

**INVESTORS ACTIVISM: THE CASE OF CEVIAN CAPITAL
HEDGE FUND CAMPAIGNS IN GERMAN COMPANIES**

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**INVESTORS ACTIVISM: THE CASE OF CEVIAN CAPITAL HEDGE FUND
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Abstract

The number of deals involving activist investors has been increasing over time. They buy a small portion of the companies' capital and seek from the executive and supervisory boards, through a more or less aggressive campaign, to get them to implement some change(s). There is, however, an intense debate between those who think that the action of these investors has a positive impact on companies and those who think that they only generate short-term gains at the expense of the companies' long-term performance.

In this work, we try to contribute to the debate by analysing the campaigns made in Germany by the largest European hedge fund activist, Cevian Capital. These campaigns targeted Munich Re, Bilfinger, ThyssenKrupp, and Demag Cranes. The work focuses mainly on two points: 1) whether or not the activist had a positive impact on the company, and 2) what has changed in the company during the period the activist was there. To answer the first point, an event study is performed, while for the second one an analysis of the evolution of the company's main indicators and financial ratios is made.

The results show a positive impact at the time of the announcement but are less conclusive about the long-term. Regarding the changes, there is no evidence of any significant improvement in the indicators and financial ratios of the companies.

Keywords: Investor Activism, Cevian Capital, Corporate Governance, Event study

JEL Classification: C12 G34

Resumo

O número de casos envolvendo investidores activistas tem aumentado de ano para ano. Eles compram uma pequena porção do capital das empresas e procuram junto dos conselhos executivo e de supervisão, através de uma campanha que pode ser mais ou menos agressiva, conseguir com que elas implementem alguma(s) mudança(s). Há todavia, um debate intenso entre os que acham que a acção destes investidores tem um impacto positivo nas empresas e os que acham que eles apenas geram ganhos de curto-prazo em detrimento da performance de longo-prazo das empresas.

Neste trabalho tentamos contribuir para este debate ao analisar as campanhas feitas na Alemanha pelo maior hedge fund activista europeu, Cevian Capital. Essas campanhas tiveram como alvo as empresas Munich Re, Bilfinger, ThyssenKrupp e Demag Cranes. O trabalho centra-se sobretudo em dois pontos: 1) se o activista teve ou não um impacto positivo na empresa, e 2) o que mudou na empresa durante o período em que ele lá esteve. Para responder ao primeiro ponto é feito um estudo de evento, enquanto que para o segundo é feita uma análise da evolução dos principais indicadores e rácios financeiros da empresa.

Os resultados revelam um impacto positivo aquando do anúncio, mas menos conclusivo relativo ao longo-prazo. Em relação às mudanças verificadas nas empresas, não há em nenhum dos casos evidências de uma melhoria significativa dos indicadores e rácios financeiros.

Palavras-chave: Investor Activism, Cevian Capital, Corporate Governance, Event study

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1. Introduction

Activist shareholders or investors have been around for a long time. In the 1980s, they were known as corporate raiders, not enjoying (as the name suggests) of a good reputation. At the time, the main strategy of this type of investors consisted of acquiring a company through a leveraged buyout (LBO) deal to then sell off many of its assets and make a profit. However, in many cases, the company ended up in a very poor financial situation. Some even went bankrupt as it was the case of Trans World Airlines (TWA), after the takeover by the US activist Carl Icahn.

“An activist shareholder is a shareholder of a corporation who attempts to use his or her equity stake in a company to achieve certain goals. The main goal of activist shareholders is bringing change within or for the company. They intend to affect the behaviour of a company by exercising their voting power or influencing other shareholders” (Corporate Finance Institute).

Nowadays, shareholder activism can come from different types of institutional investors such as pension funds, private equity funds, hedge funds, and others. Hedge funds activists, in particular, are subject to an intense debate regarding their impact on companies. Critics such as Martin Lipton (2013), claim that hedge fund activists obtain short-term gains at the expense of the long-term performance. However, other authors (e.g.: Brav et al., 2008; Bebchuk et al., 2015) defend that they generate value on average. Activist deals rose 34% a year between 2000 and 2014 (Bain & Company study, 2015). Given their growing importance, it is therefore important to understand what is more true, if hedge fund activists help to create value in the target companies or, on the contrary, they contribute more to destroying it. And if at first, hedge fund activism happened mainly in the US, in recent years it has also spread to other markets. Even in Germany, where the corporate governance system differs greatly from the one in the US, activist campaigns are on the rise.

This paper studies the campaigns of the largest European hedge fund activist, Cevian Capital, in Germany (Munich Re, Demag Cranes, Bilfinger, and ThyssenKrupp). For each of these campaigns, we analyse 1) whether Cevian had a positive impact on the target company, and 2) what has changed in the company during that period. As a

result, this paper seeks to contribute to the literature by providing additional evidence for the ongoing debate about hedge fund activism. In particular, the literature covering the campaigns against German companies are still scarce. The clarification of the debate makes a direct contribution to the good functioning of the economic activity, the economy, and the society in general.

The paper is thus divided into four parts. The first part is a brief literature review of the relevant topics for this work. The second part is about the methodology used. The third part is the analysis of each campaign. The last part is dedicated to the interpretation of the results.

1. Literature Review

2.1. Corporate Governance in Germany

In the definition of Gillan and Starks (1998), corporate governance is the system of laws, rules, and factors that control operations at a company. Good corporate governance practices mitigate the existence of agency problems. The agency problems, i.e. the conflicts that arise between shareholders, the board and the corporate management due to the separation of ownership and control, provide the basis for shareholder activism (Gillan and Starks, 1998). There is therefore a close relationship between corporate governance and shareholder activism (including hedge fund activism). Shareholder activism emerges often as an attempt to improve corporate governance practices. Therefore, before studying hedge fund activism in Germany, it is important to know how its corporate governance works. Below, we describe the German corporate governance as opposed to the American one, which, given the largest number of studies, is the one behind most of the available literature.

German corporate governance system differs greatly from the American one. The American corporate governance system is a market-centred model, where the capital structure of the firm is composed by a big number of small shareholders (Georgen et al., 2008a). In addition, the American model is also characterized by an active market for corporate control and where the board (one tier system) is composed by independent directors that try to maximize shareholder wealth (Sudarsanam and Broadhurst, 2012). The German corporate governance system is often described as an insider-controlled and stakeholder-oriented system (Schmidt et al., 2005). The German corporate governance code is also characterized by a two-tier system, composed by a management board and a supervisory board. The management board has an executive role, while the supervisory board appoints, supervises and advises the members of the management board. The supervisory board is composed according to the mandatory co-determination. It means that for companies with more than 500 employees, 30% of the supervisory board members must be employee representatives. This number goes up to 50% for companies with more than 2000 employees (Deutscher Corporate Governance Kodex, 2017). Moreover, there is a high concentration of voting power in German companies. Becht and Böhmer (2003) refer that 82% of all listed Aktiengesellschaft

(AG) have a large shareholder that holds more than 25% of the firm's capital. They also find that "other companies and families" are the major shareholder groups of the German companies. "Financial institutions", in particular big commercial banks and large insurance companies come after, but their board representation is often larger than their ownership. Their influence comes not only from the ownership they hold in the companies, but also from the use of voting proxies on behalf of their clients and from the important role as main lenders of German companies (Schmidt et al., 2005). Apart from banks and insurance companies, the presence of others institutional investors in Germany was, for many years, not relevant, which contributed to a small expression of shareholder activism (Georgen et al., 2008b).

Recent regulatory reforms, however, reduced the influence of German banks on the ownership control of German companies (Schmidt et al., 2005). The control vacuum left by the German banks opened up the German companies to other capital markets participants. This has brought the German corporate governance system closer to the Anglo-Saxon and created opportunities to these new participants to implement activist strategies (Bessler et al., 2015).

2.2. Hedge fund as activists

In the last years, activist investors assumed a greater importance among institutional investors. According to a study by Bain & Company (2015) activists' deals rose 34% a year between 2000 and 2014. According to another study (The Activist Investing Annual Review 2018), between 2013 and 2017, the number of public companies subjected to activist demands went up from 570 to 805 companies by year, reinforcing this trend. This group of investors actively seek to influence the target's supervisory board and management in search of increasing returns. From all the investors, hedge funds are not the only agents conducting activism campaigns on companies. Many other institutional investors such as pension funds, mutual funds or private equity funds are also activists, but hedge funds cause a greater division of opinion in relation to its interventions as activist.

A key distinction between hedge funds and private equity funds lies on the stake's size that they acquire on target companies. While private equity funds usually acquire the whole stake of the target company (and thus get all the profits of its interventions as

well as all the risks), hedge fund activists usually only acquire 5%-10%. Hedge funds, therefore, need to convince the other shareholders that their plans will add value to the company and/or shareholders. When compared to mutual funds or pension funds, the key distinction lies on the fact that hedge funds invest in much fewer companies. This allows them to monitor these companies more carefully and to play a more active role.

In addition to these two distinctions, hedge funds have also other features that help to describe better their nature. Hedge funds have a higher incentive to generate positive returns due to their fee structure (Brav et al., 2008). Generally they charge a 2% fixed annual fee and a 20% performance fee. This performance fee is much higher than the ones used by other institutional investors, which in theory make them focus more in the short-term results. Besides, hedge funds are not subject to the regulation that governs mutual and pension funds, which allow them to have concentrated positions in a small number of companies and to use leverage as well as derivatives on their investments (Brav et al., 2008). The use of derivatives is particularly relevant because allow hedge funds to accumulate additional voting rights before the general shareholders meeting (Bessler et al., 2015). Finally, many hedge funds have “lock-up” periods of two or more years protecting them from liquidity problems of eventual early withdrawals (Bessler et al., 2015).

2.3. Market reaction to the hedge fund activist campaigns

The study of activism has not always focused on hedge funds. For many years, studies about activism did not isolate hedge funds from other groups of activists. They studied activism as one group, which they called “shareholder activists”. Shareholder activists would not only refer to hedge funds activists but also to other institutional investors such as pension funds or mutual funds. In the empirical results of these studies, shareholder activism did not significantly affect firms’ performance in terms of abnormal returns (Black, 1998; Karpoff, 2001).

Studies started then to focus on hedge funds only as they have some particular characteristics. In general, empirical research for the US provides evidence of positive performance from firms targeted by hedge funds activists. Research by Klein and Zur (2009) reveals that target firms earn, on average, 10.3% abnormal stock return during a

61 day period (-30; +30) surrounding the initial 13D filing¹, a return significantly higher than non-target firms with identical characteristics. Similarly, Brav et al. (2008) show an abnormal stock return of approximately 7%, during the (-20; +20) announcement window, and with no evidence of a reversal during the subsequent year. Boyson and Mooradian (2011) find a return in excess of the matched sample of about 11%, during a 51 day period (-25;+25) around the filing date. They also observe that the results are more pronounced when hedge funds pursue aggressive and well-defined objectives. Slightly different from the authors above, Clifford (2008) instead of comparing the performance of target versus non-target companies of hedge fund activism, he compares activist and passivist investments made by the same group of hedge funds. In his view, this approach rules out the possibility of excess return around the filing date be due to the better selection ability. In his research, firms targeted by hedge funds activists earn a 3.39% excess return surrounding the filing date while firms targeted by hedge funds passivists earn 1.64% return, still suggesting a superior performance from hedge fund activists.

An interesting point about the short-term market reaction is that, as noted by Brav et al (2008), the main effect on the abnormal trading volume does not happen on the day of the event, but in the 10 days preceding the filing date. He comes up with two possible explanations for this, the existence of a “wolf pack” and the existence of “tipping”. The wolf pack consists of a set of hedge funds, in a non-formally coordinated manner, investing in the target company. Tipping is about the activist revealing his intention to a small number of investors before being public in exchange for other favours.

The results presented before, show a positive stock return in the short-term for companies targeted by hedge fund activists. Nevertheless, critics of hedge fund activism claim that short-term gains occur at the expense of the long-term performance (see Lipton, 2013). In response to this claim, Bebchuk et al. (2015) conducted a study where they analyse the long-term effects of hedge fund activism. They find no evidence of negative abnormal return in the targeted companies for the period that goes from the first-month after intervention (i.e., when the hedge fund position falls below the 5%

¹ Schedule 13D is a SEC filing that investors must file within 10 days of acquiring more than 5% of any US publicly-traded equity security class. It has information about the owner of the security, including the purpose of the transaction. Hence, it is used to identify hedge funds that actively seek to influence the firm or its management, i.e., the activists.

threshold) until either three or five years afterward. In their view, the stock appreciation surrounding the announcement date is hence the market correctly anticipating the effects of the activist intervention. However, deHaan, Larcker and McClure (2019) find that equal-weighted long-term returns are driven by the 20% smallest firms, while the remaining 80% of the firms experience insignificant negative long-term returns. And if value-weighted basis is used instead, then the long-term returns are not significantly different from zero.

Looking now to Germany, we see that cases of hedge fund activism like the ones involving Deutsche Börse, TUI, ThyssenKrupp, Kabel Deutschland, and Celesio are becoming more and more common. Nevertheless, there are still few studies addressing this topic, especially when compared with the US. An important explanation for this is that in Germany although investors have to notify BaFin (German Federal Financial Supervisory Authority) every time they cross the 3% threshold in the company's capital, they do not have to specify the purpose of the transaction as it happens in the US. As a result, to identify the companies that were targeted by activist hedge funds, the authors need to do news-based research, which makes this process not so easy. This is precisely what Bessler et al. (2015) do. Despite the different way of collecting the data, the results are consistent with the ones in the US. Bessler et al. (2015) find that target companies in Germany outperform their benchmark (CDAX) by 9.38% during the (-45; +45) window, in terms of mean CARs (cumulative abnormal returns). Regarding the long-term horizon, the results also indicate superior performance from the target companies, although some of this outperformance seems to be explained by security selection. Interestingly, however, when splitting the hedge fund events into aggressive and non-aggressive engagements, the results show contrary evidence with the US. i.e., non-aggressive hedge funds generate superior returns than aggressive hedge funds. This happens because although aggressive hedge funds outperform their peers in the period surrounding the event date, they then underperform them after that period, which "suggest that aggressive hedge funds attempt to expropriate the target firm's long-term shareholders as well as debt holders and to generate temporary increases in share prices that allow them to sell out at higher prices" (Bessler et al., 2015). Mietzner and Schweizer (2014) study both hedge funds and private equity funds as activists. In relation to hedge funds, they find a CAR of 6.24% for the (-20; +20) window around the announcement date. However, the same sample shows a negative performance from the

target companies for the long-term. The study reveals a mean and median BHAR (buy-and-hold abnormal returns) of -1.02% and -21.46%, respectively, over a 250-day holding period. Similarly, Drerup (2014) observes a short-term gain in the target companies with abnormal returns of 4.22% during the 20 days leading to the publication but followed by long-term negative returns that reverse that initial gain. With these two last studies reaching different results for the long-term performance than Bessler et al. (2015), the conclusion is therefore uncertain.

2.4. Changes on the target companies

If there is some evidence of a positive reaction from investors to the intervention of hedge funds activists, then that reaction should be the result of perceived changes in the target companies. Changes at the operating performance of target companies are probably the most addressed ones, but changes with free cash flow, leverage, and R&D are frequently covered too.

The empirical studies are not very conclusive regarding the impact of the intervention in the operating performance of the target companies. Some studies reveal an improvement in operating performance of target companies after the intervention. Brav et al. (2008) find an increase between 0.9 and 1.5 percentage points in the ROA (EBITDA/Assets) two years after the intervention. Bebchuk et al. (2015) also find statistically significant improvements in each of the years three, four, and five after the intervention. Boyson and Mooradian (2011) compare the ROA differences between target and matching companies one year after activism with one year before activism, and they also conclude that ROA improves after activism. However, some other studies (Klein and Zur, 2009 and deHaan et al., 2019) do not find evidence of such improvement.

Regarding other changes, Klein and Zur (2009) find that in the year after the initial Schedule 13D, target companies double their dividends, increase their debt-to-assets ratio and significantly decrease their cash and short-term investments. However, in the sense that less cash and more debt increases the credit risk of a company, for Klein and Zur (2011) these changes reveal also a transfer of wealth from bondholders to shareholders. Brav et al. (2008) show an increase in the total payout ratio and in the book value leverage too, while Boyson and Mooradian (2011) refer a decrease in the cash as a percentage of assets. In addition to increased leverage and shareholder payout,

Coffee and Palia (2015) also identify reduced long-term investment in research and development (R&D) as a third change associated with hedge fund activism.

3. Methodology

3.1. Event studies

In accounting and finance, event studies are used to measure the impact of a specific event on companies' value. As a result, most empirical studies of hedge fund activism use this methodology to infer about the impact of activist campaigns on the target companies. In this paper, we will use it to look to the impact of each individual campaign.

We can conduct an event study to measure the short-term as well as the long-term impact of a specific event. But, while short-term methods are quite reliable, the long-term ones still remain with serious limitations (Kothari and Warner, 2007). Nevertheless, as the hedge fund activism literature uses both, we will explore the two time horizons too.

- Short-term methodology:

We will describe next a set of steps that a typical event study follows:

- i. Define event of interest and event window

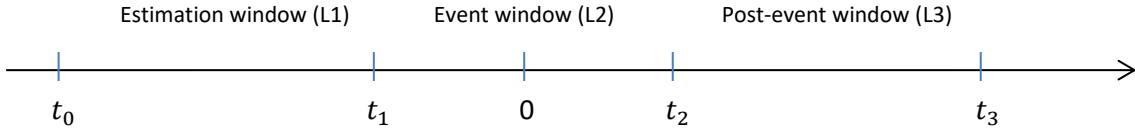
The event of interest is the event that is likely to create a significant security price shift. In this paper, it is the day that the activist announces his campaign. The event window is the period surrounding the announcement over which the event may alter the security price. It can have just the day of the event, but usually it is larger, containing some time before and after the event too. Mackinlay (1997) uses a 41-day event window that includes 20 days pre-event, the event day and 20 days post-event.

- ii. Define the estimation window

The estimation window is the period we use to estimate the parameters of the model used in the calculation of the normal returns. Normal return is the expected return of the security if the event did not happen. There is no specific rule for the length of the estimation window, but a too short or too long estimation window may result in poor

parameters estimations. Mackinlay (1997) uses an estimation window of 250-days prior to the event window and for that reason that is the length we will adopt.²

Figure 1: Time line for an event study



Source: Mackinlay (1997)

iii. Calculate the normal return

As mentioned above the normal return is the expected security return if the event did not take place. There are different models we can use to measure the normal return. Mackinlay (1997) groups these models in two categories: statistical and economic. The statistical models rely only on statistical assumptions in regard to the behaviour of the asset's return, while the economic models also include some economic restrictions in addition to the statistical assumptions. Three statistical models identified by the author are: the constant mean return model, the market model and the market-adjusted return model. From the economic models, Mackinlay (1997) gives the example of the Capital Asset Pricing Model (CAPM) and the Arbitrage Pricing Theory (APT). In this paper, we will use the market model for three reasons: 1) the use of economic models adds complexity to the analysis without delivering substantial gains in the results over the market model; 2) it is among the statistical models the one with better estimation potential in most of the times; and 3) it is widely used in the main literature of hedge fund activism.

The market model relates the return of a security to the return of the market portfolio. In this study, we use CDAX as the market portfolio, which is a broad based index of the Frankfurt Stock Exchange. The normal return for each day of the event window is given below by equation I.

$$\widehat{R}_{it} = \widehat{\alpha}_i + \widehat{\beta}_i R_{mt} + \varepsilon_{it} \quad (\text{I})$$

Where,

² In some cases the post-event window can also be included in the estimation window.

\hat{R}_{it} – return of security i in the period t

R_{mt} – return of the market portfolio in the period t

ε_{it} – residual term (by assumption $E(\varepsilon_{it})=0$ and $\text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_i}^2$)

$\hat{\alpha}_i, \hat{\beta}_i$ and $\sigma_{\varepsilon_i}^2$ – parameters of the market model

The parameters of the market model are estimated using the Ordinary Least Squares (OLS) and their equations are:

$$\hat{\beta}_i = \frac{\sum_{t=t_0+1}^{t_1} (R_{it} - \hat{\mu}_i)(R_{mt} - \hat{\mu}_m)}{\sum_{t=t_0+1}^{t_1} (R_{mt} - \hat{\mu}_m)^2} \quad (\text{II})$$

$$\hat{\alpha}_i = \hat{\mu}_i - \hat{\beta}_i \hat{\mu}_m \quad (\text{III})$$

iv. Calculate the abnormal return and the cumulative abnormal return

The abnormal return (AR) is the difference between the normal return and the actual return. The first step hence is to calculate the abnormal return for each day of the event window (equation IV) and then sum all the daily AR results to find the cumulative abnormal return (CAR)(equation V).

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} \quad (\text{IV})$$

$$CAR_i = \sum_{t=t_1}^{t_2} AR_{it} \quad (\text{V})$$

v. Calculate the significance test

The significance test is the final step of the event study. The goal is to determine if the event impacted the stock returns at a significant level. Below, the equations VI and VIII present the two significant tests to be used. The first has the focus in one specific point and tell us whether the abnormal return of a specific day was significant, while the second is used for an interval and therefore tell us whether the cumulative abnormal return for a specific interval was significant. Defining the null hypothesis (H_0) as “the event had no impact on the stock returns”, the tests statistics are given by:

$$\theta_1 = \frac{AR_{it}}{S_{AR_i}} \sim t_{L_1-2} \quad (\text{VI})$$

$$\text{Where } S_{AR_i}^2 = \frac{1}{L_1-2} \sum_{t=t_0}^{t_1} (AR_{it})^2 \quad (\text{VII})$$

$$\theta_2 = \frac{CAR_i}{S_{CAR}} \sim t_{L_1-2} \quad (\text{VIII})$$

$$\text{Where } S_{CAR}^2 = L_2 S_{AR_i}^2 \quad (\text{IX})$$

If the absolute value of the test statistic is greater than the absolute value of the critical point, then we reject the null hypothesis, i.e., the event has a statistically significant impact on the stock returns.

- Long-term methodology

There are two main methods used to calculate the abnormal returns in a long-term event study. The first method is the buy-and-hold abnormal return (BHAR) and it consists in comparing the returns of a buy-and-hold investment strategy for an event company versus a similar non-event company or a matching benchmark portfolio, during a predetermined period. Its calculation is presented by the below equation (X):

$$BHAR_i(t, T) = \prod_{t=1}^T (1 + R_{i,t}) - \prod_{t=1}^T (1 + R_{B,t}) \quad (\text{X})$$

Where R_i is the return of the event company and R_B is the return of the non-event company or the matching benchmark portfolio.

The second method is the Jensen-alpha approach (or the calendar-time portfolio approach). This method put together in a same portfolio the companies that experienced an event. And it compares the return of this portfolio with expected return given by a multifactor regression model such as CAPM or Fama-French three factor. If there is excess return that is not explained by the model, i.e., when alpha is significantly different from zero, then we have an abnormal return caused by the event. If alpha is not significantly different from zero, then the event did not have a substantial impact on the company.

Although not as reliable as the short-term methods used to analyse the abnormal returns of an activist campaign, the long-term methods of an event study are used in almost every empirical study of hedge fund activism. However, two major problems of long-term tests, as Kothari and Warner (2007) explain, are the sensitivity to a small error in

the risk adjustment and to the model choice. While those problems in a short-term event study do not have severe consequences on the results, in a long-term one they do.

3.2. Cevian Capital

Cevian Capital is a Swedish activist hedge fund founded in 2002 by Lars Förberg and Christer Gardell. Before, from 1996 to 2001, the duo worked together at Custos AB, a Swedish industrial company, where Gardell was CEO and Förberg CIO. Their strategy consisted of acquiring a minority stake in good public companies that were underperforming and turn them around. It was with this strategy that they then decided to create their own investment firm, Cevian Capital. In their first fund "Cevian Capital I", active from 2002 to 2006, they were able to improve the operating performance in the two companies they invested in, Lindex and Intrum Justitia, leading to an increase of their shares prices. The good performance achieved in their first fund helped them to oversubscribe their second fund "Cevian Capital II", allowing the fund to raise €1.5 billion (Mcintosh, 2012). At the end of 2018, the market value of current activist positions of Cevian Capital amounted to \$11.2 billion, making it the largest European activist investor and the third in the world (Lazard, 2018).

Cevian Capital distinguishes itself from other activists by its style of activism. Cevian engages with the management and board of the target companies to find solutions that can improve companies' performance and therefore increase their value. But, it rarely adopts an aggressive posture. Cevian, for instance, has never entered in a proxy fight to gain a seat in the company's board, as it frequently happens with other activist investors. Nevertheless, Cevian has currently a seat in nine boards across six countries. Also, it rarely goes public in confrontations with the management/board of the target companies. Instead, it works behind the scenes by establishing a constructive dialogue with them.

A traditional strategy adopted by many hedge fund activists consists to invest in sound companies and, through a special dividend or shares repurchase, transfer to the shareholders some of the extra cash that the company can possibly have. In Cevian's case, the strategy is by default different. As said before, Cevian seeks to improve the operational performance of the target companies and thereby increase their value.

Therefore, operational improvement is the key value driver in the value enhancing framework that Cevian uses when is planning an intervention in a target company. However, in order to deploy these improvements, Cevian has in many cases to intervene in three other areas: corporate restructuring and strategic re-orientation, governance and financial restructuring. These three areas are thus complementary to the first one, since that, many times, it is the changes on these areas that allow the target companies to improve operationally and thus to change their fundamental value. Figure 1 below shows in more detail this framework where some of the specific actions of each of these four areas are also presented.

Figure 2: Cevian Capital enhancing value framework

Board and rich activist plan, operational improvement as key value driver	
Operational Improvements	Governance
<ul style="list-style-type: none"> • Improve operating performance <ul style="list-style-type: none"> - Cost effectiveness and efficiency - Asset utilization • Enhance revenues <ul style="list-style-type: none"> - Pricing - New markets/new products 	<ul style="list-style-type: none"> • Ensure appropriately skilled, qualified and committed board composition • Strengthen management, if needed • Clearly define roles and responsibilities • Implement appropriate management incentive plans and committee structures • Improve reporting procedures
Corporate Restructuring and strategic re-orientation	Financial Restructuring
<ul style="list-style-type: none"> • Identify and pursue acquisitions, dispositions and spin-offs • Re-orientate strategic priorities • Evaluate and restructure capital expenditure programs 	<ul style="list-style-type: none"> • Redemptions • Share buyback programs • Dividends • Debt restructurings

Source: (McIntosh, 2012)

Another distinction that makes Cevian different from most hedge fund activists refers to the time span of its investments. In fact, a big criticism against hedge fund activists is that they are short-term oriented. But, such argument does not reflect in Cevian's approach. Cevian frequently states that its goal is to get substantial returns of its investment over a three to five years period (Mcintosh, 2012). In two of its most successful investments, Danske Bank and Volvo, Cevian held these positions for six and eleven years, respectively. In Danske Bank, Cevian built a 9% stake in 2011 and sold it in November 2017, generating a total shareholder return of 273% (including dividends) over this period (Arnold & Fortado, 5 November 2017). In Volvo, Cevian

entered in the company's capital in 2006, and in December of 2017 the hedge fund announced that it has sold its 8.2% stake (corresponding to 15.6% of voting rights) in AB Volvo (truck and bus division) to the Chinese group Geely Holding, owner of Volvo Car Group. The deal was done by 3.25 billion euros, allowing the Swedish activist to make a profit of about 2 billion euros (Milne, 2017b). These two investments exemplify well the long-term engagement of the Swedish activist in the target companies. In both cases, Cevian invested in underperforming companies and gradually was able to build trust among the other shareholders. As it happens in many of its campaigns, it has gained a seat in the board of both companies, which it has used to exert more influence on the strategic direction of them. This posture and way of conducting activism seems to fit well in the European corporate governance environment, especially in the DACH region, Scandinavian countries and UK, where Cevian is more active. Among the many activist campaigns since its inception, Cevian has only had one realised loss, which was with the German reinsurer Munich Re. In this investment, the fund lost 60 million euros between 2007 and 2009, corresponding to the period that it held a position in the company. But, even in Munich Re, it is difficult to talk about a failing campaign, because the fund sold its position in Munich Re to redeploy capital into other positions (Lovell, 2018).

Although Cevian has investments in some countries around Europe, our purpose here is to focus only on the ones in Germany. However, as it also happens with other hedge funds, the available information about Cevian and its investments is not much. Therefore, the way we found to identify the campaigns pursued by the Swedish activist was to use the news. More specifically, we used the archive of the German business newspaper "Handelsblatt". Taping in "Cevian Capital" in the searching bar of the archive, it returned 381 results. Then, a filter of the archive identifies the companies and organizations showed in these results. From this list of companies identified by the archive, we ignore the non-German ones. For the remaining companies, we checked each one individually to confirm if they were targeted by Cevian. The final result is composed by four German companies: Munich Re AG, Demag Cranes AG, Bilfinger SE and ThyssenKrupp AG.³⁴ Therefore, these are the four activist campaigns pursued by Cevian in Germany that we will study.

³ Cevian also had a position in Daimler AG of about 2%, but there is not enough information available to study that investment.

⁴ ThyssenKrupp is the only one of the four companies where Cevian has still a position in its capital. Therefore the analysis cannot be complete, because it is not possible to know what the future result of the activism will be. Nevertheless, I will cover the campaign until the present day.

4. Analysis of the activist campaigns

The analysis of each of these campaigns will be separated in four points:

- a) Portrait of the target company⁵
- b) Description of the activist campaign
- c) Event study
- d) Evolution of the key financial figures and ratios

4.1. Munich Re

- a) Portrait of the target company

Founded in 1880 by Carl Thieme, Munich Re AG (Muenchener Rueckversicherungs Gesellschaft AG) has developed into one of the leading risk carriers in the world. With its headquarters in Munich, Germany, the company operates globally through its three different business segments: a) Reinsurance, b) Primary insurance, and c) Asset management.

The reinsurance business segment is the biggest source of income for the company. A reinsurance company works basically as an insurance company for insurance companies. The idea is that an insurance company can spread the risk of a major local event such as a hurricane. Therefore, the business of a reinsurance company is by nature international so that the costs with such event can be covered by gains of other locations. That is also what happens with reinsurance group of Munich Re. The reinsurance group is present in every continent (with the exception of Antarctica) and is one of the world's leading reinsurers. The business of the reinsurance group is divided in two different classes: life and health and property-casualty.

The primary insurance business segment is the second source of income for Munich Re group. It is composed by the ERGO Insurance Group, the Europäische Reiseversicherung, the Watkins Syndicate and the Mercur Assistance. Most of the premium income (95%) from this segment comes from the ERGO Insurance Group that

⁵ The companies are described based on their profiles at the time of the campaigns. Information is collected from documents of at the time such as annual reports and newspaper articles.

operates essentially in Europe, with a strong presence in Germany. Similarly to the reinsurance group, the primary insurance business is then also divided in life and health and property-casualty.

Lastly, the asset management segment refers to the activity of the company MEAG (MUNICH ERGO AssetManagement GmbH). The company is responsible for the investment activities of Munich Re and ERGO and is held 60% by Munich Reinsurance Company and the remaining 40% by ERGO Insurance Group. It is the third and last source of income for the Munich Re group.

Figure 3: Munich Re Group business segments



Source: Munich Re Group Annual Report 2007

Munich Re group is listed in the German stock market. This means that the company has a two-tier system, i.e., it has a management board and a supervisory board. In 2007, Dr. jur. Nikolaus von Bomhard was the chairman of the management board, while Dr. Hans-Jürgen Schinzler was the chairman of the supervisory board and both chairs have not changed during the period Cevian was a shareholder of the company. Before becoming chairman of the supervisory board, Dr. Hans-Jürgen Schinzler was also chairman of the management board until 2003, when he was then replaced by Mr Bomhard. Curiously, both have been their entire careers in the Munich Re, which they joined after finishing their studies.

b) Description of the activist campaign

On December 7, 2007, Cevian announced that it has acquired nearly 3% of Munich Re's capital. For Lars Forberg, co-founder of Cevian, "there was a good potential in the company" adding that Munich Re could improve "strategically and operationally". However, he also highlighted the importance of having that discussion with the company's management (O'Donnell & Odefalk, 2007). This point of view reveals not only the long-term perspective that characterizes Cevian's investments, but also the non-hostile way the fund interacts with the companies' management.

In the opinion of analysts, Cevian intended to sell the insurer ERGO (given that for them ERGO was not fully reflected in Munich Re valuation) and to make Munich Re focus on its core business – reinsurance. However, on Munich Re's management side, ERGO was a core part of the business and therefore it had no intention of selling it. The fact is that Cevian never assumed publicly that intention. And that was exactly what Christer Gardell, the other co-founder of Cevian, told to Handelsblatt journal a few months later, at the annual general meeting of 2008 (Höpner & Steuer, 2008).

What Christer Gardell believed, however, was that Munich Re could double its value in a period of two to three years (Steuer, 2008). But in reality that never happened. Instead, Munich Re share price went from 131 to 102 euros in the two and half years that Cevian was a shareholder. In May, 2010, Cevian announced that had sold its participation in Munich Re, at the same time it also announced to have acquired a position in Demag Cranes AG. Nevertheless with dividends and shares buybacks, Cevian claim to have had a return of 6.7% with the investment in Munich Re (Handelsblatt, 2010a).

Cevian eventually benefited from the "Changing Gear" initiative that was announced in spring 2007, which aimed to distribute € 8bn by the end of 2010 through a share buyback programme (Munich Re Annual report, 2007).

c) Event study

In this section, we analyse the impact of the announcement of the entry of Cevian Capital in the capital of Munich Re. If the announcement is perceived as positive for the company, then the market must react favourably to it, leading to an appreciation of the value of the stock. In the long run, this appreciation may or may not reverse depending on the activist's ability to influence the company's performance. The methodology

behind this analysis is that of an event study. And this section is therefore divided into two parts: the short term and the long term performance.

i. Short-term performance:

The study of the short-term impact of the campaign is done by testing if the event caused significantly abnormal return (AR) and cumulative abnormal return (CAR) in the period around the announcement day. To calculate the abnormal return it is first necessary to calculate the normal return. To find the normal return, we use the market model defined by the equation I:

$$\hat{R}_{it} = \hat{\alpha}_i + \hat{\beta}_i R_{mt} + \varepsilon_{it}$$

Alpha and beta are coefficients of the model and are estimated using an estimation window of 250-day prior to the event window. Alpha and beta are respectively, the intercept and the slope of the regression between the Munich Re stock returns (MUV2) and the market index returns (CDAX)⁶. Below, figure 4 shows the estimated values of these coefficients as well as the variance and the standard deviation:

Figure 4: Market model coefficients

Alpha	-0,00062
Beta	0,81434
Sample var	0,00005
Sample std dev	0,00714

After estimating the coefficients of the market model, we can then proceed with the calculation of the normal return of the MUV2 during the event period (-20: +20). The abnormal return results from the difference between the security actual return and the normal return. Table 1 presents the abnormal return and the significance test for each day of the event window.⁷

Table 1: Abnormal return and significance test of MUV2

t	Ri (MUV2)	Rm (CDAX)	Normal Return	Abnormal Return	t-test (AR)
-20	-0,0158	-0,0035	-0,0035	-0,0123	-1,7262 *

⁶ MUV2 and CDAX returns use the daily adjusted close price in their calculation.

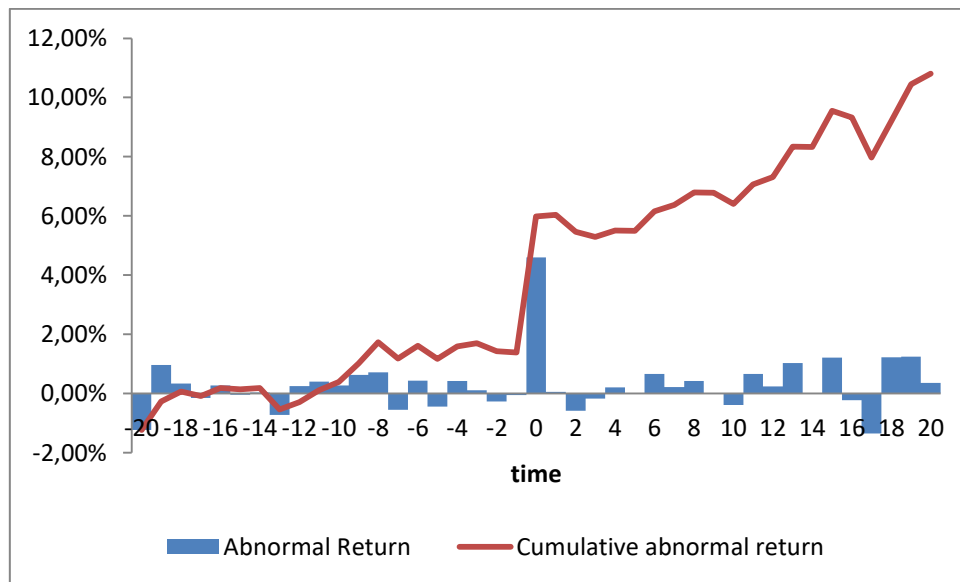
⁷ *, ** and *** represent the test results respectively at 10%, 5% and 1% significance level; 0 represents the announcement day, -1 represents one day before the announcement, 1 represents one day after the announcement, and so one.

-19	0,0064	-0,0032	-0,0032	0,0096	1,3468	
-18	-0,0022	-0,0061	-0,0055	0,0034	0,4709	
-17	0,0002	0,0028	0,0017	-0,0015	-0,2097	
-16	-0,0107	-0,0157	-0,0134	0,0027	0,3789	
-15	-0,0084	-0,0091	-0,0080	-0,0004	-0,0609	
-14	-0,0151	-0,0183	-0,0155	0,0004	0,0537	
-13	0,0044	0,0150	0,0116	-0,0072	-1,0133	
-12	-0,0132	-0,0185	-0,0157	0,0025	0,3473	
-11	0,0073	0,0047	0,0032	0,0041	0,5679	
-10	0,0088	0,0082	0,0061	0,0028	0,3871	
-9	0,0027	-0,0037	-0,0037	0,0063	0,8848	
-8	0,0036	-0,0036	-0,0035	0,0071	0,9966	
-7	0,0159	0,0270	0,0214	-0,0055	-0,7661	
-6	0,0085	0,0059	0,0042	0,0043	0,6018	
-5	0,0064	0,0141	0,0108	-0,0045	-0,6248	
-4	-0,0002	-0,0047	-0,0045	0,0043	0,6007	
-3	-0,0040	-0,0055	-0,0051	0,0011	0,1481	
-2	0,0110	0,0176	0,0138	-0,0027	-0,3786	
-1	-0,0018	-0,0009	-0,0014	-0,0005	-0,0675	
0	0,0516	0,0077	0,0056	0,0460	6,4427	***
1	0,0040	0,0049	0,0034	0,0006	0,0783	
2	-0,0085	-0,0026	-0,0027	-0,0058	-0,8096	
3	0,0032	0,0068	0,0049	-0,0017	-0,2370	
4	-0,0143	-0,0194	-0,0164	0,0021	0,2939	
5	0,0015	0,0027	0,0016	-0,0001	-0,0121	
6	-0,0079	-0,0171	-0,0145	0,0066	0,9249	
7	0,0045	0,0036	0,0023	0,0022	0,3058	
8	0,0017	-0,0023	-0,0025	0,0042	0,5911	
9	0,0026	0,0041	0,0028	-0,0001	-0,0177	
10	0,0092	0,0168	0,0131	-0,0038	-0,5344	
11	0,0093	0,0040	0,0026	0,0067	0,9330	
12	0,0051	0,0041	0,0027	0,0024	0,3430	
13	-0,0014	-0,0135	-0,0116	0,0103	1,4404	
14	-0,0062	-0,0067	-0,0061	-0,0001	-0,0124	
15	-0,0002	-0,0144	-0,0124	0,0121	1,7014	*
16	-0,0052	-0,0029	-0,0030	-0,0022	-0,3133	
17	-0,0098	0,0053	0,0037	-0,0135	-1,8864	*
18	0,0016	-0,0123	-0,0106	0,0123	1,7167	*
19	0,0031	-0,0108	-0,0094	0,0124	1,7436	*
20	0,0032	0,0003	-0,0004	0,0036	0,5016	

As table 1 shows, the announcement day ($t=0$) was the only day, from the whole event window, where Munich Re stock had a significant fluctuation over the market. The

stock return on that day was more than 4% higher of its expected value. This variation is significant even at 1% significance level. With the exception of few days (-20, +15, +17, +18, +19) in the extremities of the (-20; +20) event window, the rest of the days do not present significant abnormal returns. But even these days are only significant at 10% significance level and do not really seem to be related with the event itself. Therefore, from the table, we can conclude that the Cevian's announcement caused a very positive reaction from other investors in the market, but such reaction was mainly concentrated on the day of the announcement. The chart in the figure 5 below demonstrates well this situation. The blue bars are the daily abnormal returns of MUV2, while the red line represents the cumulative abnormal returns.

Figure 5: Abnormal return and cumulative abnormal return of Munich Re over the (-20; +20) event window



The cumulative abnormal return line has an upward trend that is mostly due to the sudden jump of the abnormal return at the announcement day. Not surprisingly, as Table 2 shows, the intervals only before or only after the event do not reveal a CAR significantly different from zero. In fact, the intervals with CARs significantly different from zero, they all include the announcement day. This reinforces the idea highlighted before with table 1 that the impact caused by the event is mostly concentrated in the announcement day.

Table 2: Cumulative abnormal returns and its significance tests for different interval periods

Interval	CAR	t-test (CAR)	
(-1;+1)	4,61%	3,7259	***

(-5; +5)	3,88%	1,6384	
(-10; +10)	6,29%	1,9220	*
(-20; +20)	10,80%	2,3631	**
(-5; -1)	-0,23%	-0,1441	
(-10; -1)	1,27%	0,5635	
(-20; -1)	1,38%	0,4332	
(+1; +5)	-0,49%	-0,3070	
(+1; +10)	0,42%	0,1845	
(+1; +20)	4,82%	1,5096	

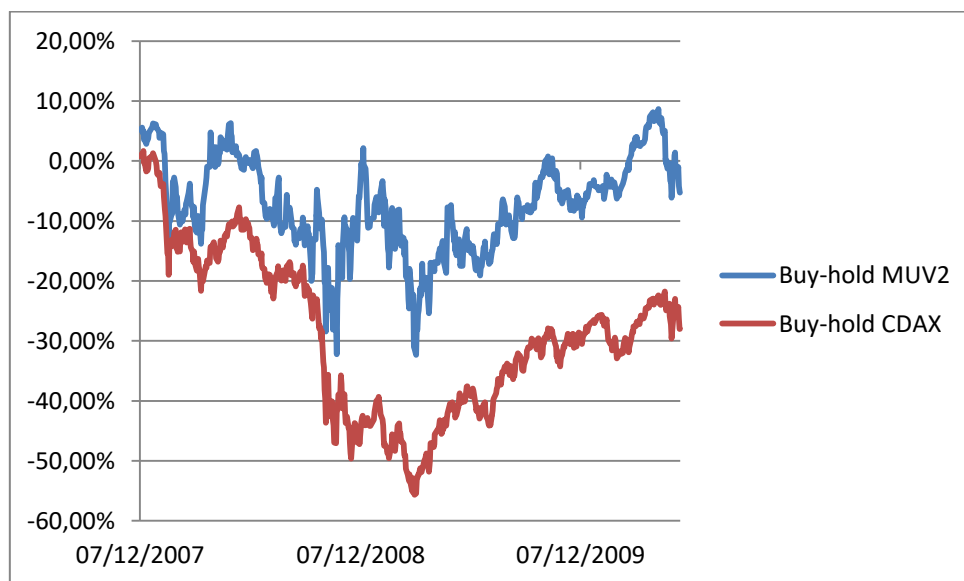
ii. *Long-term performance:*

To evaluate the long-term impact of Cevian's entry in Munich Re capital, we use the buy-and-hold abnormal return (BHAR), expressed by equation X and shown below. This method resembles an investment made at the event date in the MUV2 stock subtracted by an investment in a matching benchmark (CDAX index), with the same duration.

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

From the day Cevian announced its entry in Munich Re capital (7th Dec, 2007) until the day it announced its exit (21st May, 2010), Munich Re had a BHAR of 22.74%. This value is illustrated in figure 6 as the gap between the buy-hold MUV2 line and the buy-hold CDAX line in the last day (21st May, 2010).

Figure 6: Buy-hold of MUV2 and CDAX, from announcement date until exit date



d) Evolution of the key financial figures and ratios

The analysis of some of Munich Re's financial ratios and figures aims to understand on the one hand what changes there were in the company during the period the activist was there and on the other hand what were the sources of gains / losses for the activist.

Table 3 provides the company's financial information for the period 2006 to 2010 and helps to understand its performance during that period. The following points highlight the main analyses made from this information:

- The value of the total assets increased during the time the activist has been a shareholder (2007-2010). However, during the same period, the company's equity decreased, meaning that the increase in assets' value was funded by an increase in liabilities.
- Despite the increase in the net earned premiums (which in an industrial company would be the equivalent to net sales), the operational result as well as the net income (or consolidated result) decreased. Therefore, not surprisingly, the profit margin has reduced to almost half of its 2007 value.
- From the previous two points it also follows that, firstly, the asset turnover increased slightly, because sales growth was relatively higher than the assets growth. And secondly, both ROE and ROA have decreased. In the case of ROE, although equity and net income have both shortened in this period, the net income had a higher reduction.
- The earnings-per-share and the share price dropped off, nonetheless, Munich Re had its dividends growing slightly. As a result, we have a stable P/E ratio, but an increase in the payout ratio and dividend yield.
- The debt-to-equity, a leverage measure, had a significant jump between 2006 and 2007. However, given that the activist only came in in the last month of 2007, it is highly unlikely that this movement can be attributed to it. In the following years, this ratio had just a small increase.
- The number of employees went up more than 20% since 2007.
- The year 2008, was especially bad in term of results, which most likely was due to the financial crisis that burst in that same year.

Table 3: Main financial figures and ratios of Munich Re from 2006-2010

	2010	2009	2008	2007	2006
Total Assets (€m)	236 358	223 412	215 417	214 253	215 874
Investments (€m)	188 151	178 149	172 103	173 976	175 052
Cash (€m)	2 900	3 082	2 354	2 505	2 172
Equity (less non-controlling interests) (€m)	22 783	22 049	20 966	24 957	25 946
Total Liabilities (€m)	213 330	201 134	194 161	188 795	189 445
Debt (€m)	5 137	5 066	5 281	5 218	3 797
Net earned premiums (€m)	43 075	39 526	35 724	35 675	35 714
Operating result (€m)	3 978	4 721	3 262	5 078	5 494
Consolidated result (attributable to Munich Re equity shareholders) (€m)	2 422	2 521	1 503	3 854	3 440
Number of staff (units)	46 915	47 249	44 209	38 634	37 210
EPS (€)	13,06	12,95	7,48	17,90	15,12
Dividend per share (€)	6,25	5,75	5,5	5,5	4,5
Share price (€)	113,45	108,67	111	132,94	130,42
Asset turnover	18,22%	17,69%	16,58%	16,65%	16,54%
ROA	1,02%	1,13%	0,70%	1,80%	1,59%
ROE	10,63%	11,43%	7,17%	15,44%	13,26%
Profit margin	5,62%	6,38%	4,21%	10,80%	9,63%
P/E	8,69	8,39	14,84	7,43	8,63
Payout ratio	47,86%	44,40%	73,53%	30,73%	29,76%
Dividend yield	5,51%	5,29%	4,95%	4,14%	3,45%
Debt to equity	22,55%	22,98%	25,19%	20,91%	14,63%

Source: Based on Munich Re annual reports from 2006-2010

In sum, despite the short-term positive impact of when the activist became a shareholder of Munich Re, the company's financial framework showed no major improvements during the period Cevian was there. The fact that ratios such as ROA and profit margin have declined is even a sign of poorer financial and operating performance. But, in fact, it is hard to say that this Cevian investment can be seen as an activist campaign, given the following reasons: 1) During this time, there were no Cevian directors on the board, as usually happens with their campaigns; 2) there was no intention (at least publicly) to change any corporate governance practices that could suggest agency problems; 3) similarly, it did not seek any strategy change, such as the sale of a part of the company; and 4) Some of the changes that tend to happen in the target companies, have not occurred in this case. For example, the company did not become more leveraged or did not improve its operating performance. The only exception was the increase in

distributed funds to the shareholders, largely due to the share buy-back programme started in the spring of 2007, even before the activist came in. Nevertheless, in the 2.5 years that Cevian was a shareholder, Munich has outperformed the market. Therefore, if it is difficult to attribute any positive impact to Cevian, it is equally difficult to attribute any negative one.

4.2. Bilfinger

a) Portrait of the target company

Bilfinger SE was born in 1975 from the merger of three construction companies that had its roots still in the 19th century - Grün & Bilfinger AG, Julius Berger Tiefbau AG and Bauboag (formerly Berlinische Boden-Gesellschaft) -, thus forming Bilfinger + Berger Bauaktiengesellschaft.

At the beginning of the 21st century, the company changed its name to Bilfinger Berger AG, and at a time when construction started to have less activity, the company diversified its operations by acquiring many strong companies in the industrial, power plant and real-estate service sectors. The company moved from a construction company to an international engineering and service group. Finally, in 2012, after registering in accordance with European law (SE), the company is renamed to its present name Bilfinger SE.

At the end of 2011, when the Swedish activist became shareholder of the company, Bilfinger had Roland Kock as chairman of the executive board and Dr. h. c. Bernhard Walter as chairman of the supervisory board. The company was present in all continents except South America and was structured in five different business segments (Bilfinger annual report 2011):

- Industrial services - provide services for the construction, maintenance, and modernization of industrial plants in industrial sectors including oil and gas, refineries, petrochemicals, chemicals and agrochemicals, pharmaceuticals, food and beverages, power generation and steel and aluminium;
- Power services - focus on the maintenance, repair, efficiency enhancements and lifetime extensions, and the manufacture and assembly of components, especially boiler and high-pressure piping systems for power plants;

- Building and facility services - provide technical, commercial and infrastructural real-estate services;
- Construction - design and execute demanding civil engineering services;
- Concessions - delivers and operates transport and social infrastructure projects as a private partner to the public sector.

Table 4 below presents the key figures per segment:

Table 4: Key figure of the five business segments in the end of 2011

€million	Industrial services	Power services	Building and facility services	Construction	Concession
Output volume	3,294	1,157	2,256	1,751	-
Orders received	3,224	1,221	2,363	971	-
Order backlog	2,467	1,437	2,369	1,506	-
Capital expenditure	69	14	16	26	-
EBIT	150	92	83	35	23
Number of employees	29,427	7,588	15,711	5,849	141

Source: Bilfinger annual report 2011

b) Description of the activist campaign

Cevian Capital announced its activist campaign at Bilfinger on October 31st, 2011, with the purchase of about 12% of the German construction and industrial services group's capital, becoming the company's largest shareholder. Jens Tischendorf, Cevian's partner in charge of the German market, justified the purchase by saying that the share price was below its value given the company's strong fundamentals and that Cevian supported the company's repositioning to a leading engineering and services group (Bryant, 2011).

The entry of the Swedish activist contributed positively to the company's performance until 2014, having Cevian even gained a seat on the supervisory board with Jens Tischendorf, in 2013. However, by mid-2014, the company went into a negative period where it had to repeatedly adjust the earnings expectations downward within a period of just a few weeks. This was caused by the falling investment from Europe's power generation sector (to whom Bilfinger provided many industrial and power services) due to the German economy's transition to a greener environmental policy. As a consequence of the consecutive adjustments, Bilfinger's share price, dropped significantly (from 83€ at the end of June to 54€ on the 5th of September), which led to

the resignation of the CEO, Roland Koch. Herbert Bodner, Bilfinger's former CEO was appointed by the supervisory board to fill in the empty seat on an interim basis (Vasagar, 2014). But the turmoil did not end there. In October 2014, the chairman of the supervisory board also decided to leave. Bernhard Walter was replaced by Eckhard Cordes, who was named by the Swedish activist, Cevian Capital, thus electing their second representative in this body (Prodhan, 2014).

In June 2015, Per H. Utnegaard succeeded to Herbert Bodner as CEO of the company that had taken over on an interim basis in the year before. In the same month, the company announced a plan to sell the power business (Prodhan & Wissenbach, 2015). But that never happened, leading the company to report losses of 489 million euros in 2015 and to suspend the distribution of dividends. Consequently, due to these results, Per H. Utnegaard was replaced too in April 2016, when not even a year had passed since his start (Thomas, 2016).

The next CEO was Tom Blades, who before was on Linde's executive board. Already under Tom Blades' control, Bilfinger finalized the sale of the Building, Facility Services, and Real Estate division, which accounted for about 40% of the company's sales, for 1.2 billion euros (Sommer, Tofern & Weishaupt, 2016). Thus, the company became exclusively an industrial services company. The company's strategy also took on a new configuration: two business segments, four core regions, and six industries (2-4-6). The two business segments were Engineering & Technologies (E&T) and Maintenance, Modifications and Operations (MMO). Together they combined all the services of the company. While the first concerned a more international solution, the second had a more regional focus by providing services at the customer's site. The four regions were Continental Europe, Northwest Europe, North America, and the Middle East. And the six industries were Chemicals & Petrochemicals, Energy & Utilities, Oil & Gas, Pharma & Biopharma, Metallurgy, and Cement. The company's new repositioning aimed to make it less complex and more efficient, thus giving conditions for profitability growth (Bilfinger annual report, 2016).

In an interview with the Financial Times (Milne, 2017a), Christer Gardell admitted that Cevian “underestimated the problems of the deals that had built Bilfinger.” But despite the difficulties that Bilfinger went through, Cevian has been increasing its position in

the company's capital, holding today 29.5% of the capital, which reinforces its confidence in the value of the company.

c) Event study

Similar to what was done in the study of the first campaign (Munich Re), we will separate between short-term and long-term analysis here. Similarly, we will also use the CDAX index as representative of the market portfolio and against which we compare the performance of Bilfinger (GBF) share price. And the methodology followed is the one presented in the methodology part related to event studies.

i. *Short-term performance:*

Using an estimation window of 250-days (-270; -21) before the event window, we estimate the values of α and β , presented in figure 7, which we use as the coefficients of the market model. Likewise, figure 7 also shows the values of variance and standard deviation that we use in the significance test of the abnormal return (AR) and the cumulative abnormal return (CAR).

Figure 7: Market model coefficients

Alpha	0,00081
Beta	0,97706
Sample var	0,00012
Sample std dev	0,01089

The normal return (\hat{R}_{it}) for each day of the event window (-20; +20) is thus given by the market model (equation I):

$$\hat{R}_{it} = \hat{\alpha}_i + \hat{\beta}_i R_{mt} + \varepsilon_{it} = 0.00081 + 0.97706 * R_{mt}$$

After we calculate the normal return, we can then proceed with the calculation of the abnormal return ($AR_{it} = R_{it} - \hat{R}_{it}$) as well as the cumulative abnormal return ($CAR_i = \sum AR_{it}$). Table 5 shows the results of these calculations for the event window interval.

In addition, the last column of the table gives the significance test of each abnormal return result.⁸

Table 5: Abnormal return and significance test of GBF

Time	Ri (GBF)	Rm (CDAX)	Normal Return	Abnormal Return	CAR	t-test AR	
-20	-0,03805	-0,02243	-0,02111	-1,69%	-1,69%	-1,55573	
-19	-0,03901	-0,03137	-0,02984	-0,92%	-2,61%	-0,84204	
-18	0,04021	0,04558	0,04535	-0,51%	-3,12%	-0,47137	
-17	0,06578	0,03226	0,03233	3,34%	0,22%	3,07110	***
-16	-0,00946	0,00611	0,00677	-1,62%	-1,40%	-1,49004	
-15	0,03350	0,02874	0,02889	0,46%	-0,94%	0,42252	
-14	-0,00118	0,00260	0,00335	-0,45%	-1,40%	-0,41541	
-13	0,02757	0,02214	0,02244	0,51%	-0,88%	0,47115	
-12	0,00654	-0,01191	-0,01083	1,74%	0,86%	1,59502	
-11	0,01788	0,00989	0,01047	0,74%	1,60%	0,68043	
-10	-0,02092	-0,01691	-0,01571	-0,52%	1,08%	-0,47834	
-9	0,02577	0,00369	0,00441	2,14%	3,21%	1,96117	**
-8	-0,01685	0,00529	0,00598	-2,28%	0,93%	-2,09615	**
-7	-0,00113	-0,02385	-0,02250	2,14%	3,06%	1,96168	**
-6	0,02736	0,03363	0,03366	-0,63%	2,43%	-0,57847	
-5	0,01939	0,01528	0,01574	0,36%	2,80%	0,33480	
-4	-0,01824	-0,00261	-0,00175	-1,65%	1,15%	-1,51475	
-3	-0,01181	-0,00397	-0,00307	-0,87%	0,28%	-0,80260	
-2	0,04382	0,04961	0,04928	-0,55%	-0,27%	-0,50050	
-1	-0,02061	0,00102	0,00181	-2,24%	-2,51%	-2,05817	**
0	0,00982	-0,03111	-0,02959	3,94%	1,43%	3,61838	***
1	-0,00942	-0,04762	-0,04572	3,63%	5,06%	3,33316	***
2	0,01714	0,02129	0,02161	-0,45%	4,61%	-0,41008	
3	0,06282	0,02791	0,02807	3,47%	8,09%	3,18974	***
4	-0,03690	-0,02327	-0,02193	-1,50%	6,59%	-1,37497	
5	0,00284	-0,00618	-0,00523	0,81%	7,40%	0,74155	
6	0,01313	0,00548	0,00616	0,70%	8,09%	0,64012	
7	-0,01886	-0,02106	-0,01977	0,09%	8,19%	0,08376	
8	-0,00796	0,00400	0,00472	-1,27%	6,92%	-1,16384	
9	0,02528	0,03161	0,03170	-0,64%	6,28%	-0,58944	
10	-0,01727	-0,01178	-0,01070	-0,66%	5,62%	-0,60364	
11	-0,02974	-0,00950	-0,00847	-2,13%	3,49%	-1,95293	*
12	0,00418	-0,00324	-0,00236	0,65%	4,15%	0,60033	
13	-0,01557	-0,01104	-0,00998	-0,56%	3,59%	-0,51387	
14	-0,01222	-0,00890	-0,00788	-0,43%	3,15%	-0,39771	

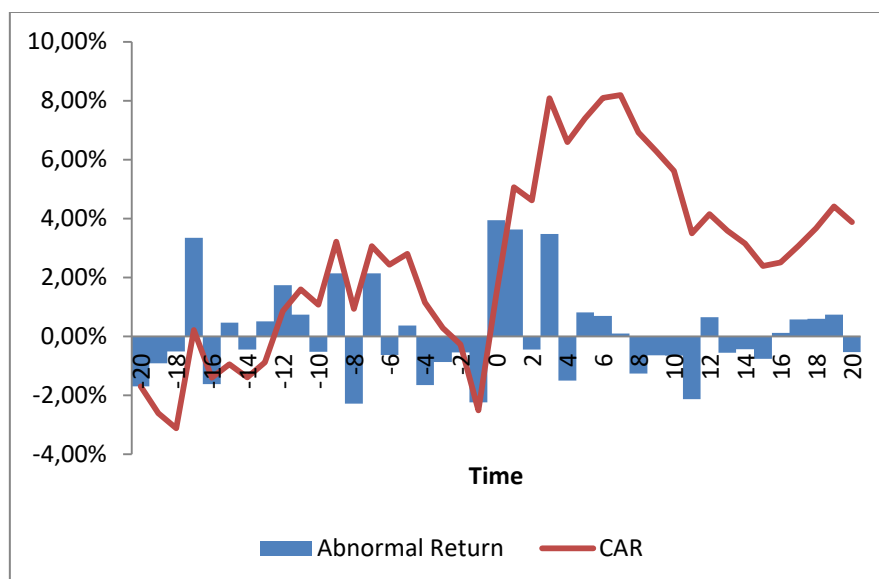
⁸ *, ** and *** represent the test results respectively at 10%, 5% and 1% significance level; 0 represents the announcement day, -1 represents one day before the announcement, 1 represents one day after the announcement, and so one.

15	-0,03964	-0,03361	-0,03203	-0,76%	2,39%	-0,69896
16	-0,00941	-0,01165	-0,01058	0,12%	2,51%	0,10700
17	-0,00717	-0,01400	-0,01287	0,57%	3,08%	0,52330
18	0,00403	-0,00280	-0,00192	0,60%	3,67%	0,54662
19	0,01806	0,01016	0,01074	0,73%	4,41%	0,67210
20	0,03892	0,04445	0,04424	-0,53%	3,87%	-0,48847

Once again the day of the announcement caused a significantly positive reaction, as evidenced by the t-test result ($\theta_1 = 3.62$) of the abnormal return. In contrast to the Munich Re campaign, however, Bilfinger's abnormal return was not limited to the day of the announcement only, but also to the days after (days 1 and 3). Each of these days reported abnormal returns of over 3%, which according to their t-test values, are significant at a 1% significance level. Looking at Figure 8, which shows graphically the information contained in table 5, one can better understand the evolution of both abnormal returns and cumulative abnormal returns. The positive reaction of the announcement is well expressed by the hike in the CAR line. One aspect that the chart highlights more is the higher volatility of the Bilfinger's returns when compared to the Munich Re ones. The fact that Bilfinger is a German mid-cap and therefore smaller company than Munich Re is possibly the most reasonable explanation.

The table also shows other days with statistically significant abnormal returns, especially before the announcement day, but they do not invalidate the above conclusions.

Figure 8: Abnormal return and cumulative abnormal return of Bilfinger over the (-20; +20) event window



Analysing now the CAR results, presented in table 6, they show that it is in the smaller period around the announcement day (-1; +1) that the actual return of the stock more significantly exceeds the expected return (at 99% confidence level). The periods immediately before and after the announcement, show significant abnormal returns as well (at 95% confidence level). But while in the interval before (-5; -1), the CAR is -4.95%, in the interval after (+1; +5), the CAR is +5.97%. The different sign of the two CARs, i.e., going from a negative value to a positive value, is additional evidence of the positive impact of the Cevian's announcement. Regarding the remaining intervals, they are not statistically significant.

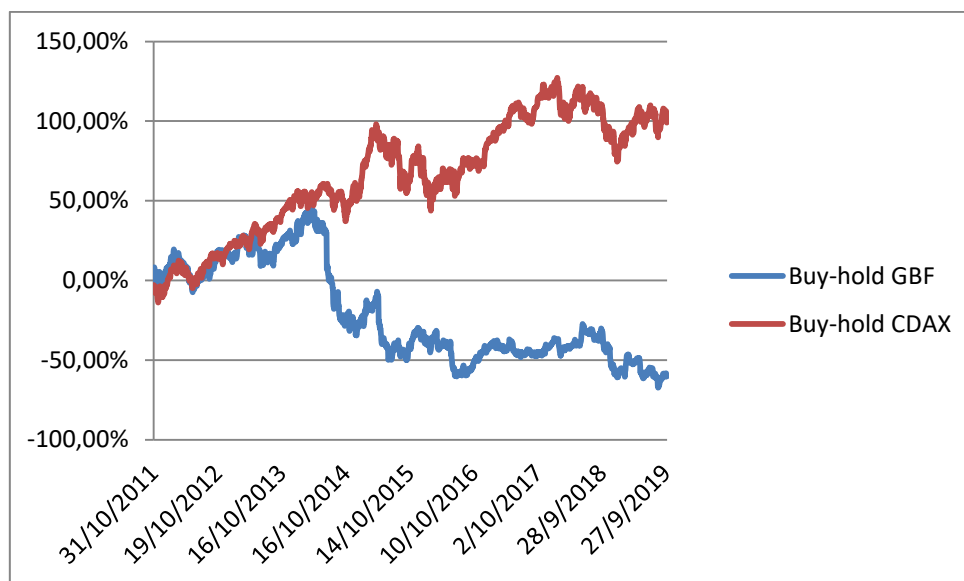
Table 6: Cumulative abnormal returns and its significance tests for different interval periods

Interval	CAR	t-test CAR	
(-1;+1)	5,33%	2,8252	***
(-5; +5)	4,96%	1,3739	
(-10; +10)	4,02%	0,8060	
(-20; +20)	3,87%	0,5554	
(-5; -1)	-4,95%	-2,0309	**
(-10; -1)	-4,11%	-1,1926	
(-20; -1)	-2,51%	-0,5156	
(+1; +5)	5,97%	2,4505	**
(+1; +10)	4,19%	1,2163	
(+1; +20)	2,44%	0,5017	

ii. Long-term performance:

The long-term impact of Cevian's campaign, however, has not been positive so far. Using the buy-and-hold abnormal return (BHAR), we find out that Bilfinger's stock (GBF) performed well below the CDAX index. The company has recorded a BHAR of -160.76% from the date of the announcement (10/31/2011) till the current day (10/04/2019). Looking at figure 9, we observe that Bilfinger's stock performance evolved similarly to the CDAX index until mid-2014 and even outperformed it slightly in the first months after Cevian's entry. But with the three profit warnings that took place in the summer of 2014, Bilfinger's share price plummeted, a situation that the company has never recovered back. On the contrary, the CDAX index has always continued an upward trend, which makes the index currently worth double of what it was worth at the end of 2011, while GBF is now worth less than half of its initial value.

Figure 9: Buy-hold of GBF and CDAX, from announcement date until the present date



d) Evolution of the key financial figures and ratios

An analysis of Bilfinger's key financial indicators from 2011 (when Cevian became a shareholder of the company) to the present day helps us to understand a little bit better what has changed in the company during this time. Given the negative evolution of Bilfinger's share price during these years, it is evident that the company's indicators are expected to have deteriorated. But below we interpret what and to what extent it has changed:

- The balance sheet numbers reveal a continuous shrinkage of the company. From 2011 to 2018, the value of the total assets fell to less than a half (€ 3476m vs € 7720m), with the investments now representing just over a fifth than before (€ 67m vs 310 m €). On the other side of the balance sheet, both equity and liabilities declined. Liabilities are now less than 40% of its 2011 value (€2271m vs €5927m), while equity is less than 70% (€1218m vs €1788m). However, the debt amount remained stable at around €500m, which means that the leverage level of the company increased, whether we use Debt/Equity or Debt/Total Assets to measure it.

- The income statement shows a portrait similar to the one described for the balance sheet. Revenues are now worth half of what they were in 2011 (€8397m vs €4153m), and both EBIT (€-12m) and net profit (€-24m) are negative, contrasting with the 2011 values. Despite this, both EBIT and net profit have been on an upward trend since 2015, when they got their worst results and led to the resignation of then CEO Per H. Utnegaard. And revenue increased in 2018 after five straight years of decline.
- From the results presented in the previous two points, it follows that ROA, ROE and profit margin got worse, while asset turnover improved. Given that the net profit has shifted from a positive to a negative result, it is therefore natural that the first three ratios are now worse than in 2011, even though the denominators of those ratios (assets, equity, and revenue) have also decreased. Regarding the asset turnover ratio, although both revenues and assets declined, the decrease in assets (denominator) was relatively greater than that of revenue (numerator), resulting in an improvement of the ratio.
- Operating cash flow also showed an evolution similar to EBIT and net profit, decreasing to its minimum value (€ -224), which in this case was in 2016, and recovering since then, obtaining even a positive result in 2018 (€ 50m).
- As far as dividend distribution is concerned, since 2015, the year the company did not pay dividends, the executive and supervisory board agreed to pay € 1 per share in subsequent years until the company returned to positive net results. As a result, the increase in the dividend yield in 2018 is explained by the decline in the share price. Following the sale of the Building, Facility Services, and Real Estate division, in 2016, the company also decided on a € 150m share buyback that took place between September 2017 and October 2018.
- The sale of the Building, Facility Services, and Real Estate division also explain the soar in the cash (€1032m) and the positive net profit (€271m), in 2016.
- Due to the negative net profits that the company presented in four of the eight years, it makes the ratios where the net profits are in the denominator (P / E and payout ratio) no longer have a logical meaning.
- After the first three years of growth, the number of employees began a downward trend, having only reversed this trajectory in the last year. In 2018, there were 35905 employees, just over half of the 71127 in 2013.

Table 7: Main financial figures and ratios of Bilfinger from 2011-2018

	2018	2017	2016	2015	2014	2013	2012	2011
Total Assets (€m)	3 476	3 620	4 019	5 185	6 005	6 532	6 850	7 720
Investments (€m)	67	76	72	66	258	391	521	310
Cash (€m)	574	767	1 032	427	359	647	1 087	847
Equity (less non-controlling interests) (€m)	1 218	1 408	1 649	1 457	1 938	2 149	2 029	1 788
Total Liabilities (€m)	2 271	2 237	2 398	3 767	4 088	4 367	4 813	5 927
Debt (€m)	513	511	522	526	561	586	1 181	534
Revenue (€m)	4 153	4 044	4 219	5 003	6 246	7 552	8 586	8 397
EBIT (€m)	-12	-126	-231	-501	170	298	381	344
Net profit (€m)	-24	-89	271	-510	-71	173	276	394
Operating cash flow	50	-119	-224	39	34	210	232	281
Dividends (€m)	44	46	44	-	88	133	132	150
Share buyback (€m)	111	39	-	-	-	-	-	-
Number of shares (million units)	44	44	46	46	46	46	46	46
EPS (€)	-0,59	-2,01	6,13	-11,54	-1,62	3,91	6,26	8,93
Dividend per share (€)	1	1	1	0	2	3	3	3,4
Share price (€)	25,48	39,57	36,57	43,47	46,35	81,53	73	65,88
Number of staff (units)	35 905	35 644	36 946	42 365	57 571	71 127	66 683	59 069
Asset turnover	119,48%	111,71%	104,98%	96,49%	104,01%	115,62%	125,34%	108,77%
ROA	-0,69%	-2,46%	6,74%	-9,84%	-1,18%	2,65%	4,03%	5,10%
ROE	-1,97%	-6,32%	16,43%	-35,00%	-3,66%	8,05%	13,60%	22,04%
Profit margin	-0,58%	-2,20%	6,42%	-10,19%	-1,14%	2,29%	3,21%	4,69%
P/E	-	-	5,97	-	-	20,85	11,66	7,38
Payout ratio	-	-	16,31%	-	-	76,73%	47,92%	38,07%
Dividend yield	3,92%	2,53%	2,73%	0,00%	4,31%	3,68%	4,11%	5,16%
Debt to equity	42,12%	36,29%	31,66%	36,10%	28,95%	27,27%	58,21%	29,87%

Source: Based on Bilfinger annual reports from 2011-2018

In the Bilfinger campaign, in contrast to what happened in the Munich Re one, Cevian assumed an active role in the campaign as an activist shareholder. Perhaps the clearest sign was the election of two members that the fund appointed for the supervisory board,

with the second even becoming the chairman. This is relevant because there is greater accountability for the performance of the company since its entry in 2011.

The investment of the hedge fund in the company has even started to produce a positive impact on it. This is shown first by the significant positive abnormal returns and cumulative abnormal returns in the period following the announcement, and then in the positive BHAR achieved during the first few months as a shareholder. However, this good initial moment gave way to a downward trajectory marked by a negative performance and a growing gap to the reference index (CDAX), especially from 2014 onwards. The company's main financial indicators are proof of its deterioration, with a decline in sales, profits, assets, investment, number of employees, and the worsening of various financial ratios such as ROA or profit margin. Up to now, although the company sold the Building, Facility Services, and Real Estate Division, and implemented a new strategy (2-4-6) intending to reduce the business complexity, it failed to turn this situation around. As the company's major shareholder, Cevian is still in a position to change that. But for now, the scenario is that the activist was not able to unlock the hidden value that supposedly Bilfinger had.

4.3. ThyssenKrupp

a) Portrait of the target company

ThyssenKrupp AG is a German diversified industrial group, which resulted from the merger of two companies in 1999, Thyssen AG and Krupp, both companies founded in the nineteenth century, Thyssen in 1891 and Krupp in 1811.

With 150,000 employees, the company was, in 2013, present in 80 countries around the world, and when Cevian Capital became a shareholder of the company, ThyssenKrupp chairman of the executive board was Dr.-Ing. Heinrich Hiesinger, a former executive at Siemens, while Prof. Dr. Ulrich Lehner was chairman of the supervisory board. At that time, ThyssenKrupp was organized in six business areas (ThyssenKrupp annual report 2012/2013):

- Components technology – supplies a range of high-tech components for general engineering, construction equipment, auto sector, and wind turbines.

- Elevator technology – supplies passenger and freight elevators, escalators and moving walks, passenger boarding bridges, stair and platforms lifts as well as service for the entire product range.
- Industrial Solutions – comprises the operating units Process Technologies, Resource Technologies, Marine Systems and System Engineering. The product portfolio encompasses chemical plants and refineries (Process Technologies), equipment for the cement industry and innovative solutions for the mining and processing of raw materials (Resource Technologies), naval shipbuilding (Marine Systems, and production systems for the auto industry (System Engineering). It also offers a range of services including tailored engineering expertise for patented processes and mechanical applications, global project management, system integration, reliable procurement and supplier management, and high-quality services for customers.
- Material services – with 500 locations in 34 countries, it specializes in materials distribution including technical services.
- Steel Europe – brings together the Group’s flat carbon steel activities, mainly in the European market. Its premium flat products are supplied to customers in the auto industry and other steel-using sectors. The range also includes products for attractive specialist markets such as the packaging industry.
- Steel Americas – supplies the American market with high-quality slabs and flat steel.

Table 8 presents the key figures of the six business areas of ThyssenKrupp in 2012/2013:

Table 8: Key figures of the six business areas in 2012/2013

€million	Components technology	Elevator technology	Industrial solutions	Materials services	Steel Europe	Steel Americas
Order intake	5 715	6 520	5 283	11 663	9 515	2 056
Sales	5 712	6 155	5 641	11 700	9 620	1 867
EBIT	173	611	658	-6	62	-1 180
Adjusted EBIT	244	675	640	236	143	-495
Investments	389	143	63	76	408	170
Number of employees	27 737	49 112	18 841	26 978	26 961	4 112

Source: ThyssenKrupp annual report 2012/2013

b) Description of the activist campaign

On September 25, 2013, Cevian Capital announced that it had a 5.2% stake in ThyssenKrupp. The fund justified the investment by saying that the share price undervalued the company's strong fundamentals. Also, the fund said that it supported the group's transformation strategy from a steel company to a business more focused on capital goods. ThyssenKrupp was, since 2011, performing poorly, affected by the steel business, particularly by the Americas division, which losses were limiting investment in other profitable areas of the company (Bryant, 2013).

In November 2013, Thyssenkrupp reached an agreement with ArcelorMittal and Japan's Nippon Steel to sell its Alabama steel plant for \$ 1.55bn. The agreement also included a slab supply contract for ThyssenKrupp CSA in Brazil (Bryant, 2014a). Shortly after, in December, the company made a capital raise of € 822m, allowing Cevian to increase its stake to 11% of the company. And in March 2014, Cevian announced that it had once again increased its stake, this time to 15.1% (Burguer, 2014).

In November 2014, just over a year after the campaign began, Cevian secured a seat on the supervisory board through its representative Jens Tischendorf. At about the same time, in the 2013/2014 results presentation, ThyssenKrupp reported a return to profit (€ 195m) after 3 years of losses (Bryant, 2014b).

Already in 2017, the company finally sold its CSA plant in Brazil and got into an understanding to spin-off its European steel unit, by merging it with the European operation of the Indian's Tata Steel. The sale of the Brazilian unit caused the company to post a loss of € 591m (Deutsche Welle, 2017). The poor results have led Cevian, in a rare exception to what is usually his posture as an activist, to publicly criticize the management of the company. In an interview with the German newspaper, Handelsblatt, Lars Förberg attacked CEO Hiesinger and called for a new strategy. In his view, old-style conglomerates no longer work because they are not agile enough for today's business challenges that change fast. Also, the activist accused management of failing to achieve operating margin targets set in 2011 (Wocher, 2017).

On 24th May 2018, a new hedge fund activist, Elliott Management, announced its entry into the company's capital. Unlike Cevian, this fund, led by the investor Paul Singer, is known for its aggressive campaigns against boardrooms. For Elliott, Thyssenkrupp

could improve operationally (Pooley, 2018). The fund also believed that the joint venture terms agreed a year earlier between ThyssenKrupp and Tata Steel were no longer good. This was due to the different performance achieved by the two merging companies during that year. The earnings of the German group from steel have expanded, while Tata Steel Europe's have disappointed. As a result, Elliott wanted the terms of the deal to be revised. Such a position was also supported by the Swedish activist, Cevian.

In July, two months after activist Elliott joined the company, ThyssenKrupp CEO Heinrich Hiesinger, resigned after strong criticism from both activists regarding the Tata Steel deal (McGee, 2018a). On an interim basis, Guido Kerkhoff, the finance head of the company was appointed for the position of CEO. Two weeks after the resignation of Mr. Hiesinger, it was the turn of the chairman of the supervisory board, Ulrich Lehner, to resign (McGee, 2018b).

In September 2018, after much pressure from activists, the company finally announced a restructuring. ThyssenKrupp will be divided into two separate companies. In the new configuration, the industrial goods business will be separated from the steel and marine division, creating ThyssenKrupp Industrials and ThyssenKrupp Materials (McGee, 2018c). Shortly after the company unveiled the restructuring plans, the supervisory board named Guido Kerkhoff full-time chief executive for a five-year mandate (McGee, 2018d).

In February 2019, Martina Merz, who had previously held executive positions at Bosch, was elected chairman of the supervisory board, replacing Bernhard Pellens who had been appointed interim chairman after the resignation of Ulrich Lehner (McGee, 2019).

In May, the merger deal between the steel division in Europe of ThyssenKrupp and Tata Steel failed after strong opposition from EU competition commission. ThyssenKrupp decided then to spin off its lifts division instead. But, the failure in the merge attempt deal led the supervisory board to dismiss Guido Kerkhoff from CEO, after just 14 months in the job. For his position, the supervisory board chose Martina Merz, who was replaced in the supervisory board by Siegfried Russwurm, a former engineer and Siemens manager (Miller, 2019). Ms. Merz has now the task of completing the sale of the elevator division, thus allowing the restructuring of the company.

Currently, Cevian holds a stack of 18% of the ThyssenKrupp's capital.

c) Event study

Following the methodology used in previous campaigns, the study of the event is divided between the short and long term, and also here, the stock performance of ThyssenKrupp (TKAX) is analysed against the German stock market index (CDAX).

i. *Short-term performance:*

The α and β used as coefficients in the market model are estimated from a period of 250 days (-270; -21) prior to the event window. Figure 10 below presents their values as well as the variance and standard deviation of the abnormal return used later to calculate the significance tests of AR and CAR.

Figure 10: Market model coefficients

Alpha	-0,00096
Beta	1,44361
Sample var	0,00026
Sample std dev	0,01610

In contrast to what happened in the previous two campaigns, the β here is above 1, which indicates that TKAX was more volatile than the CDAX during the estimation window.

Given the coefficients values, the market model is then expressed as (using equation I):

$$\hat{R}_{it} = \hat{\alpha}_i + \hat{\beta}_i R_{mt} + \varepsilon_{it} = -0.00096 + 1.44361 * R_{mt}$$

Using the market model equation, we estimate the normal return (\hat{R}_{it}) for each day of the event window (-20; +20) that we then use to find the abnormal return ($AR_{it} = R_{it} - \hat{R}_{it}$) and the cumulative abnormal return ($CAR_i = \sum AR_{it}$). Table 9 presents these results as well as the significance test of the AR in the last column.⁹

⁹ *, ** and *** represent the test results respectively at 10%, 5% and 1% significance level; 0 represents the announcement day, -1 represents one day before the announcement, 1 represents one day after the announcement, and so one.

Table 9: Abnormal return and significance test of TKAX

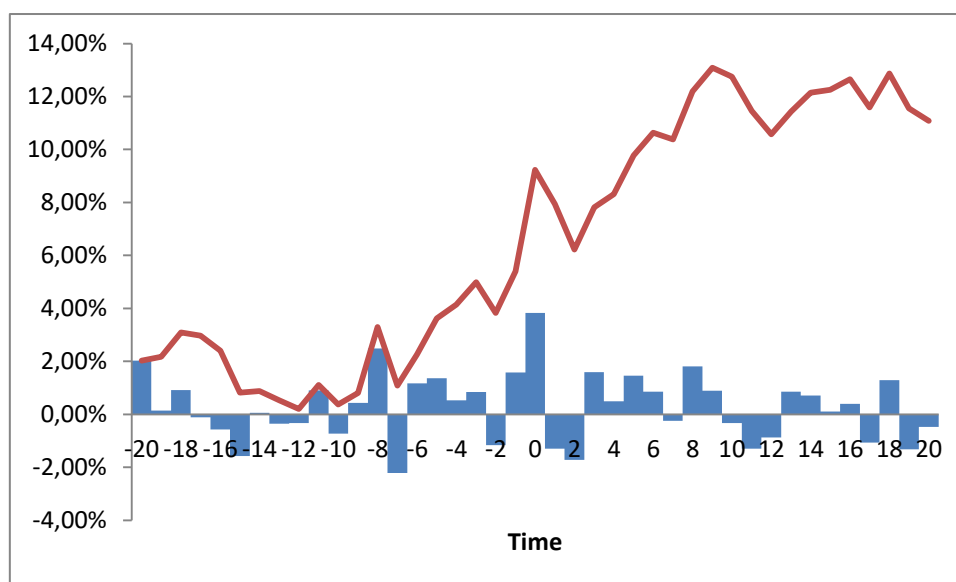
Time	Ri (TKAX)	Rm (CDAX)	Normal Return	Abnormal Return	CAR	t-test AR
-20	0,00379	-0,01073	-0,01644	2,02%	2,02%	1,25679
-19	0,00819	0,00534	0,00675	0,14%	2,17%	0,08904
-18	-0,00625	-0,01003	-0,01543	0,92%	3,09%	0,57036
-17	0,02263	0,01713	0,02377	-0,11%	2,97%	-0,07077
-16	-0,01721	-0,00729	-0,01147	-0,57%	2,40%	-0,35626
-15	-0,01501	0,00120	0,00077	-1,58%	0,82%	-0,98005
-14	0,00698	0,00512	0,00643	0,06%	0,87%	0,03432
-13	0,00063	0,00351	0,00411	-0,35%	0,53%	-0,21628
-12	-0,00315	0,00073	0,00009	-0,32%	0,20%	-0,20145
-11	0,03603	0,01937	0,02700	0,90%	1,11%	0,56087
-10	-0,00061	0,00532	0,00672	-0,73%	0,37%	-0,45520
-9	0,00305	-0,00022	-0,00128	0,43%	0,81%	0,26897
-8	0,02678	0,00197	0,00189	2,49%	3,30%	1,54613
-7	-0,00593	0,01187	0,01618	-2,21%	1,08%	-1,37291
-6	0,00716	-0,00251	-0,00458	1,17%	2,26%	0,72900
-5	0,01895	0,00435	0,00532	1,36%	3,62%	0,84626
-4	0,01220	0,00547	0,00694	0,53%	4,15%	0,32713
-3	0,00402	-0,00239	-0,00441	0,84%	4,99%	0,52330
-2	-0,01830	-0,00393	-0,00663	-1,17%	3,82%	-0,72464
-1	0,01922	0,00303	0,00341	1,58%	5,40%	0,98172
0	0,03771	0,00030	-0,00053	3,82%	9,23%	2,37516
1	-0,01377	0,00008	-0,00084	-1,29%	7,94%	-0,80256
2	-0,01787	0,00017	-0,00071	-1,72%	6,22%	-1,06533
3	0,00512	-0,00686	-0,01085	1,60%	7,82%	0,99192
4	0,01867	0,01015	0,01369	0,50%	8,31%	0,30877
5	0,00500	-0,00601	-0,00964	1,46%	9,78%	0,90882
6	0,00276	-0,00332	-0,00575	0,85%	10,63%	0,52877
7	0,00000	0,00236	0,00245	-0,25%	10,38%	-0,15222
8	0,01212	-0,00347	-0,00596	1,81%	12,19%	1,12307
9	0,00272	-0,00362	-0,00618	0,89%	13,08%	0,55318
10	-0,01140	-0,00491	-0,00805	-0,34%	12,75%	-0,20828
11	0,01318	0,01875	0,02611	-1,29%	11,45%	-0,80317
12	-0,00379	0,00410	0,00496	-0,88%	10,58%	-0,54386
13	0,00762	0,00000	-0,00096	0,86%	11,44%	0,53246
14	0,01998	0,00960	0,01290	0,71%	12,14%	0,43947
15	0,00582	0,00393	0,00472	0,11%	12,25%	0,06867
16	-0,00105	-0,00282	-0,00502	0,40%	12,65%	0,24651
17	-0,00158	0,00695	0,00908	-1,07%	11,59%	-0,66216
18	0,01425	0,00163	0,00140	1,28%	12,87%	0,79771
19	-0,00260	0,00797	0,01055	-1,32%	11,55%	-0,81707
20	-0,00991	-0,00291	-0,00516	-0,47%	11,08%	-0,29483

**

As with the other two campaigns, the announcement of Cevian's entry into ThyssenKrupp caused a significantly positive abnormal return. However, this reaction, as Table 9 shows, was limited only to the day of the announcement and was only significant for a 95% confidence level. The share price closed the announcement day at +3.77% more than the previous day. Since the expected change was -0.05%, the stock had an abnormal return of +3.82%. As the standard deviation obtained in the estimation window of this campaign is higher than the previous two, the result of the t-test of the AR will tend to be smaller, which may explain the less number of days that the null hypothesis ($\theta_1: AR = 0$) is rejected.

Looking at Figure 11, it is possible to see that although there was a significant change in the abnormal return only on the day of the announcement, the CAR curve ended up having an upward trend, which results from a set of positive but not significant abnormal returns.

Figure 11: Abnormal return and cumulative abnormal return of ThyssenKrupp over the (-20; +20) event window



The smoother growth of the CAR, together with the higher standard deviation mentioned before, means that in the calculation of the second hypothesis test ($\theta_2: CAR = 0$), no interval could be rejected, not even to a 90% confidence level. This

is despite the ThyssenKrupp campaign had a higher CAR in the (-5; +5), (-10; +10), (-20; +20) intervals than in the other two campaigns. Below, Table 10 shows those results.

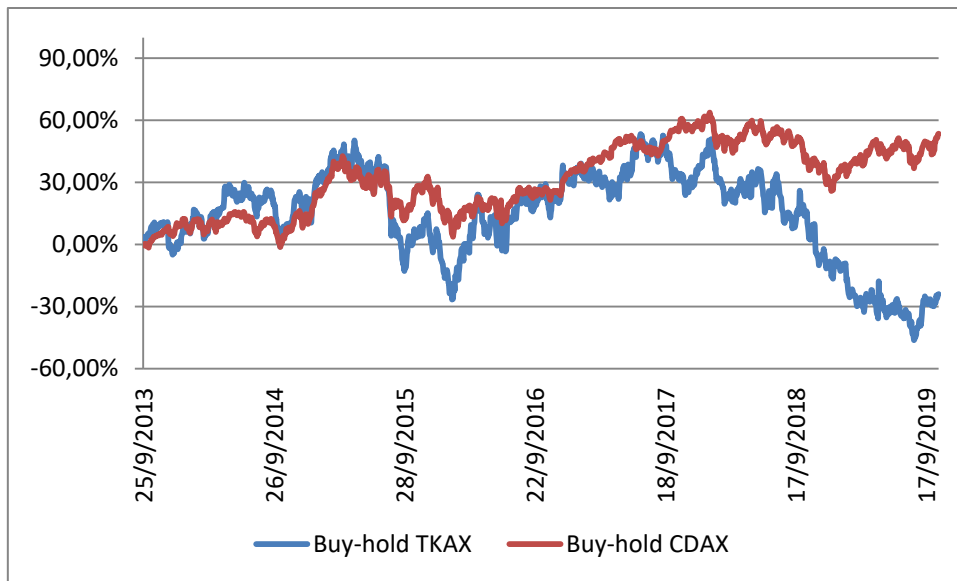
Table 10: Cumulative abnormal returns and its significance tests for different interval periods

Interval	CAR	t-test CAR
(-1;+1)	4,11%	1,4747
(-5; +5)	7,52%	1,4082
(-10; +10)	11,64%	1,5779
(-20; +20)	11,08%	1,0747
(-5; -1)	3,15%	0,8737
(-10; -1)	4,30%	0,8443
(-20; -1)	5,40%	0,7505
(+1; +5)	0,55%	0,1528
(+1; +10)	3,52%	0,6913
(+1; +20)	1,85%	0,2571

ii. *Long-term performance:*

Regarding the long-term impact of the activist, ThyssenKrupp (TKAX) performance was similar to that of the German stock index (CDAX) until early 2018. However, from that date it started to underperform the CDAX, accumulating on today a buy-and-hold abnormal return (BHAR) of -77.39%. The two lines in figure 12 show the performance of the buy-and-hold investment strategy for both TKAX and CDAX, therefore the abnormal return is given by the difference between them. As the figure shows, the two lines have drifted apart in recent years, illustrating the underperformance of ThyssenKrupp. Thus, while one investment in CDAX on September 25, 2013, is worth today +53.5% more, the same investment in TKAX is worth -23.89% less.

Figure 12: Buy-hold of TKAX and CDAX, from announcement date until the present date



d) Evolution of the key financial figures and ratios

ThyssenKrupp's financial figures and ratios since 2012/2013, presented in Table 11, show in some cases objective and clear developments, but in others, they are somehow inconclusive. Besides, data for the year 2018/2019 is not yet published and as such does not appear in the table, and as highlighted by Figure 12, the company's worst performance happened this past year. Having noticed this, we then highlight the main changes that occurred in the company:

- On the left side of the Balance sheet, both Total Assets and Cash decreased but just slightly, with some years in between where they have increased. On the other hand, investments (that comprise property, plant, and equipment, investment property, and investments accounted for using the equity method) fell to almost a half. However, the fall happened mostly in the last year and is explained by some assets that changed to assets held for sale.
- On the right side of the balance sheet, there was an increase in the value of shareholders' equity, but it was mainly due to capital increases that were made. With an inverse performance were the total liabilities, explained in part by the debt reduction (from € 8871m to € 5377m). As a result, the debt-to-equity ratio is now significantly lower than in 2013, meaning that the company is less leveraged.

- Regarding the income statement, net sales of the company grew from 2013 to 2018. However, both EBIT and net income showed less consistent results. That was mostly because of impairment losses on the sales of its operations in Steel Americas that took place in 2012/2013 and 2016/2017. Thus, in these years, the company had losses of - €1576m and - €591, respectively. In the other years, the company has not shown a clear improvement in its results either, which explains why none of the ratios measuring its profitability and efficiency (ROA, ROE and profit margin) are better. The exception is the asset turnover ratio (also a measure of how efficiently the company is using its assets) that improved from 112.7% to 126.2%, between 2013 and 2018. In this case, using net sales instead of net income in the numerator leads to an opposite interpretation.
- Even though the company's results have not improved, their distribution through dividends has increased. However, with the capital increases, the dividend per share remained basically the same.
- Regarding the number of employees, from 2013 to 2018, ThyssenKrupp has increased by more than two thousand units.

Table 11: Main financial figures and ratios of ThyssenKrupp from 2012/2013-2017/2018

	2017/2018	2016/2017	2015/2016	2014/2015	2013/2014	2012/2013
Total Assets (€m)	33 868	35 048	35 072	35 694	36 430	35 297
Investments (€m)	4 839	7 759	9 222	9 270	9 401	8 806
Cash (€m)	3 012	5 298	4 111	4 541	4 045	3 833
Equity (less non-controlling interests) (€m)	3 274	3 404	2 609	3 307	3 199	2 512
Total Liabilities (€m)	30 593	31 643	32 463	32 387	33 231	32 785
Debt (€m)	5 377	7 255	7 611	7 955	7 722	8 871
Net Sales (€m)	42 745	42 971	39 263	42 778	41 212	39 782
EBIT (€m)	1 045	687	1 189	1 050	1 145	-552
Net income (€m)	60	-591	261	268	195	-1 576
Operating cash flow	1 184	610	1 387	1 300	903	786
Dividends (€m)	93	93	85	85	62	-
Number of shares (million units)	622,5	662,5	565,9	565,9	565,9	514,5
EPS (€)	0,01	-1,15	0,52	0,55	0,38	-2,79
Dividend per share (€)	0,11	0,15	0,15	0,15	0,11	-
Share price (€)	21,74	25,08	21,22	15,68	20,78	17,68
Number of staff (units)	159 766	159 424	155 584	156 808	160 315	157 471

Asset turnover	126,2%	122,6%	111,9%	119,8%	113,1%	112,7%
ROA	0,2%	-1,7%	0,7%	0,8%	0,5%	-4,5%
ROE	1,8%	-17,4%	10,0%	8,1%	6,1%	-62,7%
Profit margin	0,1%	-1,4%	0,7%	0,6%	0,5%	-4,0%
P/E	2174,00	-21,81	40,81	28,51	54,68	-6,34
Payout ratio	1100,0%	-13,0%	28,8%	27,3%	28,9%	-
Dividend yield	0,5%	0,6%	0,7%	1,0%	0,5%	-
Debt to equity	164,2%	213,1%	291,7%	240,6%	241,4%	353,1%

Source: Based on ThyssenKrupp annual reports from 2012/2013-2017/2018

In this campaign, similarly to Bilfinger's one, Cevian, through his supervisory board representative, Jens Tischendorf, actively sought to influence the company's strategy. However, in this case, the activist found some resistance from the executive board and other members of the supervisory board, which means that the lack of understanding about the strategy between them can be an excuse for Cevian about why the company was not able yet to improve its performance. In contrast to private equities, this is a risk that hedge fund activists face, i.e., they are committed with less capital and exposed to less loss risk (due to their smaller slice of capital), but they depend on the other shareholders to implement their successfully their strategy or view for the company.

If, on one hand, the company was able to increase net sales and reduce the leverage level, on the other, the results and assets of the company decreased. With the new CEO, Martina Merz, apparently shifting the company towards less business complexity, as advocated by the Swedish activist, it can represent a change in the campaign and company's performance. But for now, despite the significant positive impact at the time of the announcement, the company's long-term performance is below the market index (CDAX).

4.4. Demag Cranes

Regarding the Demag Cranes campaign, it is not possible to analyse it like the three other ones, because Demag Cranes was acquired by another company (Terex), and as a result, there is no longer information available about the company, its activity, its share price and its financial indicators. Therefore, the only possibility is to just make a description of the campaign, based on the available news.

Cevian announced its entry into the capital of Demag Cranes on 21st of May, 2010. The hedge fund acquired about 10% of the capital for € 52 million, becoming the company's largest shareholder. Demag Cranes was the world leader in port crane construction and held a strong position in the industrial crane business. Once more, in the announcement, the hedge fund assured its support with the company's board and said it invested because the stock was undervalued. The news made the action soar 5% to € 24.8 (Handelsblatt, 2010a).

After the news that other foreign companies were interested in buying the company, in October 2010, the share price jumped 30%. Among them were the Finnish Konecranes, and the American Terex. However, Demag's management rejected talks with the competition, saying it had a better chance of going it alone (Murphy, 2010). Also, around this time, Jens Tischendorf was appointed to the supervisory board (Handelsblatt, 2010b).

On 2nd of May 2011, Terex launched a hostile takeover bid of € 884m, corresponding to € 41.75 per share. After the news release, the share price rose 24% to € 45 (Murphy, 2011a). A few days later, Cevian partner, Lars Förberg, said that Terex's offer did not reflect the company's value potential (Handelsblatt, 2011a). However, Terex did not give up and after improving its offer to € 45.5 per share, the executive and supervisory board of Demag Cranes recommended to the shareholders that they accept it (Murphy, 2011b). Thus, on 30th of June 2011, just over a year after its entry, Cevian announced that it sold its 10.07% position (Handelsblatt, 2011b). Since Cevian bought its share below €24 and sold them at €45.5, the hedge fund activist made a return of around 90% with this investment, in a period of just over a year.

5. Results

After individually analysing each of the four campaigns carried out by hedge fund activist Cevian Capital in Germany targeting Munich Re, Bilfinger, ThyssenKrupp, and Demag Cranes, it is now interesting to look at the results as a whole. In this sense, the results can be analysed from two different perspectives: 1) between them, and 2) in comparison to the literature.

Starting with the first perspective, "between them," the four campaigns suggest the existence of two types of strategies used by the activist. A first one has a more "opportunistic" nature, where the activist seeks to take advantage of the circumstance of the company. In this strategy, it fits the campaigns of Munich Re and Demag Cranes. In Munich Re's case, Cevian takes advantage of the company's decision to pursue a €8bn share buyback program, announced in spring 2007 (a few months before the fund's entry) and finishing at the end of 2010 (a few months before its leave). Although the share price went down from 131 to 102, Cevian ended up with a return of 6.7% because of the dividends and shares buybacks. In Demag Cranes' case, the activist takes advantage of the consolidation willingness from the companies of that sector, which created a dispute for the acquisition of Demag Cranes. In this case, the company's share price appreciated by about 90% in just over a year. Both campaigns have in common their relatively short duration and also the absence of a strategy/vision for what the company should change. The second type of strategy has a more active nature, where the hedge fund seeks to influence the company's board to make significant changes in its operations. Bilfinger and ThyssenKrupp campaigns are of this type. In both, the fund targets conglomerates, which in Cevian's view, are not efficient due to the complexity of their business operations. The idea is that with companies focused on fewer business segments, they can be managed more efficiently, improve profit margins and thus increase their value. In Bilfinger's case, the company sold Building, Facility Services, and Real Estate division, making a transition from a construction and industrial services company to an industrial services company only with just two segments: Engineering & Technologies (E&T) and Maintenance, Modifications and Operations (MMO). In ThyssenKrupp's case, the group sold the steel operations in the Americas first and was close to selling the steel operations in Europe too, but it was ultimately blocked by

Brussels. In response, the company decided to spin-off the lift division. Besides, the company also announced a restructuring. The company will be split into two: ThyssenKrupp Industrials, which owns the industrial goods business, and ThyssenKrupp Materials, which owns the steel and navy divisions. The two campaigns do have also in common their long duration, and the resignations of their executive and supervisory boards' chairmen, despite the fund's initial support with the management's strategy. The fund announced its entry into Bilfinger in 2011 and ThyssenKrupp in 2013. In both cases, the fund has not yet exited, so the campaigns are still ongoing. As for the resignations, Bilfinger began with CEO Roland Koch, who was replaced by Herbert Bodner (interim), then by Per H. Utnegaard and finally by Tom Blades. In the supervisory board, chairman Bernhard Walter was also replaced by Eckhard Cordes. Concerning ThyssenKrupp, it first had as CEO, Heinrich Hiesinger, then Guido Kerkhoff, and now Martina Merz. Its supervisory board firstly had Ulrich Lehner as chairman, then Bernhard Pellens (interim), Martina Merz, and finally Siegfried Russwurm. Until now, the second type of strategy has a performance well below the CDAX index. Bilfinger has a BHAR of -160.76%, while ThyssenKrupp has a BHAR of -77.39%. However, the restructuring plans, considered essential by the Swedish activist, are still ongoing, so these negative performances may still reverse in case they start working.

Regarding the second perspective, i.e., comparing the results of the three campaigns (in the case of Demag Cranes it was not possible to study for lack of data) with the literature, they are in some respects similar and others not. Looking first at the market reaction to the entry of the hedge fund activist, the three campaigns reveal a cumulative abnormal return of + 10.8% (Munich Re), + 3.87% (Bilfinger), and 11.08% (ThyssenKrupp) in the (-20; + 20) interval around the announcement day, while the studies by Brav et al. (2008) and Mietzner and Schweizer (2014) who also use a 41-day interval show results of 7% and 6.24%, respectively. If we consider the average of the three campaigns, they do not differ much of the ones found in the literature. However, in contrast to Brav et al. (2008), there are not any signs of "wolf packs" or "tipping." In the three campaigns, the main effect on the abnormal returns happens after the announcement rather than the days preceding it, showed by Brav et al. (2008). In the study of the long-term impact, the literature is not consensual and the results of the three

campaigns are not either. While Munich Re has a BHAR of + 22.74%, the other two have a BHAR of -160.76% (Bilfinger) and -77.39% (ThyssenKrupp).

Looking now at what has changed in the companies with the entry of the activist, there are in the literature mainly four major changes identified: improved operating performance, increased leverage, increased payout, and decreased cash. For operational performance improvement, using ROA as a measure, none of the three campaigns has improved. In the case of ThyssenKrupp, the ROA of 2018 (0.18%) is higher than that of 2013 (-4.46%), but it is lower than the ROA of 2014, 2015, and 2016. The other two campaigns have a clear downward trend. Therefore, there is (until now) no correspondence with the literature. Regarding leverage, the results in the three campaigns are mixed. In two of the campaigns (Munich Re and Bilfinger), it increased, which is visible by the higher debt/equity ratio, but in the other campaign (ThyssenKrupp), it decreased as the result of more equity and less debt. In the last two, pay-out and cash, no conclusions are possible either. The cash grows in Munich Re and of ThyssenKrupp (except last year) campaigns, but it drops in the Bilfinger one. The pay-out ratio increases in the Munich Re campaign, but in the other two, due to negative or very low EPS, their interpretation is very weak. In other words, the cash results match with the literature in ThyssenKrupp and Bilfinger's case, but not in Munich Re. And the pay-out results match in Munich Re's case, but not in the other two.

6. Conclusion

This dissertation studied the campaigns of the largest European hedge fund activist, Cevian Capital, in Germany (Munich Re, Bilfinger, ThyssenKrupp, and Demag Cranes), to see if they had a positive effect on these companies. To this end, an event study was first carried out to infer whether or not the activist's entry into the companies was positive. A second step was to analyse the evolution of the main financial indicators and ratios of those companies to understand what were the main changes that occurred on them.

The main conclusions are that Cevian had relatively positive results in the two shorter campaigns and where there were no major changes in the company's orientation (Munich Re and Demag Cranes). In the remaining two (Bilfinger and ThyssenKrupp), despite several changes that the companies faced, such as the resignation of CEO or the sale of a portion of the company's business, the performance was relatively poor compared to the market. However, none of the studied campaigns showed a significant positive evolution of their main financial indicators and ratios.

The main limitations of this study concern two points. One is the fact that for the Demag Cranes campaign there was no data available, which did not allow us to conduct the event study or analyse the evolution of the company's financial indicators and ratios. The second is that the Bilfinger and ThyssenKrupp campaigns have not yet come to an end, i.e., in both Cevian is still a shareholder. As a result, the conclusions regarding these two campaigns may be different after their exit.

In terms of suggestions for future investigations, it would be interesting to study and compare the impact of activist investors who are more aggressive in their campaigns such as Paul Singer's Elliott Management.

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