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**CORPORATE SPIN-OFFS VALUE CREATION - PARENT &
SPIN-OFF VIEW**

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Abstract <p>Corporate spin-offs have gained popularity over the past few years. Despite of this in Finnish media and university teaching this phenomenon has gained little attention. This study aims to fulfill this knowledge gap.</p> <p>Spin-off is a restructuring procedure where company splits into two separate legal entities via pro-rata transaction basis. I researched this phenomenon by event-study methodology which has been quite popular also in earlier studies. I have compared parent and spin-off stock performance in order to reveal potential value gains for investors. Parent company is analyzed also from the announcement period where we find strong positive abnormal returns associated with announcement of spin-offs. However by comparing spin-off execution period abnormal returns I find that spin-offs performed worse than their former parents. I find no evidence that in short term spin-offs were valued more than their former parents by investors.</p>	
Key Words Corporate Spin-Offs, Corporate Restructuring, Event-study, M&A, Portfolio restructuring, Organizational restructuring, Financial restructuring, Value creation	
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ABBREVIATIONS

AR Abnormal return
CAR Cumulative abnormal return
LBO Leverage buy-out
M&A Mergers and Acquisitions
MBO Management buy-out
NPV Net present value
 P_x Parent (sample)
R&D Research and development
SD Standard deviation
SME Small and medium-sized enterprises
 SP_x Spin-off (sample)
VAR Variance

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1 INTRODUCTION

1.1 Research background

Traditionally, Mergers and Acquisitions (M&A) have received worldwide attention, however this is not the case for corporate spin-offs. However, in recent years spin-offs have received a spot in researcher eyes as a method of restructuring (Tübke 2005, 1-2). Moreover, both spin-off and M&A are concepts and sub-categories of corporate restructuring, this will be highlighted also in this study because corporate restructuring is the major framework where spin-offs belong (Ramu 1999, 64-74; Das 2009, 11-20)

Additionally, spin-offs have various definitions in literature, some closely related while some highly dissimilar (Parhankangas 2003). In this study we use the definition where parent company establishes a separate entity to hold some business area, and distributes shares at *pro-rata* basis for the existing shareholders. Hence, the parent and subsidiary will be listed companies and have separate business areas (Allen 1995; Bliss 1997; Block 2009; Cusatis 1993; Lin & Yung 2014; Krishnaswami 1999).

Furthermore, one key motivation for investigating spin-offs has been the relative evolution of the popularity of it. Since 1980's corporate restructuring has attained more popularity which received peak just before financial crisis in 2007. Thus, we can argue the importance of this study by discovering the multibillion dollar value of these restructuring methods (Gaughan 2011, 390-394). Business magazine Fortune also emphasises spin-offs relative success especially in recent years when large conglomerates performed successfully large spin-off procedures in a value creative way for stock owners (Fortune.com).

This study examines the stock market performance between parent and spin-off company, after demerge date. Grinblatt and Titman have described this phenomenon through M&A, where stock market performance can denote both relative success of such transaction in the eyes of investors, hence the value perception of markets. This idea can be transmitted into spin-offs, where relative

success of both parent and new entity can be viewed and analysed through stock market performance (Grinblatt & Titman, 2002, 707-710; Lin & Yung 2014).

Numerous preceding research has portrayed the success of spin-offs. The previous is associated especially, in abnormal stock returns of spin entity, (Cusatis 1993; Krishnaswami 1999; Hemang Desai 1999). Despite of this, opposite ideas have been presented, but they are in minority (Lin & Yung, 2014).

Concluding, my own interest to study spin-offs has come from the lack of education and information of them in Finnish media and university courses. For this reason, this paper will provide information, motives and ideas of the relative success of spin-offs and present understandable framework of this subject.

1.2 Purpose of the research and research questions

In previous research spin-offs have been examined mainly from value creation and policy perspective. The relation between parent and spin-off has received minor attention. Thus, it is logic to study this relation but also add some elements of value creation. (Tübke 2005, 8-9)

Under these circumstances, this research will concentrate to analyse stock market performance of both parent and spin-off company after spin-off date. Therefore, the sample contains multiple companies which will be studied and compared with each other in order to produce information will parent and spin-off company have different standpoints in the eyes of investors. For this reason, my research questions will be the following:

- Do parent and spin-off firm have lucidly distinct stock value progress?
- Will spin-off organization, outperform its former parent?
- Do parent's announcement period and execution date abnormal returns differ from one another?

Parent and spin-off comparison is very different to earlier studies, only minor amount of studies have actually focus on this phenomenon (Tübke 2005, 8). Also, one new matter that this study will present is the announcement/execution date segmentation. This unique feature will try to find out if announcement period and execution periods differ greatly from one another. Moreover, it will try to capture if value adding will be done mainly in announcement and trading days close to it rather than actual execution of spin-off.

1.3 Structure of the research

The structure of this research is the following. First there is a short presentation of corporate restructuring field. This includes short presentation of historical factors affecting corporate restructuring procedures and statistical information about volume of corporate restructuring.

Corporate restructuring will be presented in symbiotic form which is a synthesis of researches views what this big umbrella of restructuring actually holds. The form what we explain holds financial, organizational and portfolio restructuring. The first two are explained in chapter 2, while they gives us insight and understanding of the whole field and aspects how to view different measures. Portfolio restructuring will be presented in its own chapter. The reason is quite natural, because it is the big cluster of measures where spin-offs belong. Hence it is important to go through other measures closely related to spin-offs and how they actually differ from them.

After the previous, I will present theory behind corporate spin-offs, how they are being researched, what benefits they hold and what are expectations related to them. However main emphasis will be on actual spin-off process and aspects related to it, motives behind it, potential value gains accumulated from it and lastly short presentation regarding critique for spin-offs. All of these are displayed at chapter four.

Chapter five presents my sample. It will describe method how sample is chosen, what are the requirements for it and where it is harvested. Next great emphasis will be on event-study methodology. Ultimately it is my study method and I will present on that chapter, integral meters how it is measured. In essence it will mean that I explain how abnormal returns are calculated and what is event window; the inspection period for sample.

Chapter six will concentrate on presentation of data. Data is presented in twofold way. Because my emphasis is actually divided to announcement period of spin-offs and actual execution of spin-offs, data will be presented in an order where announcement period is always explained first. Major individual aspect is to explain potential abnormal stock returns. Data analysis consist such measures as mean, median, standard deviation, variance and CAR. CAR has own sub chapter because of its uniqueness, only relating to abnormal returns.

Last individual chapter discusses my findings, its relatedness to earlier studies and how earlier data is interpreted. Conclusion and discussion chapter concludes the paper, it includes short analysis of my findings and potential future research goals. Tables chapter hold all important data sheets, they are not presented between chapters, rather in its own chapter.

1.4 Important terms

This study has huge number of different terms, while some have very dissimilar meanings some may have similar. First I emphasize what is *corporate spin-off*. It is a restructuring method where company, mainly known as in this context as a parent, decides to split its operations into two separate legal entities. This happens via pro-rata distribution, where parent company shareholders are given shares of a new entity and this transaction do not involve cash distributions (Lin & Yung, 2014). This also explained more thoroughly in chapter four.

Corporate restructuring is a very large and complex definitions of various different transactions. Such transactions includes according to Bowman (1993):

“Including selling lines of business or making significant acquisitions, changing capital structure through infusion of high levels of debt, and changing the internal organization of the firm.” (Bowman 1993).

In this study it is referred to be the core definition of all restructuring methods while some literately may also differ it to multiple definitions, most notoriously known as M&A's.

Other key restructuring categories, *financial-, organizational- and portfolio restructuring* will be explained in their respective chapters.

Event-study is the research methodology and it is explained more thoroughly in chapter 5.

Abnormal return is expected return less actual return while *cumulative abnormal return (CAR)* signifies cumulative sum of abnormal returns. These will be explained in chapter 5.

2 CORPORATE RESTRUCTURING

Corporate restructuring refers to different methods how to transform assets of organization into dissimilar form. This includes mergers, acquisitions and divestments. The following chapter will give insight, how restructuring methods and trends have altered over the history. It is important to understand that in this paper, I have divided corporate restructuring into interrelated parts. Hence, I have divided restructuring to: portfolio-, organizational- and financial restructuring. This segmentation has been done due multiple definitions of this area, thus it should provide more knowledge. The definition I use is based on Ramu's definition of corporate restructuring methods as well as Das. The following picture will provide the basic texture of this analysis (Ramu 1999, 64-74; Das 2009, 11-20):

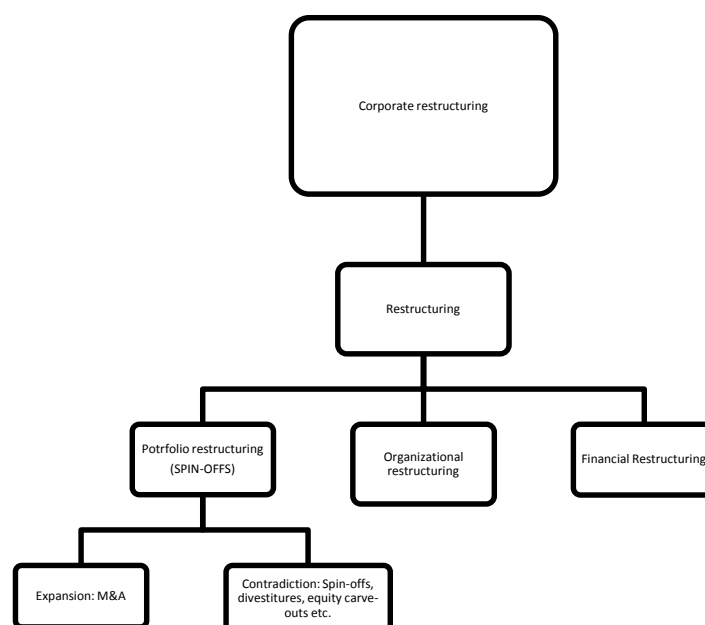


FIGURE 1. Field of corporate restructuring

Consequently, the apportionment will represent different methods of transforming assets and structures of enterprises. In the case of portfolio restructuring I have divided it into two sub-dimension: M&A and divestment procedures (Bowman 1993). However, for example financial restructuring resembles M&A because similar activities. Hence, it is essential that everyone understand that these concepts are strongly interrelated. Moreover, restructuring can be seen as reversal M&A method (Gaughan 2011, 389-390). In this research, I will present shortly history of corporate restructuring that also touch on M&A, because it is interlinked with restructuring. However, I will exclude acquisitions and mergers from this study.

2.1 Historical perspective

One of the aims of this study is to describe shortly how corporate restructuring has evolved over the history. This is due to the fact that it is essential to provide information about various trends of this field.

From the beginning of 1960's the conglomerate organizational structure emerged as major trend in business field. Thus companies grew also outside their preferable business set, in other words they combined different industries together. Previous action was justified, because dissimilar divisions were thought to overachieve when some division underachieved its prospects. Fundamentally it resulted from the need to hedge itself from the effects of business cycle. (Ramu 1999, 17-21)

Furthermore, M&A's grew substantially. For example in 1967 annual turnover of M&A's was just over 20 billion dollars, but in the year 1998 it was already over a trillion dollars (Grinblatt & Tittman 2002, 692-693). Additionally, waves of various trends in corporate restructure have been narrated by researches. According to Town (1992) over to history, it has been shown that mergers, acquisitions and other restructuring methods, arise for short period of time and usually have some similar key trend.

As mentioned beforehand, major reason for corporate restructuring emerged from 1960's due rapid increase of mergers and acquisitions. During that time period multiple organizations evolved to huge conglomerates that participated into various industry sectors in order to diversify and boost their stock prices (Gaughan 2010, 392-393). Furthermore, during 1970's happened the first large scale restructuring boom via divestments. They followed hand in hand M&A's and around 40% of them were restructured almost immediately after merger or acquisition. Similar trend continued at the early 1980's, but slowed down at the same time as other transactions became lesser. However between (see FIGURE 1) 1993 and 2000 corporate restructuring broke records and was historically highest at the peak in the year 2000. However, after dot-com bubble restructuring declined rapidly between 2000 and 2002. After that happened the largest restructuring boom and 2007 restructuring peaked all-time highest, consequently financial crisis ended that boom (Gaughan 2010, 392-400).

Considering potential reason for motives and reason for restructuring from history, there seems to be at least few shared traits. Gibbs (1993) argued in his research that fundamentally biggest motive and reason to restructure corporate operations arise from agency theory. Agency theory as a reason culminates to Shleifer and Vishny's (2003) ideas about the issue. According to them, mergers and other restructuring methods are impelled by stock appreciation and degree of restructuring actions go hand in hand. This happens specially in cases where corporate managers have strong belief that investors overvalue their stocks. This overprice is then used to fund restructuring procedures before markets corrects pricing error (Shleifer & Vishny 2003).

However, studies have mainly argued following facts. First that restructuring incentives results from efficiency theory. Generally speaking, it means that all restructuring methods, like acquisitions are viewed as projected. Therefore aim is to achieve synergies between parties in order to gain either financial-, operational- and/or managerial synergies (Trautwein 1990). Another historical reasoning is monopoly theory. It explains desire to acquire or merge units as a way to achieve leadership in markets. It can result into acquiring some product lines which off-set some other, in order to limit competition and hence gain profits from higher prices or it can be a method to create barriers for entrants to the market in order to enhance own market position. (Vos & Kelleher 2001; Trautwein 1990). Third general theory is valuation theory, which is quite similar to that of agency theory. Basically, it refers to actions where one market party obtains significant information that other market parties lack of, in order to achieve value gains (Trautwein 1990).

Still another, theory may explain motives behind restructuring desire. From history management's involvement in order to achieve personal success over shareholders benefits is well recorded. It is most commonly known as empire-building theory. For example Porter (1987) already described this as way for managers to boost their career prospectuses. Another aspect is to acquire funnier businesses to enhance management's outside career picture (Olek & Thomas 2008; Trautwein 1990).

Theories from history provide background information for my purposes on analysing corporate restructuring and ultimately corporate spin-offs. Historical information of this subject is enormous hence I have provided only a small but necessary portion of information, in order to achieve better understanding of what I have researched.

2.2 Motivations for corporate restructuring

Motivation for corporate restructuring shares similarities for already mentioned reason from history. All in all various reasons, motivations and goals actually are quite similar and can be comprised to a few key aspects.

Hoskisson and Turk (1990) identifies multiple factors involving corporate restructuring: restructuring should change patterns of governance as a reconstructive action, it may improve corporate strategy and its clearance, it can also possibly give new set of control tools for top management, equally it can reduce cost of overseeing employees and finally enhance company's financial efficiency and create more wealth to owners.

One of the earliest theories relating restructuring was free cash flow theory (Jensen 1986). He argued that while it is quite difficult to measure potential free cash flows independently. Conversely, it was easy to analyse capital structures when amount of debt was low, organization generated profits that in turn were

transformed into liquidity cash and finally conglomerate form of organization. According to Jensen (1986) all previously mentioned were hints about restructuring and free cash flow behind it.

Gibbs (1993) continues that while free cash flow is relevant factor behind restructuring motives, other factors are also important. If companies have difficulties involving investment possibilities in its environment, they are most likely ageing and becoming lagging competitors for other companies. This creates incentive to reorganize firm, in other words, trying to enhance its potential as investment (Gibbs 1993).

2.3 Financial restructuring

There is a consensus among researchers that financial restructuring is a modification of corporate capital structure, thus upgrading economic situation (Singh 2007, 6; Liao 2005; Das 2009, 12-13). Further, Das (2009, 12) describes financial restructuring methods as

“It includes significant changes in the capital structure of a firm, including leveraged buyouts, leveraged recapitalisations and debt for equity swaps, mergers, acquisitions, joint ventures, strategic alliances, etc.” (Das 2009, 12)

Bowman (1993) states that this kind of action, was noticeable emerging in 1980's due one key element of agency problem; commitment of managers. Companies acquired huge amount of debt and reckoned that they would encourage managers to have better level of commitment and hence to do more beneficial decisions. These decisions were directed mainly to reduce bad investment policies, now managers would not invest funds towards projects that would not produce any surplus for company. In other words managers avoided risk taking (Bowman 1993). Similarly, Jensen (1986) argues that previous set of presumptions is feasible in mature industries. The latter means that in mature industries where investments to R&D and other functions do not consume excess free-cash flows. Thus, increase in debt will have positive market reaction and previous is above all due because debt increase will limit managers and guides them to use spare funds to more profitable investments. However, Long and Ravenscraft (1993) disagree slightly. According to them, debt increase can affect in negative way towards companies investment decisions, especially R&D.

MBO's are also one way to achieve before mentioned. When the level of management ownership in firm's stock will rise, so does the level of their com-

mitment. Gibbs (1993) describes that if organizations current customs in monitoring management actions are bad or defective, MBO's can be used to bind managers towards company's long-term strategic goals. Despite of this, when leveraging action emerges and amount of debt increases substantially, it can affect to future decisions of management and thus to lead corrective acts. These can lead to re-organize current assets or parts of organization, ultimately even leading to sell parts of firm to competitors to reduce debt obligations such as covenants issued by banks or other financial entities (Gibbs 1993).

Singh addresses that successful financial restructuring requires at least the following: a firm must generate more thorough level of internal control meaning that processes involving essential parts of business processes should be known well by managers. Likewise, he concurs with Long and Ravenscraft (1993) that considerable debt can affect negatively to company's success thus requiring good debt control. In case of large number of creditors, it should be considered to transform them to equity owners, hence binding them to business. Equally, managers should pay attention to overall long-time strategy together with enhancing customer relationship and to utilize organizations all assets more thoroughly. Also, financial success of enterprise is also affected by form of reward system and level of risk management (Singh 2007, 6-7).

Different authors have described methods of financial restructuring in various ways. As mentioned before Das included many components to the idea of financial restructuring (Das 2009, 12). However, Baker holds the following methods: share repurchases, dual-class recapitalizations, exchange offers and swaps, debt restructuring via bankruptcy or private workouts (Baker 2011, 401-412). Instead Ramu counts in also management buy-outs (MBO), leveraged buy-outs (LBO) and dividend payments (Ramu 1999, 69-74). We will briefly process MBO's, LBO's and share repurchases as a main tools of financial restructuring.

2.3.1 Leverage buy-out

Leverage buy-out has many definitions amongst the researchers. Das defines it as

“the acquisition of a business mostly with the help of debt capital or borrowed capital. The term ‘leveraged’ signifies the most significant and major use of debt or loan capital for financing the acquisition” (Das 2009, 334).

Furthermore, Baker outlines that LBO signifies also firm going from publicly listed company into private equity composition, meaning for example that stock listed corporation goes private. This transaction is funded by large amount of debt money (Baker 2011, 419). LBO's can change drastically ownership structure, moreover in most cases ownership structure becomes more centred towards few essential owners (Hoskisson & Turk 1990). According to Bary (2010) firms that have many obligations towards creditors or equity owners and have tremendous assets are likely to be target for LBO. Authors have also conducted that LBO's can be viewed as a control tool for upper management. The previous

means that essentially LBO role is to act as a mechanism of corporate governance (Tirole 2006). Additionally when comparing the composition of debt funding and private equity funding, in many cases LBO's are happening in a form where funding is done 25 % by equity funding and rest of it will be done by debt (Cao 2015). Jensen (1989) has defended usage of debt in transactions, because according to his paper it is insignificant whether to use debt or dividends, because it results to the same effect: managers has to use funds effectively rather than use them ineffectively. All in all LBO's have increased popularity in restructuring field. Worth of LBO have risen reaching 400 billion dollars in 2006, composing 20% of all M&A (Cao 2015).

Das presents few objectives for an optimal LBO target: first of all its managers should have great experience about their line of business. Secondly, a firm should be able to generate profit. Third, company should have strong customer base and to have other business functions at least in a good shape. Fourth, before LBO takeover if target company already have huge amount of debt, comparing to its asset base, it is likely that LBO is not sufficiently funded, because the limitation of using assets as collateral (Das 2009, 33-34).

2.3.2 Management buy-out

Addition to what I discussed earlier *management buy-out* is according to Gaughan and Das a form of LBO's where top management will buy the company and uses to finance this transaction a prominent amount of debt. In many cases this happens when organization comprises of different divisions, where division manager might purchase his "own" division (Gaughan 2010, 305-307; Das 2009, 335-344). Birley (1999) continues that in many cases, buying a completely new company might be a tremendous obstacle to overcome, thus a familiar firm is much safer transaction. Furthermore Gaughan, states that there is on key difference between LBO's and MBO's. When occurring, MBO will not change top-managements constitution whereas LBO and new "outside" owners might replace whole leadership team. Further, Singh argues that MBO's happen most likely in a situation where the firm is in danger, thus its current business are endangered by some external or internal threat and managers have faith that they can prevent potential bankruptcy or outside takeover by taking over the business (Singh 2007, 68-69).

2.3.3 Share repurchases

Share repurchases is defined by Baker as a measure where company announces that it has a plan to buy back some percent of its share base. It is normally done publicly meaning that company buys them from stock market, but in fixed beforehand mentioned price and amount (Baker 2011, 402-403).

The motivation for share repurchases arises from various reasons. Sometimes management of enterprise decides to signal towards markets that it believes that stock value of firm is undervalued at the markets. Thus, buying back a proportional share of stocks might signal to other investors that managers have

strong belief in company's future prospects, resulting positive market reaction and hence better market performance (Dann 1981; Vermaelen 1984; Baker 2011, 402-404). In addition, other motivation can be usage of excess funds. According to Jensen (1986) managers have incentive to distribute funds to owners due lack of profitable investment opportunities. Also, according to the Modigliani-Miller dividend irrelevance theorem (1961) shareholders receive same amount of wealth when distributing funds by dividends or buying back shares via share repurchase method. Similarly, repurchases can be used to manage capital structure of the firm. Based on the Grinblatt and Titman, we can argue that managers may have incentive to alter capital structure as a signalling strong belief for the future of the company, thus increasing equity based financing (Grinblatt & Titman 2002, 661-671). Secondly, Weisbenner (2004) discovers that employee reward system tools, especially stock options will result in emergent stock repurchases. He continues that the previous is particularly bounded within companies that produces high return rates.

Nonetheless, there are still more motivational factors yet explained. Baker mentions that one motive is to disgorge profits towards shareholders as replaced method for dividends. The overall quantity of share repurchases, as a pay-out method, have steadily grown since 1980's and actually in 1998 it levelled dividend pay-out and after that have become more utilized tool than dividends as pay-out method. (Baker 2011, 404; Grinblatt & Titman 2002, 553; Skinner 2008). Skinner (2008) reveals, that actually many companies that have traditionally paid dividends have begun to use more often share repurchases as a disgorge method of wealth. In spite of the fact that many organizations have usually paid dividends might have become more constrained to use this tool due shareholder expectations. On the other hand, repurchases can be viewed as takeover defence. The motivation comes from unwanted bidder, thus the firm will usually issue debt in order to receive funding to repurchase its own shares, thus making it nearly impossible for the bidder to receive majority ownership of company. Previous act can also mean that managers have some intrinsic information or expectation regarding company's future worth (Bagnoli et al. 1989; Harris & Raviv 1988).

2.4 Organizational restructuring

According to Ramu organizational restructuring involves:

“changes in the organizational structure to increase efficiencies. Sometimes, it may involve divestiture and acquisition.” (Ramu 1999, 72)

Singh states that modern day leaders must always observe environment and possible threats and opportunities that it might hold. Motivation for organizational restructuring may arise from following facts: Competitors, customer

needs and employee relationship alters through time. World becomes more globally networked and skillset will improve in various parts of the globe. Additionally, new innovations in various fields demand new structure as well as changes in legal and political culture (Singh 2007, 6-8).

Shabir (2012) defines organizational restructuring as a realignment of organizational units for creating better utilization process of assets and resources resulting in better overall financial performance. Gibbs (1993) adds that it includes also

“retrenchment, reorganization and changes in business level strategies” (Gibbs 1993)

Likewise, organizational restructuring involves practises to change vertical, horizontal and spatial boundaries. The previous concepts are done by removing pointless hierarchy and create an organization where information is distributed without obstacles. Thus actions to remove organizational levels and create more flatten firm. All of these will eventually lead to better innovativeness, learning, profitability, asset usage and reactivity (Jones 2002). The previous is also backed by McKinley and Scherer (2000), but they add that organizational restructuring is normally done by and managed by corporate managers. Thus, their role is crucial because all in all change is an administrative.

In many cases such a change in internal environment of firm can have clear negative effects. Amburgey et al. (1990) discuss that when organization will reconstruct itself, this act will be ultimately always be a danger for company. This results from when company changes its structures it will create chaos amongst the organizational levels, thus leading loss of creativity and competencies, because manners of doing things have changed evidently. Equally, Bowman (1993) argues that organizational restructuring can lead to negative events. These events results from internal reorganization and can eventually lead to impracticalities in business units which in the other hand will in the end effect profitability of the firm.

Eventually, organizational restructuring has some perquisites that must be fulfilled. Singh demonstrates some vital conditions: outcomes should be recorded in organization. In change, employees and managers should have clear roles. McKinley and Scherer (2000) adds to the previous that company must use resources to display clearly objectives of restructuring for the employees, consequently winning their trust for the change sequence. Additionally they remark, communication channels should have important role to channel information for the various levels of organization. Singh and the research of Barkema and Schijven (2008) address the importance of management commitment for the change as well as organizations capability and earlier experience from acquisitions and restructuring cases. Overall, corporation’s vision, strategy and culture should be harnessed to the usage of restructuring. Restructuring itself is not competitive edge, thus their role is much more ways of improving company’s profit and cost structure (Jones 2002; Singh 2007, 6-8)

Consequently, organizational restructuring requires a set of tools. Jones (2002) presents in his paper, that organizational restructuring can be executed by using following set of tools:

- Downsizing and reengineering
- Intensification and investment in new technologies
- Alliances and networks
- Spatial reconfiguration (Jones 2002)

Johnsson (1991) argues that immense diversification and creation of conglomerates resulted into metaphor where managers thought that competing in various business sectors might create excess profits. Nevertheless, this thought was quickly buried and instead rapid restructuring methods, especially downsizing, were utilized. Grinblatt and Titman have explained the nature of downsizing. Downsizing seems to be immune to whether company is taken over or takeover is unsuccessful. Companies that were taken over and had downsizing manoeuver did have equal success comparing non takeover (Grinblatt & Titman, 2002, 702-703).

Intensification and technological investments are usually associated together. Their goal is to enhance productivity while minimizing costs. However, especially in service business it may appear in negative way due higher workload and emerging stress level. Alliances and networks are viewed as a way to cut costs by sharing them by some other party. Also, innovation and other R&D aspects are expected to be higher when there are multiple parties associated with projects. Further, spatial reconfiguration usually results into movement of production facilities from high cost countries to low cost countries (Jones 2002).

3 PORTFOLIO RESTRUCTURING IN A SENCE OF DIVESTMENT

Portfolio restructuring has some key elements shared with researchers. Ruigrok (1999) defines it as

“changes in a firm’s scope of businesses, to mergers and acquisitions, as well as to divestitures”(Ruigrok 1999)

Heugens (2004) continues that it represents manager’s expectations about future, whether to diversify (M&A) or concentrate towards nuclear competencies (divestitures). Zhonghua (2009) agrees with the previous definition. He addresses the importance of management decisions about the business model of the firm, whether to divest parts that do not serve organizations long-term strategy or to use mergers or acquisitions as a tool to harvest some new assets for the company. Das holds, that the term also contains spin-offs, thus widening the meaning to represent overall a profound drastic action to change corporate structure in order to achieve better financial results (Das 2009, 7-8). Nonetheless, Montgomery and Wilson (1986) described it as reversal of a failed acquisition.

3.1 Motivation for portfolio restructuring

In the literature there multiple factors associated with organization’s motivations for divestment procedures. Baker’s proposition of manager’s motivation for divestment:

- Strategic repositioning;
- Refocusing;
- Reducing financial leverage;
- Reducing agency costs of conflict (Baker 2011, 88-89)

Changes in strategy eventually lead to motivate divestment actions (Zhonghua 2009). Vice versa environment can affect strategy especially when it transmutes, leading to an incentive to alter overall long-time strategy of corporation in order to meet environment’s new demands (Villalonga & McGahan 2005). Porter (2008) analyses strategic repositioning via forces that reform strategy. These forces are essentially all environmental challenges for the company. It contains the stakeholder view where various interest groups, such as suppliers, buyers, new competitors and substitute products vary their expectations. As well as existing competition among the industry. The previous framework leads to repositioning as well as other motivations that Baker mentioned (Baker 2011, 88-89).

In similar way, refocusing concerns also corporate strategy. It demands course of actions to reshape corporation's business portfolio, leading to elimination of all non-important areas of business, hence facilitating core competencies and strategy (Byerly et al. 2003). The former can be attained via divestment. Baker presents the idea of sell-off where company sells to the outside party some subsidiary or division of the firm. This action can enhance company's value, because investors might have undervalued firm's stock value because lack of synergy between different divisions (Baker 2011, 88-89). Furthermore, this action result from conglomerate organizational structure, where investment's between unrelated businesses can destroy value rather than creating one (Rajan et al. 2000). Conversely, Zhao (2011) adds that this strategy can be a motivation for acquiring businesses that are related in long-term business strategy.

By altering financial leverage a firm benefits when divesting subsidiaries via reducing financial distress cost. The latter occur due of liquidation of assets which grants cash funds thus reducing leverage level (Lasfer et al. 1996). Also Kosh et al. (1990) conclude that companies reduce significantly debt/asset level via restructuring. Conversely, Ghosh and Jain (2000) have discovered that immediately after merger or acquisitions firm's financial leverage level rises.

Agency costs associated with portfolio restructuring via divestment have been well documented. According to free cash flow-theory (Jensen 1986) when managers have excess number of funds that is required to invest in projects with overall positive net present value (NPV), they tend to invest unnecessary amount of funds for assets that do not create value. The former evidently leads that company can become a potential takeover target and this creates motivation for divestment (Gibbs 1992). Zhonghua (2009) in his research describes gains from reducing agency costs, in a case where managers have blockades to raise equity based funding (asymmetry information), while divestment can be an alluring alternative to raise funding.

Singh has also presented motivations for successful portfolio restructuring. He states that portfolio restructuring can be very tempting alternative when corporate's long-term strategy displays significant disgraces about future, technological innovations play major role in industry, some extremely tempting acquisitions can be funded by divesting some less tempting subsidiaries and losing competitiveness in some subsidiary leading into need to sell it (Singh 2007, 5-6).

Zhao (2011) offers one potential explanation for the power of portfolio restructuring. According to his research, highly diversified conglomerates can use restructuring as a tool to divest some non-core business related business units. For example, Korean chaebols during 1990's did just that.

3.2 Divestment methods of portfolio restructuring

When presenting different methods of portfolio restructuring, I will display Gaughan, Das and Baker segmentation. They differs it for the following: divestiture, equity carve-out, sell-off and spin-off which will be presented in the chapter 4 (Gaughan 2010, 389-391; Das 2009, 11-12; Baker 2011, 87-90).

3.2.1 Divestiture

According to definition of Das divestiture involves:

“the sale of a portion or segment of the company to an external party. Such sale may cover assets, product lines, subsidiaries or divisions of the undertaking. A divestiture generally results in an infusion of cash to the parent company... Divestiture is considered to be a form of expansion on the part of buying company and a form of contradiction on the part of the selling company” (Das 2009, 16).

Kaplan and Weisbach (1992) described, that during the 1980's when divestitures were claiming more and more popularity, one-view was to see them as counter actions of poor acquisitions. However, Weston (1989) mentioned that resolution for divestiture decision was not driven only by lack of good financial performance. It is possible that acquisition created value and divestment could do the same. Kaplan and Weisbach (1992) continues explaining that almost half between 1970's and early 1980's made acquisitions were divested during 1980's. This fact is backed up by Gaughan, who explained that in 1975 divestitures peaked reaching over 50 % of all transaction (Gaughan 2010, 391-392). Thus, one argument was that they were viewed merely as counter action of bad acquisition. However they provided information that not all of those divestitures were not unsuccessful. From those 56% were either profitable divestments or they did not result to loss.

Gaughan presents reasons for voluntary divestitures.

- Poor strategic fit of division;
- Reverse synergy;
- Poor performance;
- Capital market factors;
- Cash flow needs;
- Abandoning the core business (Gaughan 2010, 397-402)

Some business units might not fit well overall long-term strategy of company, consequently divestment can be seen as a way to eliminate such unrelated units (Gaughan 2010, 397-398). Zajac and Kraatz (1993) conclude previous and emphasizes the strategy context, furthermore they add the importance of financial difficulties as a major strategic change. They continue arguing that generally restructuring (one tool of divestiture), is a responsive action against high environmental pressure. Also, this assumption demands organizations to be adaptive,

but overall restructuring and divestiture as one them can be seen as performance enhancing action (Zajac & Kraatz 1993).

Reverse synergy can be explained by disadvantages of over-diversifying. Conglomerates who have various different industries attached within, have poorer financial performance than more undiversified (Hoskisson & Hite 1994). Gaughan explains it as a measure where company decides to divest a subsidiary or division, because it is not as profitable to them as for outside operator (Gaughan 2010, 398). Hence, divestment can minimize negative synergies (Hite et al. 1987), while overall performance of some division can be relatively poor. Thus this non-synergy can be divested away. Hence, it is possible to achieve cost-savings and better profitability (Kelly 2002).

Entry level into efficient capital markets can be higher for highly diversified companies than more centralized ones. Sometimes, companies gather more funding separately than together thus creating incentive for divestment (Bowman 1992; Gaughan 2010, 399-401). The allurements of some subsidiary can be so high that investors regard it more valuable as a separate entity thus divestures can increase shareholders wealth (Mulherin & Boone 2000).

Divestiture generates cash from selling a part of company. For this reason it is possible for the company to acquire funding via selling non-profitable or non-strategic divisions or subsidiaries. It is a very common reason for divestment. Instead, abandoning core business is a rare reason for it and can arise from management desire to leave industry which do not have sufficient economic future. This action can help organization to find a new and more profitable core business (Gaughan 2010, 400-403).

3.2.2 Equity carve-out

Gole and Hilger portrays equity carve-out as:

“Involves the non-taxable sale of a portion of the equity of the subsidiary business to the public, generating cash proceeds. Execution of the transaction requires substantial advisory costs and protracted management attention”. (Gole & Hilger 2008, 57).

Baker and research of Anslinger (1997) continues defining it as a transaction where an affiliated company, will be divested through initial public offering to outside owners. (Baker 2011, 96). Like other divestment and restructuring methods, carve-outs have been treated as a value creating course of action (Mulherin & Boone 2000).

In research field there are theories why equity carve-outs create value. According to theory of Nanda (1991), equity carve-outs are done by corporations that are undervalued by the investors and creditors, but who hold a subsidiary that is regarded to be overvalued by outsiders. Thus they are likely to issue funding via equity at the subsidiary, hence they reveal financial information about the parent company. They also hold that, firms with limited savings might lose valuable investment opportunities. Foregoing, carve-out can be used to dilute this

problem by selling the subsidiary and receiving excess funds for investment purposes, hereby creating value.

Second theory to explain value perception of carve-outs is divestment gains hypothesis. Argued by various researchers to explain why equity carve-outs are beneficial for the company and the shareholders. Vijh (2002) commentates how it is viewed in earlier research. Gains are associated by translating subsidiary more and more independent from the parent via separate financing and distinct reward system. Furthermore, Allen and McConnell (1998) have investigated abnormal returns after post-announcement period and have concluded that carve-outs can be used as a source to liquidate assets in order to repay debt. Divestment gains hypothesis can be submitted into sub-categories that explain value enhancing (Vijh 2002):

- Refocusing strategy, which means that parent and division are more valuable separately than together. Overall, after carve-out some evidence tells that it is followed by spin-off or divestiture.
- Financing strategy. Carve-outs are method of receiving funding for various operations.
- Investment strategy. Carve-outs are source of funding investment projects.
- Complexity strategy. When parent carves out the division, investors receives more transparent information.
- Managerial incentive strategy. After carve-out managers have option to receive security based compensation or incentives, hence committing them (Vijh 2002).

The third major theory is corporate finance theory. This theory is based on the assumption that managers accredits company's overall size and their own ability and tools for control. Hypothesis is however, that asymmetric information increases when overall size of firm increases. Hence, when manager notices that information of the value of company's assets is skewed, he will have an incentive to carve-out those assets away. This action, on the other hand, is value creating for the shareholders (Lang 1995; Baker 2011, 96-97).

Furthermore, there are still some mentionable motives and value enhancing attributes associated in carve-outs. Anslinger (1997) has already done research about value enhancing power of equity carve-outs. In his research, he has divided them in major segments. First major gain derives from parent – subsidiary relationship, therefore carved out division can concentrate better into its core business whereas parent can dispense to the affiliate HR, management and supplier relations. Anslinger (1997) continues his argument by stating that carving can motivate employees in both, parent and subsidiary, through creating more independent and demanding workload for their employees. Besides, subsidiary can act as a “test-plant” for the managers, where they can prove themselves in order to attain promotion for their career. Finally he proclaims that new organization structure can lure new investors in both levels and that especially subsidiaries are viewed generally as more lucrative investment opportunity.

In conclusion, all information provided earlier about the field of corporate restructuring has prepared readers to the presentation of corporate spin-offs. Next chapter explain the latter thoroughly.

4 CORPORATE SPIN-OFF

4.1 Definition

According to Daley (1997):

“a spin-off occurs when a firm creates a subsidiary to hold a portion of its assets, and then distributes the shares of the subsidiary to its shareholders to create an independent company” (Daley 1997).

Furthermore, the distribution of the shares to the parent’s shareholders are done by *pro-rata*- basis, meaning that shares are handed in proportions. An example of this, before spin-off company A’s share value was 20€ and spin-off costs will be divided between A (70%) and B (30%). If investor had one A’s share he will after spin-off have A (14€) and B (6€) worth of stocks. (Allen 1995; Bliss 1997; Block 2009; Cusatis 1993; Lin & Yung 2014; Krishnaswami 1999)

Moncada et al. (1999) divides the definition into two by distinct implementation of them. Motivation to rearrange, just as mentioned before, corporation is chiefly driven by desire to concentrate into long-term strategic functions, hence creating efficiencies by organizing corporate structure via spin-off. Cusatis (1994) mentions that often spin-off will be centred around some crucial function or invention, hence new entity is created to enhance business nature of that asset.

Corporate spin-offs are also a method to rearrange corporate functions (Cornell 1998, 3). Parhankangas (2003) adds that from existing definitions of spin-offs, **corporate spin-off** is a transaction which contains distinction from parent. Other categories of spin-offs that have been presented in the literature are: **Institutional spin-off** mostly known as **university spin-off**. This form is explained by the desire to commercialize inventions or ideas created in public or private universities (Lockett 2005; Walter 2006). In our study these forms will be excluded and we will concentrate only in corporate spin-offs.

4.1.1 Prior research

It is essential to explain a brief survey on earlier research of corporate spin-offs, in order to achieve good footing to continue thesis. Earlier research has focused generally into five categories of subjects. Tübke has presented them and their proportional share of whole research:

“Value creation (39%)

Corporate spin-off policy (29%)

Framework conditions (15%)

Characteristics and effects of Corporate Spin-Offs (10%)

Relationship between parent and Spin-Off (7%)” (Tübke 2005, 8)

However, Semadeni (2003) divides research into three major theories around spin-offs. First one is relativeness of spin-offs and agency theory. This subject has been for example research by Krishnaswami (1999). Second major framework is the monetary benefit from this transaction, portrayed by (Desai & Jain, 1999). The third crucial perspective is to examine spin-off, when management is replaced (Wruck & Wruck 2001).

In some extent earlier research have concentrated on ex-date gains of spin-offs. For example Vijh (1994) studied spin-offs after its creation and founded average abnormal return of 3% for his sample. Actual announcement period, which is also on our emphasis, has revealed in prior research also excess abnormal returns. For example Shipper and Smith (1983) and Miles and Rosenfield (1983) have recorded similar abnormal returns close to announcement days. Furthermore, some researchers have used relatively long scope periods for their studies. For example Cusatis (1993) used window of 3 years after spin-off execution to inspect spin-offs and its former parent’s stock market performance and excess value creation through abnormal returns. According to his findings, most profitable spin-offs actually are those which are takeover targets and are ultimately bought by some external entity.

This research will focus on describing the relationship between parent and spin-off and additionally will touch on value creation policy. Next chapters examines both motives behind spin-off process as well as value gains from it. They are partly interrelated but our segmentation is made by observing various literary, showed during those chapters.

4.2 Spin-off process & motivational factors related to it

Spin-Off process is not neither unilateral nor straightforward for all parties involved in transaction. Moreover, there are characteristics shared by majority of organizations of field, however they are not exclusive but rather interactive with each other (Abburá et al. 1998, 34; Tübke 2005, 25). Beforehand prior focus has not conducted unanimous results for effective and transparent process involved in spin-offs (Garvin 1983). Tübke has previewed this problem in his research, thus creating an effective way to investigate some integral problems and solutions for process (Tübke 2005, 25).

4.2.1 Initial spin-off process

Studies related to spin-offs and other divestment methods have argued that initial spin-off process is quite similar to other divestment measures, in the case of

planning and executing (Gaughan 2010, 402-416; Lockett 2005). There is step-by-step process that organizations tend to follow when considering spin-off:

1. *Decision making phase.* Company's executives must consider different alternatives to restructure their assets. Decision between various divestment methods (spin-off) must be made through financial analysis (Gaughan 2010, 402).
2. *Planning phase.* In this stage parent company must produce efficient and clear plan how to initial spin-off process continues. This stage contains selection of employees and teams involved in spin-off. Notably, teams should be based on diversified organizational membership, hence teams must consist of different sectors (law, HR etc.) of company. Furthermore, recording essential information about financial prospects most importantly asset valuation. (Cole & Hilger 2008, 60-70; Gaughan 2010, 402-403).
3. *Presenting the plan to equity-owners.* Gaughan argues that legal environment posits requirements for management to dialogue with owners. However, problem may arise from agency problem because evidently managers possess more information than shareholders do (Krishaswami 1999; Bergh 2008). Which ultimately may effect on spin-off decision and outcomes (Gaughan 2010, 402-405; Bergh 2008).
4. *Issuance of stocks.* Parent must register it's and spin-off's shares with appropriate official. (Gaughan 2010, 403).
5. *Completion of Spin-Off.* Parent and spin-off will separate and as pre-scheduled spin-off becomes independent entity. (Gaughan 2010, 403-404).

4.2.2 Competence characteristics of firm and industry

Multiple researchers have argued to relevance of entire business size of firm. It seems that spin-off process is interlinked with relative size of parent company, reckoning with substantial area of business where both subsidiary and parent operate (Stanworth et al. 1989; Granstrand & Alänge 1995). Arciani et al. (1997) and Tübke have explained for some extent why size matters. Accordingly, Spin-Offs can be pursued by entrepreneurial motivation, hence because in large companies employees do not have same level of freedom and formality than in smaller firms. Whereas in SME's employees find themselves often with more entrepreneurial work atmosphere, which evidently can cause them due to limits of career growth to pursue independent career by spinning-off (Tübke 2005, 26-27).

From wealth perspective, which is explained thoroughly in chapter 4.3, it seems that on average relative size of subsidiary can be linked to possible abnormal returns in stock markets (Hite 1983). Tübke adds that previous can result from the fact that, higher to proportion of size of spin-off from parent higher is investor's confidence about the future of newly created entity. Hence, it is implied that larger spin-offs are more successful than smaller ones. (Tübke 2005, 25-29).

Observing industries where companies operate, we can assess potential relationship of industry and spin-off process. Berger & Ofek (1995) as well as Krishnaswami (1999) argued that some industries possess notable incentive to restructure their operations. Moncada (1999) continues that traditional industries such as heavy industries are often associated as parent company whereas spin-offs are likeable to pursue emphasis on service industry. Equally, it seems that persuasive incentive to spin-off subsidiary is associated with tardy economic performance and high operating costs. As a result, by modifying corporate structure to receive benefits from lesser hierarchy it might result to an incentive to spin-out operations not related to core-strategy (Tübke 2005, 27-29).

One motivational factor, related to industry characteristics, is argued to be a profitable market entry (Tübke 2005, 28-29). Garvin (1983) presents reasons for this assumption. Firstly, crucial motivator and occasion is the level of immaterial competencies such as intelligence factors. Accordingly, if corporation possess high level of human capital, it is likely that they have advantages to outperform against for example parent or competitors. Previous, results from factor that competent workers in first steps of newly created enterprise possess high skill sets that result economic performance. Hence it is one key competitive edge. Second motivator is market niches. If market contains niches, it is possible for smaller companies to perform well, because their ability to appease niches expectations and requirements. Third factor is the nature of product markets. If market is ruled by strong brand with cutting edge technology, spin-offs supposedly do not perform that well. However, if this is not the case spin-off can perform better due relatively higher emphasis on design features rather than just costs.

4.2.3 Defending Spin-Off business

Researchers have argued that one key motivation for companies to spin-off division is defending those assets (Gaughan 2010, 408; Tübke 2005, 30; Moncada 1999). While Moncada (1999) argues that spin-off might also seek protection against its parent, contrary to Gaughan who sees it as a defensive measure against hostile bidders (Gaughan 2010, 408).

Nonetheless, especially in cases where spin-off has already been quite independent division versus parent, protecting subsidiary's core-business functions eventually becomes a motive (Tübke 2005, 30). Particularly this previous assumption becomes perceptible, when transferring funds and assets to spin-off entity and the transaction composition is secured by patents or other legal measures (Moncada 1999).

Chemmannur and Yan (2004) submitted their corporate control theory to highlight the issue. Accordingly, based on their research, spin-offs are more common if takeovers within industry are usual practise. Opposite to earlier assumptions about effective defence measure off spin-off, Chemmannur and Yan (2004) argue that spin-offs actually predispose them as takeover targets. Hence, it is also a disciplinary action to supervise management more thoroughly.

In his book, Gaughan states that spin-off is extremely radical takeover defence. New independent entities may appear less desirable than prior towards

potential bidder. Nevertheless, such radical action may result in legal consequences both by equity-owners and bidder. (Gaughan 2010, 408).

4.2.4 Limited resources

Resources dependence- and resource-based theory are one way to investigate spin-off motivations as the whole process tends to lead even in some extent resource sharing between parent and new entity (Parhankangas 2003). Ito and Rose (1994) highlighted that spin-offs may be seen in parent company as a procedure to release resources to exploit opportunities to enhance core-competencies of business.

According to study made by Parhankangas (2003) both, resource dependence- and resource-based theory, involves around spin-off process. They contribute by explaining resources shared or distributed between both parties. While resource-based theory involves more on sharing nature of assets between parties, such as innovativeness and human development the dependence theory explains more motives behind strategic resource distribution of both parties. Hence, it may give insight for parties whether procedures are worthy.

By touch upon agency theory, which will be explained more thoroughly in chapter 4.3, one key assumption of that can be related to the lack of resources. In largely decentralized corporation, normally conglomerate, capital markets and individual investors suffer from adverse selection and moral hazard phenomenon. Thus, corporate leaders may utilize their better knowledge of various units and business functions, which are relatively hard to investigate for foreign parties. Hence, investors may lose interest to distribute funds towards corporation, which evidently minimize resource base (Vijh 2002; Bergh 2008). Therefore, corporate management may decide to use spin-offs as a technique to limit this problem. Essentially, spin-off may reveal crucial information about core-business to the markets, hence creating more transparency (Allen 2001; Bergh 2008).

Parhankangas (1999) argued that lack of ancillary resources or assets in parent company may cause an incentive to spin-off subsidiary. Tübke continues by addressing to importance of such assets. Fundamentally, spin-offs require such assets in order to exploit fully its core-business measure. These assets are usually auxiliary activities such as sales organizations or marketing division. Spin-off may explore these assets from outside markets in order to receive vital assets that were not available when it was still a part of parent (Tübke 2005, 31-32).

4.2.5 Separation adds value

While mergers have a clear objective to represent two or more organizations together as more valued than separately, corporate spin-offs represent opposing idea that parent and spin-off are more valued when both are independent entities (Sherman 2010, 11-12; Semadeni 2003).

Naturally one beneficial aspects arises for spin-off from the fact that after initial break up, new entity has now clearer image how to run its own business without competition amongst the other parts of parent firm. This results to better

capital requiring due lack of competition with other subsidiaries for these resources (Hambrick & Stucker 1999).

Moreover, value enhancement from separation to different entities might also results from the fact that spin-off receives better negotiation power for matters involving it. Implication may involve better negotiation for supplier contracts, capital employed, trade union contracts and legal formalities (Hite & Owers 1983; Schipper & Smith 1983; Semadeni 2003).

Separation to internal and external capital markets are further explained. Block (2009) presents facts that could explain why internal capital markets could be enhancing for companies, especially for conglomerates. Accordingly, theory is that corporate management knows best where to distribute cash and capital amongst the divisions of conglomerate. Therefore internal capital markets are efficient way to share funds and other resources. Despite of this Block (2009) as well as Gertner (2002) and Daley (1997) are ultimately opposite this argument. According to them internal capital market flaws are following: first they tend to result into abuse of capital employed. Secondly, well performing subsidiaries may actually lose their profits due distribution of capital to badly performing ones. Thirdly, two previous facts are especially strong if subsidiaries are run by the management that emphasises strongly their own badly performing unit. For these reasons, spin-off thus the separation from parent and exposure to external capital markets are value adding (Block 2009; Gertner 2002; Daley 1997).

4.2.6 Organizational structure and governance

Based on the evidence received from studies involving spin-offs and corporate restructuring, there seems to exist a fundamental argument that over-diversified firms benefit from reorganizing their organizational design and spin-offs play notorious part in this process (Markides 1995; Tübke 2005, 32-34; Parhankangas 2003; Krishaswami 1999; Allen 1995; Bergh 2008, Woo et al. 1992). Conversely, earlier research posed that diversification actually yields benefits for organizations. Previous argument is backed by proposition, that when funding is relatively expensive for organizations, cost-effectiveness may arise from diverse organizational structure thus creating internal capital markets (Baker 2011, 510-515). However, Berger and Ofek (1995) as well as Lang (1995) pointed that such companies are valued often at discount. This assumption is supported by other studies, mainly by ones utilizing event-study methodology. Primarily, these studies indicated that stripping down organizational structure by divestment or other re-organizing procedures causes these to be valued more than diversified ones. Major cause arises from complex structure of parent and subsidiaries, which evidently induces ineffectiveness in resource allocations as well as organic capital funding (Ahn & Denis 2004; Gertner 2002). Nonetheless, negative effect of diversification to the internal funding is debated. Some indicators, that have been proposed, associated with diversification and lack of capable capital investments, argued that large proportion of these may come from earlier corporate decision not related to the organizational structure (Baker 2011, 512-514). Furthermore,

research done by Colak and Whitey (2007), assailed that earlier studies neglected the fact that also non reorganizing firms enhanced their funding capabilities in same matter than restructuring ones. Despite of this major proportion of researchers have emphasized reorganizing as a way to enhance firms success.

Organizations have optimum diversification boundary. Tübke used Markide's model to explain this relation. Accordingly, company has reached its optimum diversification limit (D) when $D = (\text{Marginal costs} = \text{Marginal Benefits})$. While excess diversification causes marginal benefits to fall, usually due distributing internal assets to other business functions not related to core-strategy. Marginal costs however shift over time with the help of new technological inventions or highly competent R&D. For those reasons D is not static but really fluctuates over time. Tübke and Markides adds that especially nowadays, globalization and fast information distribution causes firms to focus on key competencies rather than diversification due rising marginal costs. Hence, spin-off has been offered to be a useful method to capitalize environments external competence demands, thus creating viable business (Markides 1995, 22-27; Tübke 2005, 32-33).

For another, corporate governance and its relationship to spin-off motivation must be highlighted. However we only shed light on motivational factors, especially in the existence of agency theory. Wealth effects are explained in chapter 4.3.

Already, Jensen (1986) presented idea about managements desire to build vast conglomerates to boost their career competencies as successful managers. Yet, these business "empires" tend to destroy value, especially associated with above mentioned organizational structure facts as well as conflicts between equity-owners and management, called agency-conflict (Ahn & Walker 2007). Ahn and Walker (2007) continue that managers prefer control in these types of organizations in order to achieve relative success. However, often loss of value comes directly from the agency conflict, hence functioning corporate governance may restrain these effects via organizing corporate structure via spinning off subsidiaries.

However, above mentioned motivators as well as management's actions may appear deceptive for equity-owners. Hence, spin-off should enhance transparency between equity-owners and corporate management (Krishnaswami 1999).

4.3 Spin-Off and value gains – evidence from research

4.3.1 Minimizing information asymmetry

The idea of information asymmetry affecting spin-off decisions has been portrayed in earlier research. Krishnaswami (1999) covers that one key assumption, associated with spin-offs and parent, is that organizations who are pondering

decision to spin-off, should have higher information asymmetry level than other industry counterparts and markets. The previous is linked to the implication that companies who are considered by either investors or creditors as underrated are having real motivation to spin-off and have benefit from it (Nanda & Narayanan 1997).

Bearing previous in mind, positive connexion between information asymmetry and gains from spin-off should be correlated positively (Krishnaswami 1999). Thus, spin-off can be seen as a method to gather and distribute information about subsidiary's business functions, assets and prospects, therefore creating tools for investor to evaluate them more efficiently (Baker 2011, 95-99).

Berger and Ofek (1995) explains wealth gains for companies who have contradictory business operations, meaning that some parts of firm will waste resources due negative synergies. For this reason, spin-off can be seen as a course of action to reduce information asymmetry. Correspondingly, negative synergy can increase information asymmetry. The difference of field of business between parent and subsidiary, is likely to increase asymmetry. Hence, spin-off can be seen as a method to decrease it. This is due to that both parent and subsidiary can concentrate on core-business strategy. Investors will reward both after the transaction, thus increasing value for both (Habib et al. 1997). Similarly, Baker sees eliminating negative synergy as key factor to enhance performance. According to him companies can create excess value and enhance their performance due spinning off divisions (Baker 2011, 552-553).

Further, improving stock value is associated with spin-offs. Aron (1991) predicts that spin-off gives better insight for investors about managerial competencies. This belief boosts company's share value. Furthermore he argues that if spin-off and option reward system are interlinked simultaneously, it will encourage managers to commit themselves for company and thus are supposedly, argued of doing value creating actions. Previous, is appreciated by investors (Aron 1991).

Also, organizations which restructure themselves are likely to share some key characteristics. Some assumptions are that spin-offed companies are frailer than their closest peers (Lin & Yung 2014). Accordingly, they are presumed to have higher risk level, problems to generate excess cash flows and having large sum of debt in their balance sheet (Michaely & Shaw 1995).

Moreover, one element of information asymmetry is also stock undervaluation. Slovin, Sushka and Ferrero (1995) demonstrates one motivational factor to spin-off some subsidiary is management's belief that they are undervalued by investors. Consequently, spin-off is a counter measure to ensure that firm can receive external funding from markets and minimize competitor's takeover attempts. Furthermore, manipulating share price and spin-off have shared impression in the eyes of stock-based reward systems (Burch & Nanda 2003).

Information asymmetry theory predicts that spin-off will create excess value for the companies associated with such transaction. This results mainly, in equity investors and outside investors have different knowledge (information asymmetry) between them (Krishnaswami 1999).

In contrast, it is plausible that actually spin-offs create investors that are more informed than other counterparts. This actually speeds up information asymmetry and results into outcome that spin-offs as restructuring method actually create information asymmetry rather than minimize it (Harris 2008).

4.3.2 Correction of unsuccessful merger

The hypothesis that spin-offs are used to rectify past merger or acquisition mistakes has been researched. Study made by Porter submits that big U.S based firms were using acquisitions to diversify their operations between 1950 and 1986. However, most of these acquisitions were judged to be unsuccessful, so ultimately they were divested (Porter 1987, 43).

Kaplan (1992) claims that acquisitions can be labelled by outcome to represent either success or failure. Major contribution of this research was that investors seemed to value acquisition early to be either success or failure, hence this showed in announcement period returns immediately. However, research did not segregate spin-off or other divestment methods. Similarly, Mitchell and Lehn (1990) argued that failure acquisitions were divested by organization after announcement period for the lack of trust of investors.

Important research that observed "correction of mistake" was Allen (1995). Accordingly, major portion of abnormal returns consist a component that can be linked to correction of past acquisitions or mergers, hence market seems to appreciate spin-offs for this reason. Allen (1995), also presented that two major aspects can explain correction procedure and abnormal gains. He find evidence, that companies who acquired other firms, received negative market reactions if it was condemned to be unsuccessful. The second evidence was:

"The stock price reaction around the announcement of spin-offs of prior acquisitions is positive, but is negatively correlated with the stock price reaction around the original acquisition. That is, the "bigger" the acquisition "mistake", the greater the rebound in price when the spin-off is announced" (Allen 1995).

4.3.3 Improved focus and elimination of negative synergies

Berger and Ofek (1995) have presented that multi-industrial companies and single focus enterprises have different values into eyes of investors. Investors undervalues conglomerates equity and emphasize more focused firms. Thus, diversification ultimately results discount for equity. Some researchers have explained smaller equity discount by enhanced investment policies of conglomerate after spin-off or other restructuring methods (Gertner 2002; Burch & Nanda 2003).

Daley (1997) has explained divergence of focus. Cross-industry Spin-Off will increase focus accordingly, this happens when parent divests some unrelated core-business to different entity. Hence, eliminating diversification strategy via spin-off will result for abnormal returns. Opposite situation is own-industry spin-off, which means relatedness of parent and spin-offs business. Daley adds that these cases are not value enhancing as cross-industry ones.

The different value perception have also other expectations. Because cross-industry spin-off eliminates inefficiencies by reducing diversity, thus granting operating management more freedom to focus on core-business (Desai & Jain 1999). One motivation for diversified organization to hold badly performing subsidiaries is cross-subsidization, where some other divisions will finance losses of that subsidiary (Meyer et al. 1992). This action is value destroying, especially in conglomerates (Berger & Ofek 1995). All in all, over-diversifying has been interpreted as non-value increasing (Hoskisson & Hitt 1994). The lack of economic benefit may arise from leadership's wishes to ensure their future job or compensation. Also, because diversified organization structure often is expensive to withstand, it might use extensive amount of corporate funds which evidently is away from other departments. Furthermore, conglomerates management might lose competitive edge on the main operations due lack of concentration (Liao 2005). Therefore, organizations can use spin-offs to dilute this problem (Desai & Jain 1999).

Whereas Daley (1997) studied short term stock performance between focus and non-focus and found that focusing spin-off results for abnormal return levels, however he was not able to exhibit will this be the case in long-term. This long-term performance was studied by Desai & Jain (1999) where they proved that focusing spin-off outperformed non-focusing in 36 month time sequence. Focus increasing spin-offs continue to outperform non-focusing ones, over to 36 month period. Abnormal returns are highly correlated with changes in business functions and focus enhancement (Desai & Jain 1999). On the other hand Daley (1997) found that focus increasing spin-off, evidently increases operating performance of company when variable is return on equity (ROA). He continues that spin-off can also minimize cross-subsidizing effects, mentioned beforehand.

Prominent amount of arguments around spin-off that improves focus, is justified by increasing efficiency in business functions (Daley 1997; Desai & Jain 1999). Especially it seems that conglomerates enjoy economic benefits by divesting non-core business related functions (Brumagim & Klavans 1994). To conclude, evidence from researches contributes that spin-off can enhance corporate focus and minimize negative synergies.

4.3.4 Transfer of wealth from bondholders to shareholders

Already in 1970's researchers found link between wealth perception between bondholders and shareholders associated with corporate spin-offs. Myers (1977) described how high debt ratio of organization might result neglecting desirable investment opportunities. The reason ultimately lies on relation between bond- and shareholders. Companies may have fewer incentives to go all out in some lucrative business investments due less proportional amount of wealth for shareholders than outside bondholders. Miles (1983) continues, that previous can be connected to parent and spin-off relationship. If subsidiary (prior spin-off), have potentially beneficial investment opportunities, they may not execute measures to exploit them if parent has high debt ratio. Naturally this non-exploitation results from wealth advantage for bondholders over shareholders. However, if

subsidiary spin-offs the benefit would go then to owners, hence eliminating bondholder perquisite.

Earlier studies were not unilaterally united with wealth perception argument. Hite and Owers (1983) argued that assumption is false due their findings and lack of evidence. However, that research was argued to be limited due small sample size and data collection methods (Maxwell 2003). On the other hand, Parrino (1997) found in his case study involving Marriot, that shareholders received benefits from creditors around spin-off transaction announcement. Yet, Parrino continued that major proportion of that transferred wealth were lost due apparent actions of bondholders. They did manage to influence top management in a way which ultimately lead to mitigate shareholder benefits over their gains.

Nevertheless, bondholder issue has been highlighted in research field. Maxwell (2003) presented other factors that could explain potential value associated with wealth transfer. First, bondholders might lose their assigned collateral of parent if those are transferred to new company and it might affect spin-off motivation positively. This edge may be mitigated however with the usage of covenants that protects bondholders. Spin-off could potentially also alter parent's debt ratio. Dittmar (2004) argues, that parent firm receive higher debt ratio after spin-off than prior. Maxwell (2003) concludes that bondholders in general may hypothesize spin-offs as value destroying for them and major reason for this assumption is the fear of losing collateral.

Another assumption why wealth is transferred from bondholders to equity-owners is, that if parent was a conglomerate that consist of multiple industries not related to each other hence a diversified company, creditor may lose diversification bonus (Maxwell 2003). John (1992) researched phenomenon and found that wealth is transferred if cash flows of parent and division are not correlated and new transaction results into surprising loss of diversification bonus that granted insurance for creditors.

To conclude, Maxwell (2003) found evidence that wealth is actually transferred. Bondholders perceive spin-offs negatively and negative credit rating changes of parent have propped this. Maxwell concludes that:

“though only significant at the 10 percent level, that changes in stock values are negatively related to changes in bond values.” (Maxwell 2003)

Above argument signifies that creditors do perceive spin-offs in negative manner.

4.3.5 Tax and regulatory advantages

Taxation in general differs around the world. Schipper and Smith (1983) researched taxation and regulatory effects and spin-offs. However, their research involves only U.S based companies. Based on their research, company who is affected by regulations can eschew those impacts by spinning-off a division. Thus,

both parent and subsidiary will minimize regulatory effects. Furthermore, U.S. firm can spin-off offshore affiliate hence avoiding taxes in U.S.

Essentially tax and regulatory environment differs between United States and Europe. Veld (2009) has presented some key differences in his research. Accordingly, in Europe spin-offs are not taxable due European Union directive about mergers and acquisitions. The previous states that taxation considers spin-offs as restructuring some assets that is already owned by investor.

Potential explanation for tax motive of spin-off is from the definition. Like mentioned before spin-off is a transaction that do not involve any cash distribution and shares are distributed in pro-rata basis. Hence, potential gains are not taxable in straight forward due the nature of spin-off (Gole & Hilger 2008, 236-237). Sherman adds that in United States Internal Revenue Service (IRS) demands that spin-off have legitimate business reasons, therefore it cannot be motivated for example by desire to divest bad components to own entity. IRS stresses further acceptable reasons to spin-off:

“a deal will help with access to capital markets, debt-financing prospects, competitive position, management direction, or retention of key employees.” (Sherman 2010, 135-136)

Lin and Yung (2014) states requirements for tax-free spin-off in United States:

“Section 355 of the Internal Revenue Code allows a corporation to make a tax-free distribution to its shareholders of stock and securities in one or more controlled subsidiaries. To be qualified for the tax-free treatment, firms must satisfy the following requirements: (a) The distributing corporation must distribute the stock of a controlled corporation, preexisting or newly created, to its shareholders.; (b) The distributing corporation generally must distribute all its controlled corporation stock and securities immediately before the transaction; (c) Following the distribution, both the controlled and distributing corporations must be actively engaged in a trade or business with a five-year history; (d) Neither the distributing nor the controlled corporation can use the spin-off as a device for distributing earnings and profits; (e) A spinoff is to be motivated, in whole or substantial part, by one or more corporate business purposes, and (f) Following the distribution of the controlled corporations stock, the distributing corporation shareholders must maintain continuity of interest in both companies.” (Lin & Yung 2014).

In United States, regulatory offices also states further requirement based on Section 355, that division or subsidiary must be owned by parent with at least 80 % share (Gaughan 2010, 408).

Nonetheless, one reason argued by researchers explaining regulatory advantages, when subsidiary transforms into independent entity it will have better preconditions to negotiate with outside parties about various issues like, regulatory offices and trade unions. Previous occasion is remarkably imposing if spin-offs industry is significantly different and more competitive than parents (Woo et al. 1992). Veld (2009) has exposed in his research, that tax- and regulatory advantages, associated with spin-offs will cause abnormal returns.

4.3.6 Other aspects

In his study Vihj (1994) tried to explain reason for spin-offs abnormal returns. He argued that one of the reason for excess value creation must come from a new entity status. He means that when companies are separated into different legal entity forms, it will generate incentive for investors, now they can actually reduce their risks in their investments. This means that when beforehand owned shares in one entity is actually doubled after spin-off hence risk is actually halved.

Harris (2008) mentions that large institutional investors such as pension insurance companies, need to change their asset structure after spin-off. This causes them to alter their investment portfolios and ultimately progress to speedy trading measures, hence creating room for value adding investment opportunities that active investors try to exploit. However Harris continued that some researches argue that this is not a plausible explanation for excess value creation of spin-offs.

4.4 Spin-off critique

While majority of studies argue that corporate spin-offs are value adding and beneficial, conversely there are few studies which argue the opposite. Pearsson (1998) for example presents critique for some studies made in the early 1990's which declared value adding proposition of spin-offs. According to him for example study made by Markides (1995) was not accurate one. These studies were distorted by the fact that their sample was from 1980's which was a rapid recovery period in the markets. In essence it seems that some value adding results from better overall market situation (Pearsson 1998).

Furthermore, Woo (1992) displayed in his paper, that majority of spin-offs were not performing better than expected. This was the case for both unrelated and related business. Also, value enhancement did not appear in short term findings, however over the long-term scope it is possible that value increase for spin-offs might have actually happen (Woo 1992).

According to Maxwell (2003) bond market views spin-offs generally in negative way. The previous results from the fact that highly leveraged investors who look to benefit from appreciating stock prices after spin-off, by expropriating wealth from bondholders. Again this action results into negative bond market valuation for companies in question (Maxwell 2003).

Also continuing bondholder issue it seems that they can influence or even mitigate spin-off gains for above mentioned reasons and also from corporate governance issues. Even without covenant contracts bondholder employs strong influence over potential spin-off process (Parrino 1997) resulting into idea that bondholders view about spin-off process evidently affects to value gains.

5 METHODOLOGY

This study uses event-study methodology and it will be employed similarly like (Krishnaswami 1999; Dodd & Warner 1983). I will parallel, parent company's and subsidiary spin-off's stock market performance after spin-off execution date. Moreover, like Duso et al. (2010), this research will utilize event-study in a way to track down possible abnormal returns after event day ($\tau=0$). In order to achieve this I will use a method where we investigate abnormal returns 50 days prior event day and five days after $\tau=0$. I will estimate market return demand by counting, from historical stock prices relative for the investigated company, between $\tau=-290$ and $\tau=-50$. This same procedure will be additionally launched to the announcement date event. Thus, I am observing if markets were expecting parent companies to restructure their operations and whether they were treating such occasion as valuable one. Spin-offs are investigated only between $\tau=0$ and $\tau=-5$, in order to capture expected abnormal returns. This researched applies same expected returns to the spin-off as parent.

5.1 Sample & Data

Sample will consist of listed corporations. The condition will be that they are listed in countries who are considered to represent highly advanced stock markets. Those are in this paper: United States, Canada, Great Britain, Germany, Finland and Sweden. La Porta et al. (1998), support this theory base. According to their research United States and Great Britain which represent common law-legal environment have supreme investor protection and most effective stock market. Furthermore, the lowest Roman law will be excluded (Italy, Spain & France etc.), but German and Scandinavian civil law, which fall on middle between the two previous legal systems, will be included into this research because their relatively strong investor and market functions (La Porta et al. 1998).

Sample size will consist of 22 parent companies and 22 spin-offs, hence having a total sample of 44 entities. Both parent and spin-offs have few stipulations. First, the transaction must have taken place between 2010 and 2015, in order to achieve time-elapse for the research. Second, data collecting must be free and third this research only utilizes adjusted stock returns. The last demand is that observed spin-offs and parents must be traded in major stock markets, hence we will be excluding OTC-traded entities.

Samples will be collected from SDC Platinum database. SDC Platinum offered all together 236 corporate spin-offs from time period 06.01.2010 - 04.03.2015. From these 236 we excluded all OTC-traded companies, therefore our sample comprises approximately 22.5 % from that time period. Sample was picked randomly, hence none of them were treated in-equally.

Collection of data will occur using stock price information from Yahoo Finance website, which effectively uses only adjusted daily returns. Also, Datastream program were utilized for few sample analysis. Parent companies must be a constituent of some major stock index. Our sample firms are constituents of represent all some major stock index such as NYSE, NASDAQ, S&P500, DAX and OMX-Nordic.

5.2 Event-date analysis

5.2.1 Calculations of abnormal returns

There multiple ways to discover abnormal return. Tübke presented idea that period that antecedent period prior announcement- or execution date will act as unaffected estimation period. These returns that will be collected from antecedent period will be compared to the event-window returns. Consequently, abnormal return is the difference between expected unaffected return and actual return (Tübke 2005, 58-59). The idea is that by observing stock returns, which are markets expectations about discounted future profits that companies produces, hence creating opportunity to discover if spin-offs actually changes markets expectations about future discounted profits (Duso et al. 2010).

Assuming that markets are efficient and investors acts with rationality, Duso et al. (2010) presents:

“company i’s stock return at time t (R_{it}) is proportional to a market return (R_{mt}): $R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$, where ε_{it} , is an i.i.d. normally distributed error term.”
(Duso et al. 2010)

The previous represented our market model, which is effectively calculated via using Microsoft Excel 2013. In that program α = is intercept command while β is slope command. These two are summed together and multiplied by actual market return to discover expected market return.

Abnormal return which are most essential in our research are calculated by: *Actual return - Expected return = Abnormal return*. Which is defined using Duso et al. (2010) calculations as: $AR_{it} = R_{it} - \varepsilon_{it}$, where AR_{it} is abnormal return for stock i. R_{it} is actual return for stock i and ε_{it} is expected return for stock i.

Duso et al. (2010), Krishnaswami (1999) and Sudarsanam (2007) all emphasized relative meaningless of information leakage during observation periods. To overcome potential effects on abnormal return of such actions, they all argued that by summing abnormal returns from event-window it is possible to mitigate effects of information leakage. Hence, the correct equation to calculate cumulative abnormal returns (CAR) is:

$CAR_{i,m,n} = \sum_{t=-m}^{t=n} AR_{it}$, where m is dates prior event date, while n represents dates after event date.

5.2.2 Interval periods

Immense number of researchers have used interval periods in order to capture event-window surprises more thoroughly (Krishnaswami 1999; Hemang 1999; Boreiko & Murgia 2010; Veld 2008; Sudarsanam 2007). Moreover, interval periods differ greatly between different studies. Krishnaswami (1999) used six different interval sequences:

- -30 to -6
- -5 to -1
- -1 to 0
- -1 to +1
- +1 to +5
- +6 to +30

In contrast Hemang (1999) did use much larger interval periods, they were computed on yearly basis from year 0 to year 3. Because various researchers seemed to use highly different interval periods, this study was systematized by involving arguments from Duso et al. (2010) case. Based on their argument that to capture some phenomenon from event-window it should be sufficient to have at least 50 days prior event date to notice significant changes in stock prices. In comparison post event date window is much shorter, in this study only five days after event date. The previous is due to fact that markets tend to capture major portion of phenomenon already during 50 days prior actual event. Further, if in some extent this shall not happen it should be captured during these 5 days, especially in time sequence 0 to -1 (Duso et al. 2010; Krishnaswami 1999; Veld 2008).

Henceforth, interval periods used in this study is compiled by following:

- -50 to -15
- -15 to -5
- -5 to -1
- -1 to 0
- -1 to +1
- +1 to +5

Furthermore, above mentioned interval sequences should capture wealth creation expectations between parent and spin-off. All days prior announcement date and after concerns only parent firm, in order to see if markets anticipated potential spin-off to be prosperous (positive abnormal returns) or frail (negative abnormal returns). Instead, execution date event is compared between parent and spin-off. Spin-off firm will be observed only during actual event date and five trading days later. Reason is simple, there are no available stock market data prior to this execution date because spin-off company has not been traded publicly prior that. Also, because it is extremely difficult to estimate and even more harder to calculate expected return for spin-off during that time, we shall utilizes parent firm's expected returns to find out spin-off's abnormal returns.

Finally, we convert abnormal returns of all samples together. This is done by using known mean values: median and mean. Mean this study uses is arithmetic. Mean is calculated for example by following parent interval period $t_{(-50,-15)}$ as:

$$\text{Mean for 22 parent firm's: } \frac{rP_1+rP_2+rP_3\dots+rP_{22}}{N},$$

Where N is number of observations and rP_1 is return for parent number one and so on. By comparison median is number which is middle between 50 % observations, smaller and larger.

6 EFFECTS OF SPIN-OFFS ON STOCK VALUES

6.1 Sample presentation

Sample firms were randomly selected out of 99 possible options that were fulfilling my requirement as mentioned beforehand. My sample was 22 parent (one firm has been calculated twice due two distinct spin-offs) firms and 22 spin-offs, which were all traded either at NYSE or NADSDAQ. Moreover they were all members of S&P500 constituent, which was also estimator index to my expected returns. Therefore, my sample is only from the United States which may cause to some extent the results being geographically lagging. However, all samples were all multinational corporations having operations worldwide.

Parent firms were all large companies their average headcount was 29987 full-time employees, while their average combined market value was 19.9 billion dollars. Their combined average revenue was 13.4 billion dollars and combined average total assets 67.4 billion dollars. Conversely, spin-offs were smaller than their previous parents. Average spin-off revenue was 7.85 billion dollars while their combined average market capitalisation was 6.2 billion dollars. Average headcount was 9355 employees and total average assets consist of 15.2 billion dollars. (TABLES 17 and 18)

If we compare our data set to other researches like Krishnaswami (1999) who had average total-assets of his sample 2.4 billion dollars whereas in Hemang's (1999) study the same value was 1.3 billion for parents and 0.3 billion for spin-offs.

6.2 Effects pre-date and after spin-off announcement

By investigating abnormal returns of parents, pre-date spin-off announcement, I will try capture if markets have already reflected potential announcement already in the market prices. Interval period between -50 to -15 (see TABLE 1) showed both small average and median abnormal return rate (see TABLE 2) for 22 parents 0.09 %. While sample standard deviation (see TABLE 3) was 1.55 %, variance 0.029 % (see TABLE 4). By essence small abnormal return rate do not indicate any major positive value prospectus beforehand upcoming spin-off announcement. Relatively minor standard deviation do not also indicate any major price movement. The spread between abnormal returns during this period of time is also quite minor which also reflects that this period has not shown any major price movement in both directions. Minimum and maximum average abnormal return were -0.37% and 1.46% respectively (see TABLE 1) while same by

estimating median were -0.44 % and 0.86% (see TABLE 2). Henceforth, results indicate altogether that potential spin-off announcement was not yet materialised in stock prices.

The period between -15 and -5 days prior announcement date showed smaller average abnormal stock returns 0.04% while median was 0.08% (see TABLE 1 & 2). However, standard deviation in this period was lower than prior period resulting into average of 1.16% (see TABLE 3), also variance lowered to 0.018% (see TABLE 4). Average minimum and maximum values were -1.73% and 0.81% while median presented -0.53% and 1.20% (see TABLES 1 & 2). The period displayed smaller abnormal returns and also minor relative price movements due smaller standard deviation and variance. Results could indicate that likewise to earlier period, this interval segment has not already taken into account potential spin-off announcement. Hence, markets seemingly have not been able to capture information or other presentiments relating to this new market information beforehand.

Furthermore, the next time sequence -5 to -1 days before spin-off announcement, showed negative average abnormal return rates -0.18%. Secondly median return was even lower -0.36% (see TABLE 1 & 2), although average standard deviation (see TABLE 3) did lower to 0.91% which was displayed also by variance 0.012% (see TABLE 4). Minimum average return was -1.45% and maximum 1.50%. By comparison, median minimum value was -0.74% and maximum 1.08% (see TABLE 1 & 2). Similarly to former periods, this interval range did not display any major indications that markets were strongly anticipating any significant news relating to potential restructuring measures. Nonetheless, due small values and low standard deviation and variance one could not tell if markets or individual investors still has not taken future measures into account.

Period -1 to 0, started to show significant attentions. Average abnormal return for parents exploded to 1.74% (median 1.28%) (see TABLE 1 & 2). Minimum and maximum values for averages and medians were -0.75% and 7.07% for both (see TABLE 1 & 2). Average standard deviation for the period was 2.04% and largest standard deviation value 7.06% whilst smallest was 0.01% (see TABLE 3). Average variance was 0.078% which increased compared to the earlier periods and it also showed by far largest significant maximum variance value of 0.498% for one parent (see TABLE 4). By looking individual parents average stock returns we can see that spin-off announcement forecast has also reflecting to the prices positively. Large and significant abnormal returns for approximately half of parent's displays that markets have taken future announcement into account and have viewed them seemingly in positive way.

Period 0 to +1 continued same trend as previous one. Average abnormal return rate increased to 2.26% with minimum and maximum values of -1.69% and 8.55% (see TABLE 1). Median return rate was 1.71% while minimum and maximum medians were -1.69% and 8.55% (see TABLE 2). Average standard deviation for whole sample was during this period 2.45% which increased compared to previous sequence. Largest individual sample deviation was 7.87% while smallest was 0.08% (see TABLE 3). Variance also increased in this period

to 0.108% while maximum variance value for individual parent was 0.619% and minimum value 0.000% (see TABLE 4). Large deviation distribution also tells that announcement has been reflected into stock prices. Positive reaction by large abnormal returns also creates understanding that markets have viewed spin-off announcement in positive way almost in all parents. Only two individual parents have shown negative abnormal return in that period while all other showed quite significant abnormal returns.

Last period we observed, +1 to +5 post announcement of spin-off, did not show similar abnormal returns as two previous periods. Average return rate dropped to 0.23%, while minimum and maximum were respectively -1.51% and 1.60% (see TABLE 1). Median return was same as average one and minimum and maximum medians were -1.39% and 1.62% (see TABLE 2). In addition, average standard deviation depreciated to 1.83%, while maximum deviation was 5.97% (see TABLE 3) for one parent. Average variance halved to 0.054% compared to previous period (see TABLE 4). Abnormal returns stabilized during this period substantially. Results were quite similar together with periods from -50 to -1. Despite of this, some individual parents still displayed evidence that some price reaction might have also lagged, hence some large deviations and variances.

6.2.1 Actual announcement date inspection

By inspecting more closely actual spin-off announcement date I can point out few aspects. First of all out of every observed parent companies, 10 out of 22 (45%) did receive its maximum average return rate value in announcement date. If we broaden our criteria to withhold next trading day, number increases to 13 out of 22 (59%) (see TABLE 6). The reason why announcement date is more closely inspected is that it has shown for multiple individual parent's extremely large abnormal returns. Further, almost all significant abnormal returns were happening between 0 and +2 days. The largest positive abnormal returns were resulting from announcement date, henceforth it can be described that major proportion of this abnormal return resulted from spin-off announcement to the public. This is also to some extent backed by calculated standard deviation and variance. Relatively high standard deviation and variance in comparison to other time periods I have researched, shows clearly that abnormal returns in this period were extremely apart from mean of returns for the whole period. The indication is clearly that spin-off announcement has reflected strongly stock price movements in positive way.

6.3 Effects pre-date of spin-off execution

While I will observe in similar way also pre-date execution abnormal return with exact same time frame, now there are two sample subjects: parent's and spin-offs. Parent's observing period is exactly same as in announcement date, while spin-offs are naturally observed only after execution date.

Nonetheless, period -50 to -15 offered average abnormal rate of return of 0.04% for whole population while in contrast median for the same period was negative -0.01% (see TABLE 7 & 9). Exploring individually minimum and maximum parameters on average numbers, there seems to be lack of strong movement, hence minimum is -0.61% and maximum 0.75%. The data is similar to median numbers of minimum (-0.73%) and maximum (+0.65%) (see TABLE 7 & 9). Henceforth, data is quite consistent when evaluating rate of return of parents, which will give insight that market performance has been quite normal and stable. The foregoing is supported by relative low average standard deviation 1.52%, which is regarded low because time span of observation period is much longer than other periods. Also maximal standard deviation has been relatively slender 3.46% while minimum of 0.69% also embraces other observations (see TABLE 11). Further, minor mean variance of 0.029% also tells us that period has been quite stable (see TABLE 13).

Next period, that was investigated -15 to -5 days prior execution of spin-off, was extremely similar to that -50 to -15 time span. Altogether, average abnormal return of 0.01% and median of 0.04% was recorded but this can be deemed as quite meaningless because abnormality has so insignificant. None of the population exceeded 1.00% (maximum 0.95%), which was the case also in previous period also taking into consideration median of maximum 0.83% (see TABLE 7 & 9). Moreover, average standard deviation of 1.33% was even smaller than in previous time span, while investigation span was also shorter. Furthermore, individual units did not have extreme deviation; maximum of 3.61% and minimum 0.58% (see TABLE 11). Continuing trend was recorded also by calculating variance, where mean depreciated to 0.022% (see TABLE 13). Explicable period did not offer us any abnormalities in stock returns of parents hence it seems that upcoming spin-off has not been value adjusting in investor's eyes.

The period -5 to -1 before execution of restructuring measure, continued similar process than two priors. Parent average mean displayed petite increase to 0.15% but median actually decreased to 0.00% which tells us that even close proximity to execution date has not been affecting to potential value adjustments (see TABLE 7 & 9). However minimum and maximums of mean and median have shown slight divergent, for example median maximum 1.57% while minimum value was -2.09% (see TABLE 7 & 9). However, overall standard deviation has not actually supported to divergence, because it decreased to 0.92% which is low value. Lowest and highest value for it was respectively 0.18% and 2.21% (see TABLE 11). Population observations were not diverged from their means, which is explained by discovering that actual average variance was 0.011% (see TABLE 13) that can be seen as extremely low value for it at time being.

The last period before execution of spin-off procedure offered slight increase in mean and median returns. Average return rate increased to 0.29% compared to previous time periods. Furthermore, minimum and maximum varied much more compared to previous ones, now minimum average return was -3.12% while maximum one was 4.77%, both significant larger than previous periods offered. Median values were similar to mean ones, median for whole sample was

0.16% and maximum median 4.77% and minimum -3.12% (see TABLE 7 & 9). Despite of previous acknowledgements standard deviation remained at the same level as previous period -5 to -1. Deviation increased only little to 0.98% that is quite stable deviation for the whole sample (see TABLE 11). Compared to this average variance doubled to 0.023% (see TABLE 13), but once again this number was not quite significant nor descriptive.

To conclude, the period prior execution of corporate spin-off did not offer significant abnormal returns. Actually, to whole inspection period was relatively calm and was hand in hand with prospectuses that were predicted for the whole time period. It seems that markets were not giving tribute to parents for upcoming spin-off, while however period sustained minor abnormal returns.

6.3.1 Effects after spin-off execution

Execution of spin-off at day 0 and following trading day +1, gave us insight how differently parent's and their own spin-offs were valued in markets. First, inspecting parents I noticed few matters. These two trading days distributed varied abnormal returns both mean and median ones taking into consideration. Stock prices moved quite much resulting into large minimum individual average and median values like -15.01%. Also abnormality were notified in upsides, for example for one parent maximum average and median values were 5.40% (see TABLE 7 & 9). This period was highly polarized to quite significant abnormal returns that were however off-set by even larger negative abnormalities. On average or by measuring it by median, abnormal returns did not actually were so distinctive. Average abnormal return for the sample of parents were -0.45% while median was little smaller -0.36% (see TABLE 7 & 9). However, I must notify that without single parent that offered the maximum values, average return would be positive. This means that outcome in this short period is strongly affected by this one parent. The same effect was spotted also in spin-offs. Polarization of abnormal returns was quite strong. While some spin-offs recorded extreme abnormal returns on average, results were balanced by similar negative distributions. Average return of spin-offs was -0.39% while in median was -0.22% (see TABLE 8 & 10). In essence, rather big and notable polarization of abnormal returns between execution day and following trading date guides us to speculate if this phenomenon is wreaked by spin-off execution deemed either positive or negative way in markets.

The antecedent remark is propped by quite strong standard deviation of abnormal of parent firms. Similar acknowledgements cannot be done for spin-offs because their new and short entry into the stock markets. Nonetheless, deviation was not as polarized as abnormal returns but resulted into quite significant remarks, most definitely the maximum value of 18.75% while there also existed many over 1.50% average deviations (see TABLE 11). However because of quite small sample size and such a considerably big deviation of 18.75%; it definitely affects to average sum. Without it deviation would be 1.83%, that would be however still quite large. Same remark can be made by viewing average variance,

which was on average 0.215% but was once again affected by the already mentioned parent (see TABLE 13). Its average variance was for the period 3.51%, without it variance would be quite stable and normal.

During the period of +1 to +5 average and median returns of parents declined to stable and minor positive abnormal return rate without strong polarization. On average abnormal returns were 0.35% while median ones were 0.09% (see TABLE 7 & 9). At the same time spin-offs were valued in negative way. -0.65% average and -0.61% median for abnormal returns (see TABLE 8 & 10), tells that spin-offs did not keep up with their former parents regarding stock performance. Standard deviation confirms that period was not quite unstable for parents, hence quite minor deviation of 1.70% (see TABLE 11) was recorded. Conversely, spin-offs recorded higher 2.92% deviation (see TABLE 12), which tells that spin-offs price movement was relatively stronger in this period than its former parents. By comparing average variance between parents and spin-offs I can confirm that price movement has been subtle for parents whereas spin-offs prices have been changing more. However, individual sample with maximum value in average variance 1.109% (see TABLE 13 & 14) rises it but is much more subtle compared to earlier mentioned example.

Henceforth, conclusion could be that few days after execution of restructuring measure, markets have valued parents more positive way than new entities. Further analysis will be presented later in chapter 7.

6.4 Cumulative abnormal returns

6.4.1 Announcement period CAR

Announcement period cumulative abnormal returns, tried to mitigate potential information leakage effects that could jeopardize to some extent previous mean and median abnormal returns. Similarly, observed periods are same as previous chapters have described. Thus, -50 to -15 day period accumulated CAR of 3.16% for parents. Because they tend to sum up as mentioned before already, this means that companies have been able to generate in this time period excess abnormal returns hence positive CAR. Next observed period -15 to -5 day prior announcement shows abnormal return of 3.55%, which is a slight increase relative to previous sequence. On the other hand, progress was converted to negative progress in -5 to -1 period where CAR actually decreased to 2.67%, which means that in this period sample companies have actually had smaller abnormalities, while number still remains strongly positive. Last period prior the announcement, shows enormous enhancement. CAR nearly tripled to 6.07% and displayed significant abnormality (see TABLE 5).

Actual announcement continued previously mentioned increase. Abnormal returns did sum up to 7.19% while last 4 trading days were not changing the progress, the CAR remained almost as same 7.17%. The whole announcement

period has showed remarkable abnormal returns already when observing standard returns as beforehand mentioned; CAR concludes the fact. Strong and high CAR with over 7% margin is tremendous, for example in Bergh's (2008) study similar CAR for spin-offs was little over 3 %. However now we observed parent companies but progress is still extremely good (see TABLE 5).

6.4.2 Execution period CAR

Execution period CAR, was positive for the whole period observed for the parent companies. While two first periods showed us quite small CAR's 1.33% and 1.43% respectively, it signified that all in all parents accumulated more positive abnormal returns than negative ones. Actual execution period and periods close to it displayed steady increase of 2.25 % to 2.52% prior execution of spin-off. However, actual spin-off date affected to the parents in a way that CAR halved to 1.25%. Negative period was associated to spin-off news which could be noteworthy. Despite of this, CAR doubled to 2.62% in next few trading days after spin-off execution (see TABLE 15 & 16)

Spin-off CAR were actually analysed with slight change in analysis period. This time observation was made from the execution day 0 to +5. Hence period of 0 to +1 was excluded in spinoffs eyes, because it seemed irrelevant to distribute exactly same figures as in mean and median analysis. The whole period after spin-off became traded and listed company, resulted actually in negative CAR of -3.96% which is completely different as already mentioned Bergh's (2008) research findings. Many sample spin-offs distributed large CAR's while they were off-setting each other quite well with positive large CAR's. However these individual samples do not change the fact that actually spin-offs accumulated negative abnormal returns for their five first trading days as listed public companies. Hence, it seems that either their valuation in investor's eyes has been remarkable too high or they lack of trust in their independency. More analysis will be done in next chapter (see TABLE 15 & 16).

7 RESULTS

I will start analysis of results, by quickly mentioning what ideas and beneficial factors earlier studies had attached to corporate spin-offs.

- Information asymmetry is linked strongly to the level of beneficial spin-offs and their value creation, hence higher to asymmetry of information likelihood to spin-out is more probable. The potentiality of spin-offs arises from this, transparency and confidence is created for investors as they see firm specification more thoroughly (Krishnaswami 1999; Bergh 2008; Lin & Yung 2014)
- Prior actual spin-off parents are valued less than after initial spin-off process (Ahn & Denis 2004).
- Parent outperforms spin-offs in earlier stages of trading, generally speaking period of six months after spinning out (Block 2009). This is also supported by earlier similar findings of Daley (1997).
- Long-run positive abnormal stock returns for spin-offs after separation from parent and even stronger if their line of business is completely different. Furthermore investors moods can reassert this phenomenon if overall economic environment is favourable for such actions (Boreiko & Murgia 2010; Lin & Yung 2014; Sudarsanam 2007).
- Abnormal returns in inspection period are high for bigger spin-offs, on average those subjects produce abnormal return of 3.02% (Veld 2008).
- Similarly to previous, Vijn (1994) argued that announcement and ex-date returns do not differ from one another, actually they remain in a stable 3% positive abnormal level.

To wrap up previous, expectations prior analysis of this study were that spin-offs create excess value rightly after spin-off execution. Parent on the other hand should have significant abnormal return both near the announcement date and ex-date. Parent company will outperform in short time period its spin-off corporation. Also actual abnormal returns should remain in both inspection period in same level.

Accordingly we do confirm that parent companies actually receive large abnormal returns when spin-off is announced. Actual announcement and following trading exhibits by far the strongest abnormalities to the expected returns. This is a strong indication that markets have viewed these news as positive and value enhancing. Quite interesting fact is that event window prior the announcement do not actually record any major abnormalities. According to event-window theory as mentioned beforehand this time period should also capture some of this abnormality. However, it is clear that the impact is associated with the actual announcement news. This means that in some way markets have not taking this possibility into account already prior the actual news. Information leakage seems to be absent or at least minor. By using CAR to adjust information leakage the previous can be to some extent confirmed. However, by looking CAR values

prior announcement date, it is notably that even that period has had positive abnormal returns summing up. The boost at announcement date to CAR can be only explained by actual spin-off publications. Also the actual announcement date and following trading day holds maximal abnormal return values for the whole period for majority of sample population. Also statistical assessment tools confirm that large abnormal returns were actually surprising, variation and difference between actuals and means were clear. It is evident that spin-offs are viewed positively when announced by parents and this reflects to the stock prices of parent companies.

Announcement date analysis was performed mainly as a measure to investigate to whole spin-off process more thoroughly. My stand-out research questions regarding whether stock performance of parent and spin-off differ from one another and will spin-off outperform its parent are explained also by viewing execution date analysis. My research do not confirm any significant abnormal returns for parent companies during execution date event-window. This is evident especially, when I compare this period to announcement period abnormal returns. Recording of positive over 2% around announcement date to minor negative abnormal return during execution date, confirms this. It seems that we do not record same phenomenon as Vijh (1994) where parent's abnormal returns did not differ between these periods. Also the hypothesis that spin-offs will outperform their parents in stock markets following trading days after break up, is not recorded in this study. My results show that spin-offs actually underperform their former parent in first trading days. Of course one flaw is that inspection period is short, only five days. It should be however enough to adjust value propositions to spin-offs stock prices if markets are working in an efficient way. Whether the reason is that maybe potential value adjustment lags the actual execution date more than five days or is it just a coincidence that we do not record similar results as previous studies. The spin-offs poor performance is also recorded by calculating CAR for their whole trading period. It is negative and on average nearly -4%. This kind of performance has not been recorded to spin-offs earlier. Another aspect what could explain that spin-off performance is lagging their parent's one, might result from same expected return expectation for them as for their former parent. Because it is nearly impossible to calculate in cost-effective way expected return for a new entity without a single historical trading days, I used for mine analysis same demands as for their former parents. However this fact is mitigated by a notion that their actual stock market performance was a negative on average for the whole five day period. This means that despite of challenge to effectively to calculate expected returns for them, they are still valued negatively by markets. Also challenge is that sample size is quite small, only 22 spin-offs. However, average spin-off company size is a very large. While their combined market value was well over 6 billion dollars and revenue nearly 8 billion dollars, it signifies that they are so large that effects should not be massive. Price movement have been argued to be more volatile for smaller companies, our sample companies are not small but rather large ones.

All in all, parent performed better in announcement period event-window than execution date window. Corporate spin-offs were not receiving positive market reaction and underperformed their former parents in stock markets. Whether this results from firm specific aspects such as that they were fundamentally valued already in wrong way when they entered to stock market, my research will not answer to this question.

7.1 Discussion & Conclusion

My findings are similar, regarding announcement period success of parent companies as in earlier studies. Parent companies recorded significant abnormal returns immediately after they had announced their plans to spin-off a part of them to the new entity. This finding is very consistent with our initial theory and earlier findings.

However, when analysing execution date data, I did manage to find out rather peculiar findings. My results were not consistent with earlier studies regarding spin-offs extraordinary abnormal returns and good stock market performance, nor did not record similar findings also in parent companies. This converse finding might result from various different variables. It is possible that in short term spin-offs are not attractive target for investors but it is plausible that if having a longer event-window results could have been more positive. Overall it also plausible that wealth effect is dribbled only for parents, hence investors may consider parent's line of business more lucrative.

This study has its limitations. My sample size is much smaller than previous studies made from the spin-offs. However this results mainly from cost-efficiencies and challenges to obtain data. Furthermore I inspected only years of 2010 to 2015, while majority of earlier researches have used long over 10 years investigations periods.

Despite of the limitations this study also contributes. Announcement of spin-off do actually create abnormal value for investors whether this will accumulate later to spin-offs success is still questionable.

My own personal view about value attributions of spin-offs is that overall spin-offs are not answer or correct proceeding in all cases. There are many aspects which may destroy spin-offs value creation potential. If spin-off cannot replace services and programs such as IT and other ICT issues after spinning out, it can result to a default. Other issues are human factors such as corporate atmosphere, organizational culture and management of change. However if spin-off is almost a standalone enterprise prior restructuring hence its core business strategy is standalone, its internal capabilities (IT, HR and ICT) are efficient and independent and it has a good management, spin-off is most definitely a value increasing restructuring method.

For further researchers corporate spin-offs will still offer various aspects for investigate. For example strategic composition and changes in both parents and

spin-offs working capital could offer interesting research set up. Also aspects regarding potential carve-out issues of spin-offs have not been thoroughly studied or explained hence it could be vital for corporate managers to support investigation regarding this issue as a potential cost-saving manoeuvre.

8 TABLES

Parent mean	-50 to -15	-15 to -5	-5 to -1	-1 to 0	0 to +1	+1 to +5
P ₁	0.13%	0.21%	-0.15%	0.96%	1.74%	-0.09%
P ₂	-0.31%	0.66%	-0.16%	2.60%	2.85%	0.27%
P ₃	0.49%	-0.30%	-0.24%	7.07%	8.55%	0.37%
P ₄	-0.02%	-0.03%	-0.14%	0.53%	4.82%	1.00%
P ₅	-0.37%	-0.07%	-0.44%	-0.75%	6.63%	1.60%
P ₆	-0.18%	-0.21%	-0.78%	0.08%	0.74%	0.92%
P ₇	0.52%	0.47%	-1.45%	3.36%	5.52%	1.29%
P ₈	0.49%	0.81%	1.20%	0.55%	-0.32%	0.67%
P ₉	0.20%	-0.04%	-0.16%	-0.75%	-1.69%	-0.46%
P ₉	0.12%	-0.35%	-0.37%	0.63%	0.55%	-0.88%
P ₁₀	-0.09%	0.14%	1.50%	3.64%	2.25%	-0.42%
P ₁₂	0.01%	0.00%	-0.67%	-0.75%	0.93%	0.85%
P ₁₃	-0.08%	0.25%	-0.26%	2.17%	1.49%	-1.51%
P ₁₄	-0.02%	0.05%	-0.54%	0.14%	1.07%	0.30%
P ₁₅	-0.13%	0.32%	-0.63%	1.60%	1.68%	0.08%
P ₁₆	-0.10%	-0.32%	-0.51%	2.75%	1.43%	0.57%
P ₁₇	0.12%	0.17%	-0.15%	-0.24%	0.05%	0.42%
P ₁₈	1.46%	-1.73%	-0.35%	5.24%	3.24%	-0.24%
P ₁₉	-0.08%	0.08%	-0.19%	0.62%	1.09%	0.03%
P ₂₀	-0.03%	-0.06%	0.06%	2.84%	2.45%	0.24%
P ₂₁	-0.33%	-0.06%	1.00%	2.87%	1.94%	-0.33%
P ₂₂	0.19%	0.81%	-0.45%	3.12%	2.72%	0.28%
Average	0.09%	0.04%	-0.18%	1.74%	2.26%	0.23%
Min	-0.37%	-1.73%	-1.45%	-0.75%	-1.69%	-1.51%
Max	1.46%	0.81%	1.50%	7.07%	8.55%	1.60%

TABLE 1 Announcement period parent means between interval periods -50 to +5

Parent median	-50 to -15	-15 to -5	-5 to -1	-1 to 0	0 to +1	+1 to +5
P ₁	0.10%	0.26%	-0.24%	0.96%	1.74%	0.13%
P ₂	-0.44%	0.67%	-0.43%	2.60%	2.85%	0.27%
P ₃	0.63%	0.19%	-0.58%	7.07%	8.55%	-1.00%
P ₄	0.10%	-0.01%	-0.10%	0.53%	4.82%	0.18%
P ₅	-0.03%	-0.53%	-0.53%	-0.75%	6.63%	-0.94%
P ₆	-0.17%	-0.05%	-0.66%	0.08%	0.74%	0.81%
P ₇	0.32%	0.90%	-0.24%	3.36%	5.52%	0.55%
P ₈	0.36%	1.20%	1.08%	0.55%	-0.32%	1.38%
P ₉	0.20%	-0.12%	-0.06%	-0.75%	-1.69%	0.29%
P ₉	0.01%	-0.50%	-0.35%	0.63%	0.55%	-0.50%
P ₁₀	0.08%	0.11%	1.07%	3.64%	2.25%	-0.34%
P ₁₂	0.22%	0.47%	-0.53%	-0.75%	0.93%	-0.35%
P ₁₃	-0.04%	0.36%	-0.74%	2.17%	1.49%	-1.39%
P ₁₄	0.16%	-0.12%	-0.45%	0.14%	1.07%	0.38%
P ₁₅	-0.15%	0.05%	-0.46%	1.60%	1.68%	0.43%
P ₁₆	0.12%	-0.09%	-0.62%	2.75%	1.43%	1.62%
P ₁₇	-0.07%	0.18%	0.10%	-0.24%	0.05%	0.41%
P ₁₈	0.86%	-0.49%	-0.36%	5.24%	3.24%	-0.27%
P ₁₉	-0.06%	0.05%	-0.09%	0.62%	1.09%	0.09%
P ₂₀	-0.08%	-0.02%	-0.36%	2.84%	2.45%	0.40%
P ₂₁	-0.21%	0.11%	0.98%	2.87%	1.94%	-0.05%
P ₂₂	0.11%	1.16%	-0.33%	3.12%	2.72%	0.70%
Median	0.09%	0.08%	-0.36%	1.28%	1.71%	0.23%
Mix	-0.44%	-0.53%	-0.74%	-0.75%	-1.69%	-1.39%
Max	0.86%	1.20%	1.08%	7.07%	8.55%	1.62%

TABLE 2. Announcement period parent medians between interval period -50 to +5

Parent SD	-50 to -15	-15 to -5	-5 to -1	-1 to 0	0 to +1	+1 to +5
P ₁	0.96%	0.66%	0.21%	1.20%	0.42%	1.07%
P ₂	0.93%	1.09%	0.92%	2.47%	2.22%	0.75%
P ₃	1.74%	2.01%	0.86%	7.06%	5.58%	4.58%
P ₄	1.46%	0.90%	0.48%	0.40%	3.89%	4.10%
P ₅	3.32%	1.25%	1.34%	0.58%	6.80%	5.97%
P ₆	1.80%	2.18%	0.53%	1.10%	0.44%	1.47%
P ₇	2.41%	1.28%	2.20%	5.75%	3.59%	1.07%
P ₈	1.68%	1.24%	2.50%	2.57%	1.70%	2.45%
P ₉	1.05%	0.69%	0.80%	1.24%	0.29%	1.23%
P ₉	1.16%	0.71%	0.53%	0.73%	0.81%	1.26%
P ₁₀	1.25%	0.48%	0.75%	2.56%	3.94%	0.68%
P ₁₂	1.35%	2.08%	1.71%	1.60%	0.08%	2.71%
P ₁₃	1.23%	0.48%	0.75%	1.49%	2.16%	0.85%
P ₁₄	1.21%	1.04%	0.73%	0.20%	1.13%	1.37%
P ₁₅	0.74%	0.92%	0.66%	1.33%	1.25%	1.15%
P ₁₆	1.35%	1.38%	0.52%	3.33%	4.65%	2.55%
P ₁₇	1.21%	0.50%	0.54%	0.43%	0.73%	0.44%
P ₁₈	3.76%	3.41%	0.29%	5.86%	7.87%	2.81%
P ₁₉	0.92%	0.82%	0.60%	1.63%	1.16%	0.37%
P ₂₀	1.48%	0.49%	1.45%	0.01%	0.40%	1.25%
P ₂₁	1.25%	0.70%	1.19%	0.28%	1.21%	0.99%
P ₂₂	1.87%	1.30%	0.37%	3.07%	3.47%	1.07%
Average	1.55%	1.16%	0.91%	2.04%	2.45%	1.83%
Min	0.74%	0.48%	0.21%	0.01%	0.08%	0.37%
Max	3.76%	3.41%	2.50%	7.06%	7.87%	5.97%

TABLE 3. Announcement date average standard deviation of parent companies between interval period -50 to +5

Parent VAR	-50 to -15	-15 to -5	-5 to -1	-1 to 0	0 to +1	+1 to +5
P ₁	0.01%	0.00%	0.00%	0.01%	0.00%	0.01%
P ₂	0.01%	0.01%	0.01%	0.06%	0.05%	0.01%
P ₃	0.03%	0.04%	0.01%	0.50%	0.31%	0.21%
P ₄	0.02%	0.01%	0.00%	0.00%	0.15%	0.17%
P ₅	0.11%	0.02%	0.02%	0.00%	0.46%	0.36%
P ₆	0.03%	0.05%	0.00%	0.01%	0.00%	0.02%
P ₇	0.06%	0.02%	0.05%	0.33%	0.13%	0.01%
P ₈	0.03%	0.02%	0.06%	0.07%	0.03%	0.06%
P ₉	0.01%	0.00%	0.01%	0.02%	0.00%	0.02%
P ₉	0.01%	0.01%	0.00%	0.01%	0.01%	0.02%
P ₁₀	0.02%	0.00%	0.01%	0.07%	0.16%	0.00%
P ₁₂	0.02%	0.04%	0.03%	0.03%	0.00%	0.07%
P ₁₃	0.02%	0.00%	0.01%	0.02%	0.05%	0.01%
P ₁₄	0.01%	0.01%	0.01%	0.00%	0.01%	0.02%
P ₁₅	0.01%	0.01%	0.00%	0.02%	0.02%	0.01%
P ₁₆	0.02%	0.02%	0.00%	0.11%	0.22%	0.06%
P ₁₇	0.01%	0.00%	0.00%	0.00%	0.01%	0.00%
P ₁₈	0.14%	0.12%	0.00%	0.34%	0.62%	0.08%
P ₁₉	0.01%	0.01%	0.00%	0.03%	0.01%	0.00%
P ₂₀	0.02%	0.00%	0.02%	0.00%	0.00%	0.02%
P ₂₁	0.02%	0.00%	0.01%	0.00%	0.01%	0.01%
P ₂₂	0.03%	0.02%	0.00%	0.09%	0.12%	0.01%
Average	0.029%	0.018%	0.012%	0.078%	0.108%	0.054%
Min	0.005%	0.002%	0.000%	0.000%	0.000%	0.001%
Max	0.141%	0.117%	0.063%	0.498%	0.619%	0.356%

TABLE 4. Announcement date period average variances for parents between interval period -50 to +5.

Parent CAR	-50 to -15	-15 to -5	-5 to -1	-1 to 0	0 to +1	+1 to +5
P ₁	4.41%	6.55%	5.79%	7.95%	9.26%	7.49%
P ₂	-10.75%	-4.12%	-4.90%	0.17%	0.80%	1.51%
P ₃	17.30%	14.33%	13.12%	27.25%	30.22%	29.11%
P ₄	-0.58%	-0.84%	-1.54%	-0.61%	8.10%	4.37%
P ₅	-12.95%	-13.67%	-15.88%	-16.06%	-2.63%	-8.06%
P ₆	-6.33%	-8.46%	-12.36%	-11.18%	-10.89%	-6.60%
P ₇	18.18%	22.88%	15.65%	24.76%	26.68%	31.22%
P ₈	17.30%	25.44%	31.45%	29.43%	30.81%	32.80%
P ₉	7.07%	6.64%	5.84%	3.85%	2.45%	1.54%
P ₉	4.07%	0.60%	-1.26%	0.10%	-0.16%	-4.30%
P ₁₀	-3.08%	-1.73%	5.78%	11.97%	10.28%	9.87%
P ₁₂	0.48%	0.45%	-2.92%	-2.07%	-1.06%	2.18%
P ₁₃	-2.78%	-0.25%	-1.56%	2.09%	1.42%	-5.44%
P ₁₄	-0.81%	-0.30%	-2.99%	-3.05%	-0.84%	-1.53%
P ₁₅	-4.56%	-1.35%	-4.50%	-1.57%	-1.14%	-1.19%
P ₁₆	-3.55%	-6.76%	-9.31%	-3.23%	-6.45%	-0.39%
P ₁₇	4.31%	6.05%	5.31%	4.64%	5.42%	6.74%
P ₁₈	50.99%	33.69%	31.96%	43.06%	38.43%	41.87%
P ₁₉	-2.97%	-2.21%	-3.14%	-0.89%	-0.97%	-0.74%
P ₂₀	-1.02%	-1.64%	-1.34%	1.51%	3.56%	2.72%
P ₂₁	-11.76%	-12.04%	-7.05%	-3.90%	-3.16%	-5.53%
P ₂₂	6.64%	14.79%	12.53%	18.73%	17.97%	20.15%
Average	3.16%	3.55%	2.67%	6.04%	7.19%	7.17%

TABLE 5. Announcement date CAR's for parent companies between interval period -50 to +5.

Parent Announcement date AR	AR
P ₁	2.16%
P ₂	5.07%
P ₃	14.13%
P ₄	0.93%
P ₅	9.11%
P ₆	-2.02%
P ₇	6.20%
P ₈	3.65%
P ₉	6.08%
P ₉	11.10%
P ₁₀	3.15%
P ₁₂	2.93%
P ₁₃	2.84%
P ₁₄	0.85%
P ₁₅	-1.99%
P ₁₆	-0.18%
P ₁₇	1.36%
P ₁₈	-0.06%
P ₁₉	-0.67%
P ₂₀	2.25%
P ₂₁	1.18%
P ₂₂	6.19%

TABLE 6. Announcement date abnormal returns for parent companies

Parent mean AR	-50 to -15	-15 to -5	-5 to -1	-1 to 0	0 to +1	+1 to +5
P ₁	-0.33%	-0.07%	-0.44%	0.47%	2.10%	0.11%
P ₂	0.20%	-0.10%	-0.27%	0.27%	-1.22%	0.32%
P ₃	0.10%	0.67%	0.86%	4.22%	2.93%	0.24%
P ₄	0.05%	0.56%	-0.04%	-1.00%	-0.72%	1.00%
P ₅	-0.08%	0.19%	-0.12%	0.16%	-15.01%	0.98%
P ₆	-0.25%	-0.60%	0.19%	1.92%	5.40%	2.66%
P ₇	0.21%	-0.65%	1.13%	4.77%	2.13%	-0.45%
P ₈	-0.53%	0.62%	-0.33%	0.01%	-1.08%	1.32%
P ₉	-0.06%	-0.23%	0.78%	-0.91%	-0.56%	0.26%
P ₉	0.23%	-0.17%	-0.10%	0.06%	-1.15%	-0.81%
P ₁₀	-0.09%	0.16%	-0.89%	0.16%	2.02%	0.30%
P ₁₂	0.43%	-0.19%	-0.44%	-1.09%	-0.83%	1.85%
P ₁₃	-0.09%	-0.62%	0.17%	0.23%	-0.34%	2.63%
P ₁₄	0.23%	-0.28%	0.54%	-0.36%	0.75%	-0.12%
P ₁₅	-0.05%	0.39%	-0.34%	-0.22%	0.62%	0.02%
P ₁₆	0.28%	0.95%	1.11%	-3.12%	-3.85%	0.52%
P ₁₇	0.02%	0.01%	0.81%	0.83%	0.11%	0.12%
P ₁₈	0.75%	0.37%	1.15%	1.13%	-1.60%	-3.53%
P ₁₉	0.21%	0.32%	-0.28%	0.01%	-0.40%	0.02%
P ₂₀	0.17%	0.16%	0.01%	0.39%	-0.38%	-0.11%
P ₂₁	0.03%	-0.52%	0.41%	1.13%	1.18%	-0.17%
P ₂₂	-0.61%	-0.76%	-0.68%	-2.73%	0.02%	0.50%
Average	0.04%	0.01%	0.15%	0.29%	-0.45%	0.35%
Min	-0.61%	-0.76%	-0.89%	-3.12%	-15.01%	-3.53%
Max	0.75%	0.95%	1.15%	4.77%	5.40%	2.66%

TABLE 7. Parent spin-off execution date average abnormal returns for time period of -50 to +5.

Spin-off mean AR	0 to +1	+1 to +5
SP ₁	-0.81%	-0.79%
SP ₂	-9.88%	-0.96%
SP ₃	-6.78%	-1.79%
SP ₄	-0.22%	1.55%
SP ₅	0.20%	0.13%
SP ₆	0.62%	-2.61%
SP ₇	-3.21%	-1.78%
SP ₈	-3.19%	0.83%
SP ₉	-0.21%	-1.32%
SP ₁₀	0.49%	-4.83%
SP ₁₁	0.32%	-0.51%
SP ₁₂	-2.46%	1.34%
SP ₁₃	-0.04%	-1.96%
SP ₁₄	-0.46%	-1.21%
SP ₁₅	8.82%	-1.29%
SP ₁₆	5.51%	2.60%
SP ₁₇	5.11%	1.34%
SP ₁₈	-5.25%	-3.03%
SP ₁₉	-2.53%	-2.03%
SP ₂₀	3.96%	2.39%
SP ₂₁	2.68%	0.29%
SP ₂₂	-1.22%	-0.69%
Average	-0.39%	-0.65%
Min	-9.88%	-4.83%
Max	8.82%	2.60%

TABLE 8. Spin-offs average abnormal returns after execution of spin-off.

Parent median	-50 to -15	-15 to -5	-5 to -1	-1 to 0	0 to +1	+1 to +5
P ₁	-0.15%	-0.23%	-0.43%	0.47%	2.10%	0.26%
P ₂	0.16%	0.21%	-0.18%	0.27%	-1.22%	-0.31%
P ₃	-0.03%	0.83%	0.74%	4.22%	2.93%	0.19%
P ₄	-0.02%	0.05%	0.45%	-1.00%	-0.72%	1.01%
P ₅	0.03%	0.60%	-0.35%	0.16%	- 15.01%	0.09%
P ₆	0.27%	-0.41%	-0.02%	1.92%	5.40%	-0.69%
P ₇	0.01%	-1.07%	1.57%	4.77%	2.13%	-0.19%
P ₈	-0.73%	0.22%	-0.49%	0.01%	-1.08%	0.92%
P ₉	-0.13%	-0.11%	0.55%	-0.91%	-0.56%	0.12%
P ₉	0.31%	-0.22%	-0.12%	0.06%	-1.15%	-0.19%
P ₁₀	-0.52%	-0.06%	-2.09%	0.16%	2.02%	-0.33%
P ₁₂	0.65%	0.51%	-0.63%	-1.09%	-0.83%	-0.10%
P ₁₃	-0.28%	-1.07%	0.96%	0.23%	-0.34%	1.01%
P ₁₄	0.16%	-0.53%	0.54%	-0.36%	0.75%	0.40%
P ₁₅	-0.19%	0.44%	-0.45%	-0.22%	0.62%	-0.10%
P ₁₆	0.29%	0.37%	1.01%	-3.12%	-3.85%	0.54%
P ₁₇	0.00%	0.09%	0.92%	0.83%	0.11%	0.09%
P ₁₈	0.48%	0.03%	1.10%	1.13%	-1.60%	-3.89%
P ₁₉	0.12%	0.42%	-0.40%	0.01%	-0.40%	0.19%
P ₂₀	-0.16%	0.12%	0.03%	0.39%	-0.38%	-1.03%
P ₂₁	-0.01%	-0.54%	0.37%	1.13%	1.18%	-0.72%
P ₂₂	-0.22%	-0.35%	-1.25%	-2.73%	0.02%	0.98%
Median	-0.01%	0.04%	0.00%	0.16%	-0.36%	0.09%
Min	-0.73%	-1.07%	-2.09%	-3.12%	- 15.01%	-3.89%
Max	0.65%	0.83%	1.57%	4.77%	5.40%	1.01%

TABLE 9. Parent execution period medians.

Spin-off median	0 to +1	+1 to +5
SP ₁	-0.81%	-0.79%
SP ₂	-9.88%	-0.70%
SP ₃	-6.78%	-1.31%
SP ₄	-0.22%	0.02%
SP ₅	0.20%	0.41%
SP ₆	0.62%	-5.57%
SP ₇	-3.21%	-2.53%
SP ₈	-3.19%	1.45%
SP ₉	-0.21%	-1.87%
SP ₁₀	0.49%	-4.99%
SP ₁₁	0.32%	-0.35%
SP ₁₂	-2.46%	1.28%
SP ₁₃	-0.04%	-0.52%
SP ₁₄	-0.46%	-1.10%
SP ₁₅	8.82%	-0.70%
SP ₁₆	5.51%	4.11%
SP ₁₇	5.11%	0.28%
SP ₁₈	-5.25%	-3.76%
SP ₁₉	-2.53%	-2.53%
SP ₂₀	3.96%	2.88%
SP ₂₁	2.68%	0.33%
SP ₂₂	-1.22%	-0.31%
Median	-0.22%	-0.61%
Min	-9.88%	-5.57%
Max	8.82%	4.11%

TABLE 10. Spin-offs medians after execution date.

Parent SD	-50 to -15	-15 to -5	-5 to -1	-1 to 0	0 to +1	+1 to +5
P ₁	1.13%	0.67%	0.29%	0.11%	1.74%	0.69%
P ₂	1.40%	1.10%	1.00%	0.05%	1.44%	2.13%
P ₃	1.26%	1.33%	0.63%	2.35%	3.64%	1.07%
P ₄	1.31%	1.26%	1.05%	1.45%	1.73%	0.45%
P ₅	1.97%	1.41%	0.80%	0.51%	18.75%	1.69%
P ₆	3.19%	3.61%	1.18%	0.11%	3.37%	4.95%
P ₇	2.50%	1.59%	1.32%	4.15%	6.79%	1.87%
P ₈	1.66%	1.09%	0.96%	1.13%	0.05%	1.04%
P ₉	1.22%	0.66%	0.51%	1.40%	1.75%	0.49%
P ₉	0.69%	0.59%	0.18%	0.42%	1.63%	1.31%
P ₁₀	1.52%	1.31%	2.21%	0.67%	1.20%	2.75%
P ₁₂	2.14%	1.98%	0.77%	0.47%	0.73%	4.27%
P ₁₃	0.71%	1.70%	1.59%	1.93%	1.35%	4.27%
P ₁₄	1.09%	1.02%	1.11%	0.87%	0.24%	1.12%
P ₁₅	1.13%	0.58%	0.30%	0.07%	0.77%	0.73%
P ₁₆	1.02%	1.61%	0.92%	4.13%	3.41%	1.58%
P ₁₇	0.79%	0.66%	0.40%	0.09%	0.62%	0.39%
P ₁₈	3.46%	2.32%	1.03%	0.58%	3.31%	1.06%
P ₁₉	0.82%	0.69%	0.69%	0.18%	0.22%	0.48%
P ₂₀	1.40%	1.23%	0.27%	0.47%	1.24%	1.71%
P ₂₁	0.76%	1.07%	0.97%	0.33%	0.38%	1.45%
P ₂₂	2.26%	1.74%	2.10%	0.04%	2.79%	1.94%
Average	1.52%	1.33%	0.92%	0.98%	2.60%	1.70%
Min	0.69%	0.58%	0.18%	0.04%	0.05%	0.39%
Max	3.46%	3.61%	2.21%	4.15%	18.75%	4.95%

TABLE 11. Standard deviations of parent companies between execution date period.

Spin-off SD	0 to +1	+1 to +5
SP ₁	nq	0.96%
SP ₂	nq	1.68%
SP ₃	nq	0.93%
SP ₄	nq	6.34%
SP ₅	nq	0.84%
SP ₆	nq	10.53%
SP ₇	nq	5.95%
SP ₈	nq	1.23%
SP ₉	nq	1.34%
SP ₁₀	nq	3.80%
SP ₁₁	nq	0.66%
SP ₁₂	nq	3.39%
SP ₁₃	nq	3.44%
SP ₁₄	nq	1.60%
SP ₁₅	nq	1.77%
SP ₁₆	nq	3.87%
SP ₁₇	nq	5.69%
SP ₁₈	nq	3.41%
SP ₁₉	nq	1.83%
SP ₂₀	nq	1.49%
SP ₂₁	nq	1.92%
SP ₂₂	nq	1.49%
Average	nq	2.92%
Min	nq	0.66%
Max	nq	10.53%

TABLE 12. Spin-off average standard deviation after execution of spin-off.

Parent VAR	-50 to -15	-15 to -5	-5 to -1	-1 to 0	0 to +1	+1 to +5
P ₁	0.01%	0.00%	0.00%	0.00%	0.03%	0.00%
P ₂	0.02%	0.01%	0.01%	0.00%	0.02%	0.05%
P ₃	0.02%	0.02%	0.00%	0.06%	0.13%	0.01%
P ₄	0.02%	0.02%	0.01%	0.02%	0.03%	0.00%
P ₅	0.04%	0.02%	0.01%	0.00%	3.51%	0.03%
P ₆	0.10%	0.13%	0.01%	0.00%	0.11%	0.25%
P ₇	0.06%	0.03%	0.02%	0.17%	0.46%	0.03%
P ₈	0.03%	0.01%	0.01%	0.01%	0.00%	0.01%
P ₉	0.01%	0.00%	0.00%	0.02%	0.03%	0.00%
P ₉	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%
P ₁₀	0.02%	0.02%	0.05%	0.00%	0.01%	0.08%
P ₁₂	0.05%	0.04%	0.01%	0.00%	0.01%	0.18%
P ₁₃	0.01%	0.03%	0.03%	0.04%	0.02%	0.18%
P ₁₄	0.01%	0.01%	0.01%	0.01%	0.00%	0.01%
P ₁₅	0.01%	0.00%	0.00%	0.00%	0.01%	0.01%
P ₁₆	0.01%	0.03%	0.01%	0.17%	0.12%	0.03%
P ₁₇	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%
P ₁₈	0.12%	0.05%	0.01%	0.00%	0.11%	0.01%
P ₁₉	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%
P ₂₀	0.02%	0.02%	0.00%	0.00%	0.02%	0.03%
P ₂₁	0.01%	0.01%	0.01%	0.00%	0.00%	0.02%
P ₂₂	0.05%	0.03%	0.04%	0.00%	0.08%	0.04%
Average	0.029%	0.022%	0.011%	0.023%	0.215%	0.045%
Min	0.005%	0.003%	0.000%	0.000%	0.000%	0.002%
Max	0.120%	0.131%	0.049%	0.172%	3.514%	0.245%

TABLE 13. Parent average variations in execution date period.

Spin-off VAR	0 to +1	+1 to +5
SP ₁	nq	0.01%
SP ₂	nq	0.03%
SP ₃	nq	0.01%
SP ₄	nq	0.40%
SP ₅	nq	0.01%
SP ₆	nq	1.11%
SP ₇	nq	0.35%
SP ₈	nq	0.02%
SP ₉	nq	0.02%
SP ₁₀	nq	0.14%
SP ₁₁	nq	0.00%
SP ₁₂	nq	0.12%
SP ₁₃	nq	0.12%
SP ₁₄	nq	0.03%
SP ₁₅	nq	0.03%
SP ₁₆	nq	0.15%
SP ₁₇	nq	0.32%
SP ₁₈	nq	0.12%
SP ₁₉	nq	0.03%
SP ₂₀	nq	0.02%
SP ₂₁	nq	0.04%
SP ₂₂	nq	0.02%
Average	nq	0.141%
Min	nq	0.004%
Max	nq	1.109%

TABLE 14. Spin-offs average variance after execution date.

Parent CAR	-50 to -15	-15 to -5	-5 to -1	-1 to 0	0 to +1	+1 to +5
P ₁	-11.43%	-12.14%	-13.88%	-12.94%	-9.11%	-8.67%
P ₂	7.00%	6.03%	4.95%	5.49%	2.83%	7.07%
P ₃	3.57%	10.30%	14.62%	21.19%	20.47%	22.36%
P ₄	1.89%	7.45%	7.25%	4.80%	5.81%	9.79%
P ₅	-2.66%	-0.80%	-1.41%	-0.74%	-34.50%	-29.06%
P ₆	-8.74%	-14.71%	-13.77%	-11.74%	-2.98%	1.55%
P ₇	7.26%	0.80%	5.93%	14.86%	10.19%	8.40%
P ₈	-18.39%	-12.16%	-12.36%	-13.48%	-14.51%	-9.23%
P ₉	-2.02%	-4.30%	-0.42%	-2.73%	-1.54%	-1.41%
P ₉	8.05%	6.38%	5.86%	6.34%	3.57%	2.31%
P ₁₀	-3.25%	-1.70%	-6.13%	-5.30%	-2.08%	-3.80%
P ₁₂	15.13%	13.24%	11.03%	9.47%	9.37%	18.73%
P ₁₃	-3.13%	-9.37%	-8.53%	-10.23%	-9.22%	2.91%
P ₁₄	8.01%	5.25%	7.94%	8.44%	9.43%	7.86%
P ₁₅	-1.69%	2.25%	0.57%	0.42%	1.81%	0.52%
P ₁₆	9.91%	19.42%	24.97%	17.72%	17.28%	20.32%
P ₁₇	0.72%	0.77%	4.85%	5.58%	5.07%	6.18%
P ₁₈	26.40%	30.14%	35.91%	37.62%	32.70%	19.96%
P ₁₉	7.00%	10.25%	9.03%	8.85%	8.24%	8.96%
P ₂₀	5.98%	7.54%	7.61%	8.46%	6.84%	7.90%
P ₂₁	0.93%	-4.28%	-2.21%	-1.41%	0.16%	-2.28%
P ₂₂	-21.31%	-28.96%	-32.38%	-35.14%	-32.33%	-32.67%
Average	1.33%	1.43%	2.25%	2.52%	1.25%	2.62%

TABLE 15. Parent companies CAR between execution date period -50 to +5.

Spin-off CAR	0 to +5
SP ₁	-3.96%
SP ₂	-13.71%
SP ₃	-13.95%
SP ₄	6.00%
SP ₅	-18.35%
SP ₆	-9.83%
SP ₇	-3.37%
SP ₈	0.14%
SP ₉	-5.49%
SP ₁₀	-19.31%
SP ₁₁	-2.57%
SP ₁₂	5.36%
SP ₁₃	-9.80%
SP ₁₄	-6.05%
SP ₁₅	3.67%
SP ₁₆	13.02%
SP ₁₇	6.69%
SP ₁₈	-15.17%
SP ₁₉	-10.14%
SP ₂₀	11.94%
SP ₂₁	1.18%
SP ₂₂	-3.45%
Average	-3.96%

TABLE 16. Spin-offs CAR's after spin-out

In millions \$	06/30/2015	12/31/2014	06/30/2015	12/31/2014
PARENTS	Market value	Revenue	Employees	Total Assets
P ₁	73450	20247	77000	41275
P ₂	15780	6460.95	13656	6765.17
P ₃	707.56	1094.70	6426	1522.45
P ₄	n.a	3277	10000	4878
P ₅	13850	5763.49	18210	9020.54
P ₆	295.39	1651.54	1560	481.56
P ₇	295.39	1651.54	1560	481.56
P ₈	62520	3521	53000	1195177
P ₉	21920	12891.4	43000	17298
P ₉	13070	12124	45000	13836
P ₁₀	24000	10846	3330	36011
P ₁₂	1560	2300.889	13800	3443.96
P ₁₃	1690	291.537	4600	1762.29
P ₁₄	8500	3232.504	3700	13286.82
P ₁₅	35120	23979	64300	26572
P ₁₆	5960	3173.97	12300	5504.40
P ₁₇	1720	1319.39	5815	3245.03
P ₁₈	7030	31198	196000	13209
P ₁₉	75750	4870.82	3400	29532.3
P ₂₀	3590	3076.2	16000	3001.4
P ₂₁	18100	10340	57000	11809
P ₂₂	33530	130844	10065	45550
AVERAGE	19926	13371	29987	67439

TABLE 17. Parent's key indicators

In millions \$	06/30/2015	12/31/2014	06/30/2015	12/31/2014
Spin-offs	Market value	Revenue	Employees	Total Assets
SP ₁	11966	19960	26000	27547
SP ₂	8670	2175.64	1862	3976.59
SP ₃	990.24	809.84	1151	760.20
SP ₄	388.93	1203.27	5000	499.49
SP ₅	12460	1246	2900	1959
SP ₆	206.38	275.03	235	152.93
SP ₇	363.09	4.796	5	30.439
SP ₈	18080	11070.9	6500	226951.4
SP ₉	5400	2118.3	8000	2015.9
SP ₁₀	2140	1367.09	6600	1122.64
SP ₁₁	32900	97817	45340	30460
SP ₁₂	3610	2923.02	11000	2856.94
SP ₁₃	2410	254.985	n.a	2002.37
SP ₁₄	2020	1993.76	2625	3253.39
SP ₁₅	5470	6957	38000	6269
SP ₁₆	3000	2083.41	5200	2573.12
SP ₁₇	696.52	331.22	777	1017.17
SP ₁₈	1130	1555.35	6000	1353.44
SP ₁₉	7280	661.13	57	3528.00
SP ₂₀	1450	1674.2	3000	1364.1
SP ₂₁	11020	3408	17500	10549
SP ₂₂	4250	12758	8700	3641
AVERAGE	6177	7848	9355	15177

TABLE 18. Spin-offs key indicators



FIGURE 2. Volume of corporate restructuring between 1985 – 2009 in United States, Europe and Asia (Gaughan, 2010, 392).

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