of the index, while their subsidiaries lack the size to be a part thereof and, hence, will not be considered as constituent. The S&P 500 provides an excellent opportunity to examine this event as it is not only popular in the index fund industry, but has been loaded with diversified companies already in 1985, with two thirds of all companies being active in more than five SIC codes (Montgomery (1994)). My data includes 32 such examples where the parent company remained in the S&P500 index yet the subsidiary was not added. Since index funds follow the objective of minimizing the tracking error – the index fund industry’s quality measurement tool that analyzes how closely a manager is able to follow an index – these funds replicate the index by investing proportionally to the index’s weighting of its constituents into all companies that make up the index. On the spinoff’s first day of trading, every index fund not only holds shares in the parent company which is still part of the index, but holds also shares in the spinoff, which will likely not be included in the index. A similar situation of pricing pressure should be observed as when a regular index constituent is deleted from an index, as many investors hold shares of a company that no longer meets their investment objectives and requirements. Should a company be newly added to an established index such as the S&P500, we would expect the same effect; this time buying pressure though. Such additions and deletions of stocks from an index are well documented. Kappoua, Brooks and Ward (2008) examined the S&P 500 during the years 1990 – 2002 using the Fama-French three factor model for abnormal return calculation. Newly added companies posted an average abnormal return of 4.12% on the day of announcement which partially reversed over the following three consecutive days. Lawrence and Eitan (1986) had similar findings for the time period of 1973 – 1983. Price increases at the index addition announcement day amounted to 3% and nearly fully reversed over the following two weeks. In the case of spinoffs, the focus lies more on deletion from an index than addition. Normally, deletions are a result of

special circumstances such as takeovers – the former constituent no longer exists as an individual company – as well as mergers, bankruptcy or because another company simply became larger and stole the previous constituent’s spot. One may argue that some of these situations – namely acquisitions and bankruptcies – present a difficult case to examine selling pressure related to an index deletion, since share prices always rise when a tender offer is made, and dropping share prices in bankruptcies may not be related to the deletion from the index but much rather the financial situation the company is in. Never the less, Pruitt and Wei (1989) show that “institutional holdings in response to additions or deletions from the S&P 500 are positively correlated”, confirming that this effect can be found in both directions – addition and deletion. Lynch and Mendenhall (1997) found further evidence during the time period of 1990 – 1995 that abnormal returns are not only negative following the announcement, but also are significantly positive afterwards, which is consistent with the hypothesis of index funds unloading their shares. I examine the first 5 days of trading after the distribution of a spinoff’s shares to find any directional trading pressure. Should share prices drop at first, we may just have found an attractive buying point for a spinoff investor. A 4% discount (d) when buying – as was measured in the study by Kappoua, Brooks and Ward (2008) – would turn a 20% long term gain (g) into a 25% return (r), and is therefore worse investigating.

$$r = 1.25 = \frac{1.2}{.96} = \frac{1 + g}{1 - d}$$

Sample description

The studies most frequently cited regarding long term spinoff returns were conducted by Cusatis (1992) and by Desai and Jain (1999) and cover the time spans of 1965 – 1988 and 1975 – 1991, respectively. My study will analyze more recent data starting in 1992, the first year that is no longer included in Desai and Jain's data set, and ending in 2008. A spinoff announcement in December 2008 still provides ample room to analyze the three year price performance post spinoff. The spinoffs were gathered using the CDS Platinum data room using targets in North America. Additional information on each spinoff was sourced from a Bloomberg Terminal, Compustat North America, Thomson Reuters, Thomson Deal, CDS Platinum, as well as company information such as press releases and annual reports. Only public spinoffs are included to be able to measure the share price performance. Out of 192 spinoffs, 22 spinoffs had shares publicly traded prior to the spinoff date through a secondary stock offering, and 56 issued less than 100% of all outstanding shares. For instance, Penn Central kept a 12% stake in its subsidiary GK Technologies, later known as General Cable. For the 22 spinoffs with a preexisting trading history, typically about 10% to 15% of all shares have been floated in secondary stock offerings, whereas the remaining stake was spun off a few years later in the hereby analyzed spinoffs. These spinoffs resemble those used in the study by Lovo, Slovin and Sushka (2012) and are in certain tests excluded. As said, Lovo, Slovin and Sushka found significant negative abnormal returns on the date of announcement. These negative returns are observed in spinoffs that had shares traded on the market due to preceding secondary stock offering. One such example is Pharmacia Corporation's divestiture of Monsanto.¹ Pharmacia Corporation tried to divest the struggling Monsanto business in October 2000 after the unsuccessful merger in March 2000, only half a year later! "For tax purposes related to the merger, Pharmacia [could not] sell more than 20% of Monsanto stock on the public market just yet."² Hence, it only sold a 16% stake in a secondary stock offering which, according to Lovo, Slovin and Sushka (2012) contains a negative / negative information signal for how the parent and subsidiary management see the subsidiary. The parent preferred to sell all shares, yet had to wait due to the mentioned tax issues. Considering Pharmacia just bought Monsanto half a year prior, they must have found something they did not like once they owned Monsanto. The small stake offered to the market at a typical IPO discount missed the target of \$21 to \$24 per share selling at \$20 (5% – 17% below target). In August 2002, just one and a half years later, Pharmacia spun off all remaining shares. Following the Lovo, Slovin and Sushka study's logic, the spinoff thereafter of the remaining 84% stake should have signaled that the parent company changed its mind about its perception of the subsidiary's potential from negative to positive. But did it really? And even if so, was the market

¹ Monsanto merely serves as an example of a publicly traded subsidiary prior to being spun off, and was not necessarily part of the study by Lovo, Slovin and Sushka (2012).

² Mark Lewis. "IPO Brings Monsanto Back From The Dead". Forbes Online, 18 Oct. 2000. <http://www.forbes.com/2000/10/18/1018monsanto.html>

buying the new signal, after Pharmacia’s management tried to dump the acquired business on the market shortly after buying it and not too long before the spinoff? Pharmacia’s Chairman and Chief Executive Fred Hassan explained in a press release, "The spinoff we are announcing today will allow us to fully unlock the value of our pharmaceutical and agricultural businesses."¹ I doubt that the typical “visibility” argument answered all investors’ questions about the transaction, as apparently only two years earlier it made more sense to merge the companies. Since the floating of the minority shares in Lovo, Slovin and Sushka (2012) data took place on average 4.6 years prior to the spinoff announcement dates, I argue that the situation has changed materially enough over time to treat the two events separately, and that the spinoffs are taken for their described signal of positive parent information. In my study though some spinoffs such as Monsanto might be questionable examples, and hence, are excluded in certain tests.

Table III: Spinoffs per year

Year	Number	Year	Number	Year	Number
1992	1	1998	13	2004	7
1993	5	1999	15	2005	11
1994	5	2000	24	2006	7
1995	15	2001	13	2007	10
1996	12	2002	14	2008	18
1997	14	2003	8		

Table III shows that the spinoffs are more or less regularly distributed over the analyzed timespan. The spinoffs operate in 288 different SICs, with business services (11.6%), chemicals and allied products (6.6%) and electronic and other electrical equipment (6.1%) making up the largest major industry groups. Aron (1991) observed that spinoffs come in waves in industries that in retrospect turn out to have been in a period of increasing profitability. In my sample, spinoffs of each industry seem to be randomly distributed over the years with one exception in the industry group 38 – electronic and electrical equipment and components. Out of the 21 observed spinoffs, 17 occur within four consecutive years. Considering the large sample though, I expect at least one such cluster even in a randomly distributed data set. This does not contradict Aron’s findings, but simply gives no ground to support it.

Table IV: Transactions post spinoff

Event	Year 1	Year 2	Year 3	Total	% of all spinoffs
Bankruptcy	1	5	0	6	3.1%
Merger / Acquisition	5	11	15	31	16.1%

Table IV shows all post spinoff transactions over the three years after the spinoff date. Six spun off subsidiaries filed for bankruptcy either under Chapter 7 or 11, and 31 spun off subsidiaries have either been merged into a larger company or acquired.

¹ Pharmacia Corporation. “Pharmacia to Spin Off Ownership Stake in Monsanto Company”. PRNewswire Online, 28 Nov. 2001. <http://www.prnewswire.com/news-releases/pharmacia-to-spin-off-ownership-stake-in-monsanto-company-74413477.html>

The sample includes 68 parents that were part of the S&P500 index prior to the first trading day. In some cases, the spinoff was so large that both the parent and spinoff became constituents (e.g. Altria Inc. spinning off Kraft Foods in 2007 or Citigroup's Travelers spinoff in 2002). In other cases the spinoff reduces the parent size to a point where neither entity was part of the S&P500 any longer post spinoff (e.g. Arbitron's spinoff of Ceridian Corp in 2001). Detailed information on this breakdown and other data descriptive tables can be found in the appendixes.

Empirical Analysis

To measure abnormal returns or alpha, I used the Fama-French Three Factor model. Starting with the first day of trading, I regressed each spinoff's returns on a daily basis for one year to arrive at the potential outperformance after the spinoff becomes an independent publicly traded company. I also regressed the subsequent two years to find any long term tendencies, as the outcome of newly implemented changes in policies, operations or strategy may take longer than one year to be observed and accordingly appreciated by the market. Finally, I used the SMB, HML and Beta factors of the year one regression for each spinoff to analyze any abnormal returns within the first week of trading (first five trading days), to see how each spinoff was initially perceived and understood by the market. For instance, a given day's alpha α_t for a particular stock i would be calculate as shown below, whereas the factors β_i , β_{HMLi} and β_{SMBi} stem from the first year's regression.

$$\alpha_{it} = (r_{it} - rf_t) - [\beta_i * (r_{market_t} - rf_t) + \beta_{HMLi} * HML_t + \beta_{SMBi} * SMB_t]$$

The results are shown in Table V. Although the spinoff sample experiences an average alpha of roughly negative 1% over the first five trading days (named Week 1 in Table V), 66.1% of all spinoffs end up outperforming over the first year, leading to an average abnormal return over a one year holding period of 24.4%. In year two and three, the sample's average abnormal returns amount to 18.6% and 11.8%, respectively. The respective median abnormal returns for the year one, two and three regressions are 17.6%, 11.2% and 7.2%, respectively.

Table V: Average alpha per time period

Sample	Year 1		Year 2		Year 3		Week 1	
	Stocks	Alpha	Stocks	Alpha	Stocks	Alpha	Stocks	Alpha
All spinoffs	192	24.35%	186	18.55%	170	11.75%	192	(0.94%)
Acquired spinoffs	5	91.10%	11	247.90%	15	77.98%	0	
Spinoffs excl. Acquired	187	22.57%	175	4.13%	155	5.34%	192	(0.94%)

Cusatis (1992) wrote that he observed in the latter two years of his three year post spinoff analysis a significant increase in acquisition activity that materially impacted the sample's abnormal returns. Table V breaks down the abnormal returns attributable to spinoffs acquired in a given time period relative to all non-acquired

spinoffs. While in Cusatis' study one third of all analyzed companies have been acquired during the second and third year, this number is much lower at 16% in this data sample. Desai and Jain tested their sample for takeover activity as well, and concluded that returns were not driven by takeover activity. Nevertheless it is quite obvious that alpha in year two and three has been impacted in this sample, and it would be much lower when acquisitions are excluded. The acquired five spinoffs in the first year do not materially change the overall measured alpha, although their returns do exceed the non-acquired spinoffs' returns. The unique characteristic of being a more focused business makes spinoffs attractive acquisition targets as a potential acquirer must not worry about all the unrelated business lines that may come along when acquiring a conglomerate. The acquired spinoffs operated on average in less than three 4-digit SIC codes. Since the high returns in the first year are not driven by acquisition, as even without the acquired companies the average measured abnormal return amounts to 22.6%, the stock market seems to be appreciating the new investment opportunity early. Accordingly, the financial market expects a relatively early materialization of the anticipated efficiency improvements due to shifts in managerial incentive that are expected to occur once the spinoff is an independent entity. These previously inefficiently and sub optimally run operations have been managed better post spinoff, and accordingly, out of 192 companies analyzed only six (3.1%) experienced financial difficulty resulting in bankruptcy filings, which does not seem out of the ordinary given the three year time span.

The average abnormal return of 42.87% found when applying the Fama-French three factor model over a three year period indicates that spinoffs are indeed worth investigating as potential investments. Furthermore, comparing these results to previous studies (Table VI) implies that this outperformance will not disappear anytime soon, although alpha has been measured using different methods in previous studies.

Table VI: Comparative studies

Author	Published	#	Sample	1 Year	3 Years
Cusatis	1992	163	1965 to 1988	12.50%	18.10%
Desai and Jain	1999	155	1975 to 1991	15.69%	32.31%
Sigrist	n.a.	192	1992 to 2008	24.35%	42.87%

Cusatis as well as Desai and Jain matched their spinoffs with firms of same size (market capitalization) and similar industry (first two-digit SIC) to arrive at the excess returns found in their studies and shown in this table. I consider a two-digit SIC relation too broad, and opted for the Fama-French model as it excludes any personal judgment as of whether a business is closely enough related to represent a meaningful benchmark.

Desai and Jain argued that the attractive returns they found stem mainly from spinoffs that served as a means to refocus on core competencies. One measure of focus used in the study is a Herfindahl index with respect to each business segment's sales as a percentage of total sales. Should the Herfindahl index of the parent increase from the year before the announcement to the year after the spinoff, a spinoff was classified as focus increasing. I do not like this measure as it depends on management's choice of sales reporting, since Desai and Jain used sales numbers from annual reports. Furthermore, it does not distinguish between a strongly related and unrelated subsidiary. As long as the subsidiary's sales was previously reported as separate segment, its impact on the Herfindahl index is equally treated. A second

measurement used in Desai and Jain’s study is the number of segments reported by a firm, and the change of this number due to the spinoff. Again, different managers may break down a company differently in annual reports. Some prefer dividing each product, some try to keep their reported financials as consolidated as possible. Lastly, the study also used 2-digit standard industry classification codes (SIC) to measure an increase in focus. Using only two digits though is still a rather broad measurement. For instance, the industries shown below still fall under the same two digit SIC code. Finally, for some spinoffs the appropriate data was not available, and the binominal decision whether a firm is focus increasing or not based on a judgment call using press releases and newspaper articles covering the transaction.

27: 27 (11) Newspaper publishing 27 (32) Book printing service
 48: 48 (32) Radio broadcasting station 48 (33) Television broadcasting station
 72: 72 (31) Beauty Shop 72 (91) Tax return preparation service

In my study, I tried to analyze this relationship differently. I created an index of relatedness named “degree of relation” between a parent company and its subsidiary. To determine this degree of relation I used SIC codes which are broken down into four digits. The first digit describes the broader sector, and each following digits further breaks down this sector into industry groups and sub-industries. Comparing the parent’s SIC codes to the target’s will result in a degree of relation as completely unrelated SIC codes – no match on the broadest first digit – would yield a score of 0, same first digit code a degree of 1 and so forth, so that if all four digits match, and hence, they operate in the exact same sub industry – a score of 4 is assigned. Hence, each spinoff receives a score on a scale from zero to four depending on how related the target’s business is to its parent’s. This framework (Table VII) provides a more exact and more detailed analysis of how related two firms are, as for instance, the radio and television broadcasting stations shown above are distinguished only in the last digit.

Table VII: Degree of relation

SIC Level	Description	SIC digits match	Score	Example	Example's SIC
n.a.	No relationship	No Match	0	n.a.	n.a.
Division	Sector	1-digit # x x x	1	Wholesale Trade	5 x x x
Major Group	Industry Group	2-digit # # x x	2	Non-durable goods	5 1 x x
Industry Group	Industry	3-digit # # # x	3	Groceries	5 1 4 x
Industry	Identical SIC	4-digit # # # #	4	Packaged Frozen Foods	5 1 4 2

This analysis does not only include the primary SIC code, but all SIC codes a firm operates under as streamed by CDS Platinum. Accordingly, for a score of zero, there cannot be any match between any of the parent’s multiple SICs with any of the spinoff’s SICs. Table VIII on the following page summarizes the findings. Not only do spinoffs originating out of an unrelated company (score of 0) outperform the related spinoffs (score of 4) by roughly 20% in year one, but the trend is consistent throughout the data. The closer the subsidiary’s SIC to the parents, the weaker its recorded alpha in year one, and the further away a spinoff is from its parents operations, the better it performs in year one. The degree of relation is particularly practical as it is not

binominal, and can be regressed against Fama-French abnormal returns. Regressing first year abnormal returns against the degree of relation yields a statistically significant coefficient of -7.17% (t -stat -2.46), implying that for every additional degree of relation or SIC digit match between a spinoff and a parent, the expected abnormal return over the first year will decrease by 7.17%.

Table VIII: Degree of relation relative to market performance

Degree of Relation	Score	#	Alpha Week 1	Alpha Year 1
No relationship	0	19	0.64%	39.35%
Sector	1	25	0.51%	34.41%
Industry Group	2	15	(1.92%)	27.99%
Industry	3	8	(0.84%)	26.17%
Identical SIC	4	125	(0.20%)	19.51%

These findings support the argument made by Desai and Jain, that “the long-run abnormal returns for the focus-increasing spinoffs are significantly larger than the corresponding abnormal returns for the non-focus-increasing spinoffs.” Their study explains further that “non-focus-increasing spinoffs show that the firms are likely to undertake these spinoffs to separate underperforming subsidiaries from the parents.” During the time period of my sample (1992 – 2008) different studies regarding spinoffs have been published to resolve some of the false beliefs behind spinoff such as the motive to transfer debt or the cause due to financial distress. Nevertheless, spinoffs still sent a negative signal to the market as this choice on divestiture implies negative information by the subsidiaries management as explained by Lovo, Slovin and Sushka (2012). Hence, the measured abnormal returns for the first week of trading can rightfully so be expected to be negative. Lovo, Slovin and Sushka (2012) found the abnormal return on the day of the spinoff announcement for previously floated, and hence publically traded subsidiaries to be negative 4.59%. It is therefore even more so interesting to see that spinoffs that originate out of unrelated businesses are perceived differently by the market from those strongly related to their parent firms. Analyzing the average abnormal return for each spinoff during the first five trading days (week 1 in Table VIII) shows how spinoffs are appreciated by the market depending on their degree of relation to their respective parents. Although on average spinoffs lose some ground during the first week of trading as said earlier, it is evident that spinoffs with no relation or just a very broad relation on a sector level tend to outperform the market already when newly listed on the market in anticipation of the later experiences abnormal returns. Completely unrelated subsidiary spinoffs (degrees of relation of 0 and 1) average an abnormal return of +0.57%, whereas spinoffs with a stronger parent relationship and degrees of relation higher than 1 average -0.41%. The difference in means between these two groups is significant at a t -stat of 1.662. As a last remark regarding the comparison between this study and Desai and Jain’s, I found it interesting that they classified 130 out of 155 spinoffs, or 85% of their sample, to be focus increasing. Applying the same 2-digit SIC classification on my sample would put 44 out of 192 spinoffs, or 23% of the sample, into the refocusing category. It seems like the restructuring activity in the 80s and late 70s was much stronger than in the 90s until 2008. Porter (1987) documented this theory as he observed restructuring activity

of unsuccessful diversification attempts during the study sample period of Desai and Jain.

As suggested above, refocusing on core competences and activities results in abnormal positive returns. The cause of pre-spinoff inefficiencies are believed to be caused by inefficient internal capital markets and incentive issues due to a lack of insight into each division. This lack of insight or visibility is expected to change when the spinoff stands alone as an entity, which then supposedly triggers the change in incentives for management. Accordingly, it would be of interest to analyze whether a difference in alpha can be observed between previously floated spinoffs – which offer visibility into the division prior to the spinoff as they were required to follow SEC financial reporting standards – and those that spun off 100% of the previously privately held spinoff. I divided all those spinoffs that were spun off with the intention to refocus into a group containing previously floated firms through an IPO, and a group containing spinoffs that had 100% of their shares spun off. An intention to refocus is defined by a degree of relation of either 0 or 1, hence, the spinoff may operate in the same sector, but not the same broader industry as its parent company.

Table IX: Comparing abnormal returns for different sizes of spun off stakes

Stake spun off	#	Return Week 1	Return Year 1
All shares spun off	26	0.77%	50.85%
Less than 100%	18	0.27%	15.86%
Combined	44	0.57%	36.54%

Table IX shows that for spinoffs that had already been traded on the market, the abnormal returns remain positive as they belong to a group of refocusing spinoffs, however, it appears that some of the benefits of higher visibility have already been incorporated in the share price, as those spinoffs that had their entire stake spun off – 100% of all outstanding shares – recorded higher abnormal returns both during the first week and the first year. The first week here again represents the general market's appreciation of the newly available shares. The *t*-stat for the difference in abnormal return between the two groups for week one and year one are 0.476 and 1.647, respectively. This finding evidently supports the argument made by Gertner, Scharfstein and Stein (1994) and De Motta (2003) that divesting an entity and turning it into a public company creates more visibility into the operations efficiency, which then forces management to address any existing issues that went unnoticed as a free riding subsidiary. Entities that were floated prior to being spun off already materialized some of these managerial changes, and hence, have less potential for improvement in these area relative to newly spun off entities that report for the first time.

Another cause for an early implementation of efficiency improvements is the ample amount of time elapsing between the announcement of a spinoff and the actual spinning off of the entity. In this data sample, typically about six months elapse in between the announcement date and the first day of trading. A division's management is likely informed prior to the public announcement of the intended divestiture, giving management more than six month to rethink the about to be divested subsidiary's strategic, operational, and financial situation, so that by the time the shares start trading on the public market, initiatives may already be underway even if not visibly translated

into earnings yet. This could further explain why the bulk of the high returns appears already in the first year.

One may argue that smaller companies can be managed more easily and are simpler to understand than large companies such as General Electric, an international player in various industries. Accordingly, one may argue that smaller companies that refocus should yield a smaller abnormal return. Regressing their returns using size as independent variable, however, yields no significant relationship, and a negative one if any, meaning that smaller spinoffs perform at least as well as larger ones do in the long run. I conclude that any inefficiency issues must stem from a large variation in type of operations run, rather than their respective size.

Finally, I analyzed subsidiaries spun out of S&P500 constituents that did not make the index themselves. I expected that initially these spinoffs would experience negative price pressure as a large portion of stockholders no longer finds a fit for the subsidiary in their portfolio. Unfortunately, comparing a group of 32 spinoffs originating from S&P500 index constituents, yet that did not become constituents themselves, to a group of 22 spinoffs also originating from S&P500 index constituents that also became constituents themselves, shows, that there is no significant selling pressure observable. Instead, as an investor it would make more sense to analyze how related each subsidiary was to its parents. Hence, in this case as well, it makes sense to acquire a position on the first day of trading rather than wait in order to fully profit from abnormal returns found in spinoffs.

Conclusion

Academic research has shown that spinoffs are not abused by parent management to unload excessive debt from the parent to the subsidiary. Instead, spinoffs as a means to divest are chosen on the basis of influence cost and performance expectations of management at the parent and subsidiary level. CEOs chose to divest a subsidiary through the spinoff method when they have positive information, yet the subsidiary is not run at its full potential embedded within the parent company, resulting in influence cost. This influence cost stems from inefficient internal capital allocation due to asymmetric information between subsidiary and parent management regarding a subsidiary's capital needs. The more diversified a company is, the larger are these inefficiencies and resulting costs from freeriding subsidiaries. In order to address this issue, the subsidiary is spun off. This way stockholders continue to own the subsidiary now forced to improve efficiency, as well as the parent which now no longer experiences influence cost. While the return on capital employed as a measurement of efficiency takes time to be improved, the cost of capital likely increases right away for the smaller spinoff with below average profitability. Accordingly, the stock price on average decreases at first. For those spinoffs though, for which the efficiency gains can be expected to be the largest, the market also expects an improved return on capital employed.

I showed that for spun off subsidiaries with a degree of relation score of one or less, the expected improvement in return on capital outweighs the initial difficulties in addressing higher cost of capital. Accordingly, an investor is advised to invest on the first day of trading rather than wait, as already in the first week of trading he can expect a positive abnormal return of +0.57%. Subsidiary managements react quickly to the new circumstances, so that most abnormal returns already materialize within the first year. An investor can expect an average positive abnormal return of 36.54% by applying the strategy of buying on day one and selling after 365 days. Whether financial metrics such as EBITDA margins improve within the first reported financial statements, or whether the market simply becomes more confident that this will eventually happen, is beyond the scope of my study. An investor can ultimately be indifferent between an increasing profit and an expanding multiple in valuation thereof causing this return, as it has been consistently measured in different studies for a period of 43 years stretching from 1965 to 2008.

The conglomerate discounts of 13% to 15% found by Berger & Ofek (1995) refers to the parent company prior to the spinoff. Besides the change in EBITDA, it would also be interesting for further research to assess whether spinoffs initially trade at a discount to peers as well, which then vanishes, or whether spinoffs initially are fairly valued and then outperform. In line with the free rider theory, an initial discount would be the expected outcome.

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Appendixes

Appendix I: Spinoffs analyzed for size

Group	Mean Market Cap	Week 1	Year 1	Relation
Very Large	13'081	(0.47%)	9.31%	3.1
Large	1'724	(0.30%)	7.25%	3.2
Medium	677	(0.22%)	27.71%	3.4
Small	265	(0.01%)	36.28%	2.9
Very Small	46	0.20%	39.89%	2.6

When grouping the spinoffs by size into five buckets of 38 spinoffs each, we see that larger spinoffs underperform and have not necessarily experienced larger free rider opportunities at their respective parent companies. Accordingly, I concluded that the degree of relation is a better measure for expected efficiency improvements than size.

Appendix II: S&P 500 constituents

S&P 500 constituent				Returns by group	
Parent Ante	Parent Post	Spinoff Post	Count	Week 1	Year 1
Yes	Yes	Yes	22	(0.64%)	8.81%
Yes	Yes	No	32	(0.26%)	27.06%
Yes	No	Yes	5	(0.03%)	6.27%
Yes	No	No	9	(0.57%)	10.18%
No	No	Yes	3	(0.96%)	9.24%
No	No	No	121	(0.04%)	28.64%

As shown in the table, spinoffs that post (after) spinoff are not included in the S&P500 yet stem from a constituent parent perform better in week one than those spinoffs that were added to the index. Accordingly, the selling pressure theory had to be abandoned. If at any time there should have been selling pressure, than it could only have been on the first day of trading, yet since we cannot invest prior to this date, this scenario will leave an investor indifferent. Interesting are the three spinoffs that were added to the S&P500 constituent list albeit their parent having been neither a part thereof before or after. These are Freeport McMoran Copper & Gold (1995), Realogy Corp (2006) and Wyndham Worldwide Corp (2006).

Appendix III: Top 10 Industry Groups in spinoff sample

Rank	2-Digit SIC	Share in sample data	Industry Group
1	73	11.6%	Business Services
2	28	6.6%	Chemicals and Allied Products
3	36	6.1%	Electronic and other Electrical Equipmnt
4	38	6.1%	Measruing, Analyzing and Controlling Instruments
5	50	6.1%	Wholesale Trade - durable Goods
6	48	4.0%	Communications
7	67	4.0%	Holding and other Investment Offices
8	35	3.5%	Industrial and Commercial Machinery and Computer Equipment
9	51	3.5%	Wholesale Trade - non durable Goods
10	65	3.5%	Real Estate

The data sample is compiled across 56 industry groups which are further broken down into 288 four digit SIC code industries. The share in sample data percentage shows how many spinoffs operate in a particular major industry group. In order to decode an SIC, I used the online SIC manual of the OSHA of the United States Department of Labor.

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