

The added value of activist directors with hedge fund activism in the long term. Evidence from hybrid boards in target firms.

Master Thesis

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Abstract

This paper examines the effects of hedge fund activism with board representation in the long term. The observed period 2000-2012 contains 1,569 observations of hedge fund activism. In 367 of the cases board representation is obtained. This study observes the period prior to the event to three years after the publication of a 13D file. Despite the lack of significant evidence for a direct relation between board representation and increased firm performance this paper contributes to the ongoing debate of activist directors. Besides that, the data indicates that the sample of firms targeted by activist directors with board representation shows a stronger increase on return on assets in the three years after the interventions.

Table of Contents

1. Introduction	4
2. Related literature	6
2.1 Activism	6
2.2 Hedge Funds	9
2.3 Boards	10
2.4 Hypothesis Development	12
3. Methodology	15
3.1 Conceptual Model	15
3.2 Data Collection	16
3.3 Variable Definitions	19
3.4 Descriptive Statistics	19
3.5 Regression Models	20
4. Results	20
4.1 Performance development target firms	20
4.2 Regression analysis performance development	23
5. Conclusion and Discussion	27
6. References	30
7. Appendices	32

1. Introduction

Hedge funds activism was growing rapidly from 2004 until 2007. After the burst of the credit bubble in 2008, where the tendency was surviving and companies and investors shifted into liquidity, the outflow of hedge funds equaled the inflow of previous years. The assets under management declined from \$54.8 bn. by more than 40% from 2008. Without mergers and acquisitions markets and the support of the capital markets, shareholder activism was less attractive during 2008 and 2009 and the number of activist events more than halved during 2009 (Zenner, 2010). From the period 2009 until 2012 the conditions re-changed and shareholder activism was ready for revival. With approachable capital markets and a sharp decline in growth opportunities activists are seeking for targets again. The resurgence of activism raises the question whether there is added value of activism of hedge funds in the long run. The question here is: Do hedge funds add value in the long term with activism by taking place in companies' boards?

Where passive investors see an opportunity in the market and take a stake in a company and wait until the opportunity arises, activists use another approach. They spot an opportunity in the market and take a stake in a company where this opportunity is possible. Activists do not wait until the opportunity arises but exercise this opportunity by actively influencing the decision making of the target firm. Activists use different techniques to have the ability to influence decisions. A special approach is to obtain board representation at the target firm. The results show no statistical significant relation between board representation and firm performance. But on average, a higher increase in ROA from the year of the activist intervention is visible when board representation is obtained. This kind of activism is a less usual approach and there is indistinctness about the precise effect of this type of activism. One reason why board representation may be less common are the costs that are associated with activism where board representation is obtained. Another reason could be the public criticism that is addressed to hedge fund activist directors. They would encourage companies to reduce cash positions and be more short term focused by lowering long term investments like R&D.

Activist directors have evaluated over time and their characteristics differ from other directors on the board. To study the effects of activist directors on firm performance it is relevant to know why an activism approach is used and how it developed over time. Furthermore, it is important to observe how hedge funds operate and what effect boards have on firm performance. Activists spot opportunities in the market and do not wait until these opportunities may happen, but force a target firm to take decisions that change the firms path in a certain direction. To influence the decisions making process they use different methods to reach their goals. The 'tools' they use to achieve their goals differ and in which manner they use their 'tools' developed over time. The role of the board of directors is extensively discussed in the literature. Also there has been written about the role of outside directors in boards. How boards affect firm performance is depending on the size of the board, the type of directors and the type of company. Return on assets and Tobin's Q are used to measure firm performance. The effect of hedge fund activism with board representation is compared with other activism events. Hereby this study can focus especially on the effect of board representation and diminish the effect of general activism to a minimum. Furthermore, this study controls for short-term effects of activist directors accomplished by analyzing long-term effects. The median holding period of activists is about 3 years when board seats are obtained, according to Gow et al. (2015). Therefore the observed period of ROA and Q are to 3 years after the year of the activist intervention.

The sample of this research includes 1,569 activist events. Companies targeted in the United States between 2000 and 2012 with the release of a 13D filing are taken in to account. In 23.39% of the cases were board seats obtained. This resulted in a sub sample of 367 events with board representation. The operating performance, return on assets, is higher, in the year prior to the event, at firms which were targeted by activists who obtained board seats. The observed sample where activist directors were appointed is compared with activist events without board representation. This indicates the outperformance (added value) of activist directors in boards of target companies.

The importance is to provide an answer by examining the relevance and potential added value of hybrid boards. It is difficult to measure where the added values from hedge funds is created. Is it just stock picking and thereby a kind of arbitrage or is it more? By

conducting research to the effect of hybrid boards as a measure of activism it becomes clearer what the added value of hedge funds is. The outcome of this research provides an insight where the upside potential for hedge funds comes from. Furthermore, this is probably useful for companies who (do not) want to get targeted by these funds. Companies who do not want to be targeted can integrate this process into their own businesses. If this research shows that hybrid boards are effective as management, then this could provide new possibilities for the structure of current boards where rotations of board members occur less.

2. Related literature

In this section the related literature will be discussed. Firstly, the prior literature of activism is discussed. Thereafter, the most relevant literature will be described to provide an insight in how hedge funds operate and what the relevance and contribution of boards in companies is.

2.1 Activism

Activism is a relatively recent phenomenon and likely an indirect result of the enormous growth in institutional ownership (Chattopadhyaya, 2011). Hedge fund activists are a new breed of shareholder activists that are equipped with more suitable financial incentives and organizational structures for pursuing activism agendas than earlier generations of institutional activists (Brav, Jiang, & Kim, 2010). This leads to the question if activism contributes to the added value of hedge funds.

Activism has evaluated over the last decades and there are different definitions. Shareholder activism is viewed as representing a continuum of responses to corporate performance. At one extreme, individuals simply buying and selling shares could be considered 'active' shareholders. By virtue of their initial purchase and subsequent change in ownership, they are actively participating and expressing their opinions of the corporation's performance. At the other extreme, the market for corporate control also reflects 'active' shareholders (Gillan, 1998).

Klein et al. (2009) discuss the differences between different entrepreneurial shareholder activists. They experienced other behaviour at hedge funds in comparison with private equity funds, venture capital funds and asset management firms. Hedge funds targets experience higher abnormal returns around the 13D filing and a lower abnormal return (in comparison with the other activists) during the subsequent year. In general hedge funds target more profitable and financially healthy firms. Hedge funds also have higher levels of cash on hand than other activists. Where the other activists most frequently change operating strategy, hedge funds change the financial structure more by cutting the CEO's salary, initiate dividends, increase their long term debt and address the free cash flow problem by demanding the target firm to buy back its own shares. Other differences between the two types of activists are in the changes in R&D and capital expenditures. Where hedge funds slightly increase these budgets there is a reduction in these costs at the other activists investors.

This phenomenon of increasing debt and decreasing assets is identified as 'investment-limiting' by Bebchuck et al. (2015). They argue that there is no good theory that presumes that activist-initiated reductions in investments are value reducing in the long term. In their study they even find higher coefficients for each year dummy at the five subsequent years after the event year for ROA and Q.

This suggests that the added value created by hedge funds is more in the field of financial engineering. They pursue an optimal use and allocation of the assets and resources of the target company. This also means that superfluous assets or resources are divested or distributed to the shareholders. In general this means that hedge fund activists manage the assets and resources of their target companies more pro-actively.

An activist approach is first observed in the 1980s where large activists hold blocks. Bethel, Liebeskind, & Opler (1998) classify these block holders like pension funds, banks and insurance companies as activists. More recently, activists target underperforming companies and increased their performance by divestitures and share repurchases (Brav A. , Jiang, Partnoy, & Thomas, 2008). This creates shareholder value and improves profitability.

However, hedge funds have some unique characteristics that distinguish them from the investors described above. Partnoy & Thomas (2006) describe four characteristics: they are pooled, they are privately organized investment vehicles, they are administered by professional investment managers with performance-based compensation and a significant investment in the funds, and the last is that they operate outside of securities regulation and registration requirements. Brav et al. (2010) pointed out that hedge funds have stronger incentives to produce higher returns, fewer conflicts of interest and more flexibility to intervene in target companies. These characteristics make hedge funds less dependent and more flexible through less conflict of interest (Brav, Jiang & Kim, 2010).

The performance-based compensations are comparable with private equity firms, but the difference is that they only target private firms or target firms to turn them private. This is because their large part of ownership makes it easier and more accessible to practice activism. Therefore, in this research the use of data is limited to hedge fund activism. The interest in the target for this research is set equal to SEC rule 13D. The interest requirement of 5% is qualified as “beneficial ownership”. Furthermore, activists are often viewed as investors who, dissatisfied with some aspects of a company’s management or operations, try to bring about change within the company without a change in control. However, one can also think of shareholder activism more broadly as encompassing a continuum of possible responses to corporate performance and activities (Gillan & Starks, 2007).

Greenwood et al. (2009) show that activist investors from the perspective of value creation are most successful at creating value when they are able to effect a change in control. Furthermore they show an increase in the likelihood that an undervalued company is ultimately taken over. According to them, hedge fund activists target small undervalued companies with the ultimate goal to seeing these targets bought out. The question if the value is created by identifying undervalued assets or that the acquisitions were overpaid, remains unclear.

Little is known about the costs associated with board representation. Gantchev and Taylor (2013) conducted a model which estimates the costs of the different stages to

obtain board representation. The most expensive stage is a proxy fight, followed by demand negotiations. A campaign ending in a proxy fight has average costs of over ten million dollar. Evidence is provided that complements Gantchev (2013) on the kinds of actions facilitated by escalation of activism to the level of obtaining board representation (Gow, Shin, & Srinivasan, 2015). The different stages of activism are activist demands, demand for board seats, then threatened, and then actual proxy contests, according to Gantchev (2013). This results in a reduction of net return over two-thirds of the costs. Nevertheless, more research about the costs of activism and board representation could give better insight into how hedge funds consider whether they pursue board representation or not. Unfortunately this is private information of hedge funds and it is difficult to get detailed about the cost structure of activist campaigns.

2.2 Hedge Funds

Hedge funds are mostly unregulated. These funds can only issue securities privately. Their investors have to be individuals or institutions who meet requirements set out by the Securities and Exchange Commission, ensuring that the investors are knowledgeable and can bear a significant loss (Stulz, 2007).

Previous researchers conducted research to hedge funds to define them as asset class with different investment styles. Brown and Goetzmann (2001) classified investment funds with GSC (generalized style classification), where they distinguish between funds that focused for example on pure emerging markets, US equity hedge or event driven. These principal focuses combined create five different GSC's (Brown & Goetzmann, 2001).

Besides categorizing hedge funds by their focus on different classification of investment categories, they can also be selected by the type of participation. About the different approaches of hedge funds, most questions are still unanswered. There is little research about the choices hedge funds make to target certain firms. Even less research is about the response of the targets. Shareholders on average react positively on activism with return of approximately 7% (Brav, Jiang, Partnoy & Thomas, 2008), but the reaction of the target is not easy to measure. Other questions are if fund activists succeed in the

implementation of their objectives and what the contribution of these objectives is in the firms' performance. Another theory is that the performance of hedge funds partly is assigned to their anonymity.

A more popular approach over the last decade is activism where the target is actively managed by a hedge fund. One of these control methods is a hedge fund taking a seat on the board of the target. This raises the question what the aim of the hedge fund is and what the objective is they want to achieve with activism. What are the effects of activism? To examine the effect of activism by taking place in the companies' boards, this paper observes targeted firms where board positions changed.

To observe the effect of the placement of a director (and not the announcement itself), where the added value is not created by short term actions, but the input of activism itself, the transactions with long term interests will be observed. To determine "long term" in this study we use the median holding period of hedge fund activists where board representation is obtained. Gow et al. (2015) describe: we find that activists hold stock in a target firm for a median of about 2.4 years when their demands do not include board representation, and that this increases to 3 years in cases where the activists obtain board representation. A three-year holding period implies that these activists are considered as "long-term" investors (Gow, Shin, & Srinivasan, 2015). By observing only the long-term interests, the short-term effects which occur with an announcement have less influence. Another advantage with long-term interests is the probability that hedge funds are only picking stocks becomes less likely. This is substantiated by Brav et al. (2008) where they present several tests that approve that the market response to activist hedge funds' targeting goes beyond the information effect of stock picking.

A known opponent of the approach of hedge fund activists' is Martin Lipton. In his article *Shareholder Activism and the "Eclipse of the Public Corporation"* he claimed that hedge fund activists are destroying the role, focus, and collegiality of the board (Lipton, 2008). No quantitative substantiation in the paper of Lipton or other papers prove this relation. Therefore, in this study we assume that hedge fund activists do not have a negative effect on target companies in general.

2.3 Boards

It is important to discuss the relevance of the influence of companies' boards before testing the hypothesis. Several studies discuss the influence of boards and directors on firm performance. Lawrence et al. (2004) test the relation between corporate governance and firm performance. They find a significant positive relation between return on equity and among other things: at least one member of the board has participated in an ISS-accredited director education program, there is a mandatory retirement age for directors, performance of the board is reviewed regularly, a board-approved CEO succession plan is in place, outside directors meet without the CEO and disclose the number of times they met and director term limits exist. These factors can be linked to the characteristics of activist directors. Based on their Gov-Score they prove a positive relationship between the board of directors and firm performance.

Vafeas (1999) describes the relation between board meeting frequency and firm performance. He shows an inverse relation between the annual number of board meetings and firm value. Furthermore, they find improving operating performance in the following years of abnormal board activity. This increase is pronounced most to firms with prior poor performance. This suggests that companies with weaker performance, where activist directors obtain board seats, could have a positive influence when this results in (abnormal) increased board activity. The study of Brick et al. (2010) finds a positive impact from board activity on firm value. Their results also indicate that external pressure has had a salutary effect to some increase on firm value. This contributes to the hypothesis that outside activist directors have a positive influence. Also Rosenstein et al. (1990) find positive reactions on outside directors. Share price reactions are significantly better on the appointments of outside directors than inside directors. The external pressure of outside directors is also proved in the study of Weisbach (1988). He proves a positive effect of outsider-dominated boards on CEO turnover. This contributes to the view that outside directors increase firm value by removing bad management. Gow et al. (2015) clearly demonstrate the difference in firm performance between activists where they obtain board representation or not. They describe several indicators which contribute to better firm performance and declare that these effects are larger when board representation is obtained.

To test if activist directors contribute to significant better performance, it is interesting to test whether the firm performance of companies where activists campaigns have occurred. Subsequently it can be tested if there is a significant difference on firm performance between campaigns where board representation was obtained and where not. This can provide a more in depth view of the contribution of activist directors. The study of Fried et al. (1998) about strategy and the board of directors in venture capital-backed firms discuss the influence of venture capitalists as director in target firms. They describe that an activist can be classified as a strategic role like a sounding board, business consultant and financier. Furthermore, they declare that venture capitalists' representation on the board is positively related to board involvement with firm strategy. The definitions of venture capitalists and hedge funds are different, but the manner that hedge fund activists operate is comparable with how venture capitalists operate.

2.4 Hypothesis Development

In this section, the hypothesis is derived from the literature described. Based on the predictive validity framework, this hypothesis will be used to test the underlying relations.

Despite of previous research, many questions remain unanswered about shareholder activism of hedge funds and the added value of directors of hedge funds in companies' boards. In the research of this paper, the US market will be studied. However, in the study of Becht et al. (2010) they examine the performance of hedge fund activism in 23 countries (including the US). The notable differences across countries explain the variation in outcomes of the engagements. This explains the differences in the performance of activism (Becht, Franks, Mayer, & Rossi, 2010). They prove that activist engagements with outcomes result in positive and significant abnormal returns. Another study of Brav et al. (2010) conducted a more in-depth research about the effect on hedge fund activism on productivity, asset allocation and labour outcomes. They show an increase in productivity of plants in target firms and divestiture of the worst performing plants. Furthermore, they prove an improvement of labour productivity, stagnant wages and less working hours for employees. This results in an increase of return on assets.

In the study of Bebchuck et al. (2015) it is proven that the claim that interventions by activist hedge funds have an adverse effect on the long-term interests of companies and their shareholders is not substantiated. The focus of this study is to refute the claim of “myopic-activists”. They find opposite results that hedge fund activism effects are followed by long-term improvements in performance. They even find evidence that after the exit of an activist there are no abnormal negative returns from a potential pump-and-dump pattern in their data. Clifford (2008) examined the differences in performance (ROA) between passivists (13G) and activists (13D). He documented that the returns for hedge funds’ active blocks are larger than their passive blocks. Gow et al. (2015) find evidence of increased divestiture, decreased acquisition activity, higher probability of being acquired, lower cash balances, higher payout, greater leverage, higher CEO turnover, lower CEO compensation, and reduced investment. With the exception of the probability of being acquired, these estimated effects are generally greater when activists obtain board representation, consistent with board representation being an important mechanism for bringing about the kinds of changes that activists often demand. Despite the lack of evidence, they suggest that gaining board positions is an important mechanism that allows hedge fund activists to have an impact in ways that line up with the demands that they make of companies (Gow, Shin, & Srinivasan, 2015).

The contribution of activism can be associated with the specific expertise of outside directors. Specialist outside directors can complement a board by the contribution of specific missing knowledge or expertise in a certain field. For example, Defond et al. (2005) prove a positive stock price reaction on the appointment of an outside director with expertise on accounting in the audit committee. This suggests an addition of requisite expertise which was missing under the incumbent directors. Huang et al. (2014) examine how former investment bankers in the board have an effect on acquisition behavior. They find a higher probability of making acquisitions, higher announcement returns, paying lower takeover premiums and advisory fees, and exhibit superior long-run performance. Also Güner et al. (2008) analyze how directors with financial expertise affect corporate decisions. They find significant influence, but not always in the interest of shareholders. The representation of commercial bankers on the board results in increasing external fundig and decreasing investment-cash flow

sensitivity. But only firms with good credit but poor investment opportunities experienced increased financing flows. When investment bankers joined the board this is accompanied by larger bond issues but worse acquisitions. Shareholders may not benefit from the increased financial expertise if conflicting interests are ignored. Also activist directors can be valuable for a board when they complete the board with a specific expertise which was not present by the other board members. Hedge funds have the aim to create value in the target firm and therefore is it likely that the activist directors who join the board increase the expertise of the board. This can be industry specific expertise but also financial expertise to increase the firm's performance.

The difference in director characteristics is how they join the board of the firm. Unlike most appointments of directors, activist directors are not invited to join the board. Because not in all cases the activist shareholder arranged an agreement to join the board, the other way to gain boardseats is to initiate a proxy fight. Because these proxy fights do not always result in board representation, activist directors do not always obtain board representation. Currently there are no other studies which specifically test the relation between added value of hedge funds and the presence of activist directors in the target firm. This leads to the following hypothesis:

H1: Hedge funds add value by taking place in companies' boards.

Gow et al. (2015) show the contribution of activist directors in the board on firm performance. But it is more difficult to determine the effect of an activist director in a company board. In the study of Brav et al. (2008) the distinction is made in seven types of activism. In almost 50% of the cases the hedge fund communicates with the board/management with the goal to create shareholder value (Brav A. , Jiang, Partnoy, & Thomas, 2008). If this tactic does not have an effect, hedge funds use a more direct approach to gain more control in the target firm. To gain more influence they pursue board representation and in some cases use a more aggressive tactic (public criticism, suing the target company or a takeover bid). With board representation the activist participates directly in the boards decision making process and has a voting right in the board room. This is an important mechanism for bringing about the kinds of changes that activists often demand (Gow, Shin, & Srinivasan, 2015).

Described above is the alternative hypothesis. The null hypothesis assumes that there is no difference, effect or influence. In this research, this hypothesis is tested. In the methodology the framework, type of research and the criteria are described.

3. Methodology

In this section, the research design is described. Thereafter the data selection of the data and the criteria are mentioned. After the variable definitions, the descriptive statistics and regression models, which are used in this research, will be explained. These show the methodologies that are used to provide an answer on the hypothesis.

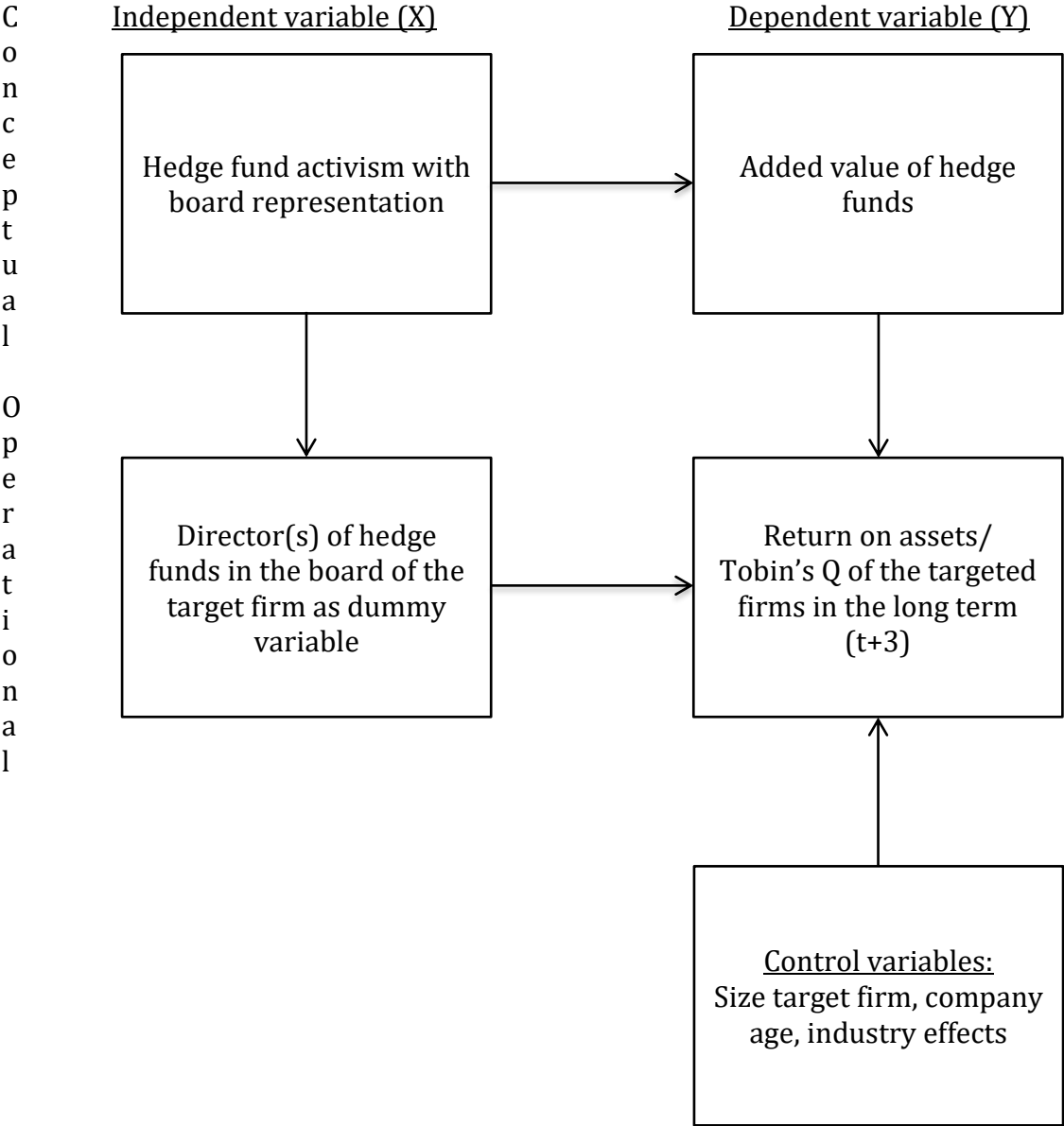
3.1 Conceptual Model

The predictive validity framework is presented in figure 1. This framework shows the conceptual design of this research and how this is translated in an operational research. The dependent variable in the conceptual part is the added value of hedge funds. To measure the added value, the ROA and Q of the target firm at the hedge funds' interest period will be used. The independent variable in the conceptual design is hedge fund activism with board representation. There is still discussion where the value of hedge funds is added, investing in undervalued companies or activism to improve companies' performance? To minimize the first factor of the investment (only focus on activism) the period of observation is to three years after the activism event (Brav, Jiang, Partnoy, & Thomas, 2008). Therefore, the operational dependent variable is the return on assets and Tobin's Q of the targeted firms in the long term.

The independent variable is the condition of a director of hedge funds to enter the board of the target firm at the announcement of hedge fund participation or in the same year as the announcement. A director in the board of the target firm is a special variable to use as indicator of shareholder activism. This because most of the activist campaigns do not result in board representation. The characteristic of board participation as a variable of shareholder activism is the operational influence of the investor instead of only voting rights or incentives to influence the firms' decisions.

The control variables ‘size target firm’, ‘company age’ and ‘industry effects’ should be included to check the validity of the outcomes. These control variables are also used by Bebchuck et al. (2013) and Gow et al. (2015). The size of the target firm could for example have an influence on the requirements of the skills of a director of a hedge fund. As explained earlier the investment period can also influence the outcomes. Possible innovations in the strategy of hedge funds could change the type of activism.

Figure1: Predictive validity framework



3.2 Data Collection

To collect data of hedge fund activists' engagements there is no database to track such events. The identification of activism events is conducted by searching for 13D filings at the SEC. Since the Securities Exchange act of 1934 it is mandatory to publish a 13D file within ten days after a person or entity acquired a beneficial ownership of 5% in a company. If the person or identity has no intention to seek control to influence changes in the target firm, then this ownership may subsequently be entitled as passivism and it is required to publish a 13G file.

In order to have sufficient observations to test the research question the observed period will be 2000-2012. Activism after 2012 cannot be used in this research. The post activism period must be at least three years, because of the median holding period of 3 years for activists who obtain board representation in target firms. The observed target companies are based in the US. Becht et al. (2010) conducted an international study in the period 2000-2010 with a sample of 1,740 observations. From this 1,740 observations, 64.7% was observed in the US. Therefore, the US market will be used in this research. This is the most mature hedgefund market worldwide. The use of observations of different countries in the sample makes it complicated, because of different regulations legislation.

The sample of this research contains 1,569 observations of 13D filings in the period 2000-2012. In 367 events of hedge fund activism board representation was obtained in the year of the activism event. From 141 target firms no data was available within 3 years of the activism event, therefore 226 observations remain. From the 1,202 events where no board representation was obtained, 553 target firms were unobservable within 3 years after the activism event and therefore 649 observations remain.

Table 1: Hedge funds activists events per year

Year	Frequency	percentage of total
2000	33	2.10%
2001	43	2.74%
2002	44	2.80%
2003	56	3.57%
2004	55	3.51%
2005	136	8.67%
2006	211	13.45%
2007	260	16.57%
2008	211	13.45%
2009	89	5.67%
2010	139	8.86%
2011	145	9.24%
2012	147	9.37%
	1,569	100.00%

In table 1, the distribution of hedge fund activist events over the period of the sample is shown. The financial crisis started in 2008 and is clearly visible in the data. In several articles it is argued that due to the financial crisis the holding period and size of investment of hedge funds in target firms changed, as mentioned by Ben-David et al. (2010, 2012) and Brunnermeier et al. (2009). This could influence the results of this research. The control group will be activism events in the same period where hedge funds did not obtain board seats, to mitigate this effect in the data. Other potential economic fluctuations, like industry- or company specific shocks, in this period will be mitigated as well.

Table 2: Rate of percentage obtained board seats per year

Year	Board seats		No board seats		Total
2000	9	27.27%	24	72.73%	33
2001	10	23.26%	33	76.74%	43
2002	6	13.64%	38	86.36%	44
2003	10	17.86%	46	82.14%	56
2004	4	7.27%	51	92.73%	55
2005	29	21.32%	107	78.68%	136
2006	49	23.22%	162	76.78%	211
2007	52	20.00%	208	80.00%	260
2008	57	27.01%	154	72.99%	211
2009	20	22.47%	69	77.53%	89
2010	39	28.06%	100	71.94%	139
2011	38	26.21%	107	73.79%	145
2012	44	29.93%	103	70.07%	147
	23.39%	22.12%	76.61%	77.88%	

In table 2 the distribution of hedge fund activists' events per year is shown. In the total data sample in 23.39% of the cases board representation was obtained. Besides in 2004 in every year the rate of board representation is moving around the average of the total sample. The weighted average of board representation is 22.12%. For the abnormality in the distribution of the board representation in 2004 there is no direct explanation.

3.3 Variable Definitions

Different variables are used in the regressions for this research. The return on assets (ROA) is calculated with the net income divided by the total assets of the firm. To calculate Tobin's Q ratio (Q) the total market value of the firm is divided by the total asset value of the firm. The $\ln(\text{Size})$ of a firm is determined to take the natural log of the total assets of the firm. The $\ln(\text{Age})$ is the natural log of the age of the firm. The age of the firm is determined by taking the year of the activism event minus the year of IPO of the firm.

3.4 Descriptive Statistics

Table 3 shows the company age, company size, EBITDA and market value of the data sample at the event year. The differences in the data between the sample with board representation and without board representation are shown. The target firms where board representation is obtained have a little higher age, have a smaller size, have a lower EBITDA and a lower market value. The table below shows a high standard deviation and relative small difference between the medians between activism with and without board representation at size, EBITDA and market value. This implies the presence of some large target firms in the data sample 'no board seats' compared to the total data sample. The median size is even higher at companies with board representation. The most remarkable is the difference between the median EBITDA level. This is substantially lower at target firms with board representation. This implies that the companies with lower EBITDA levels have a higher likelihood to get targeted by activists who obtain board representation.

Table 3: Key variables at t event year

Board seats	Age	Size	EBITDA	Market value
Mean	26,21	1.820,35	142,33	1.300,23
Standard deviation	13,39	4.339,09	355,56	3.181,56
Median	23,00	344,81	13,30	208,39
No board seats	Age	Size	EBITDA	Market value
Mean	25,40	2.834,93	344,50	2.681,02
Standard deviation	14,35	12.635,97	2.024,43	14.911,68
Median	21,00	343,53	20,93	241,40

3.5 Regression Models

This research aims to test the effect of hedge fund activism on firm performance at different time periods after the event. Therefore, the return on assets and Tobin's Q will be tested at the year of activism and the three years thereafter with ROA t0, t1, t2, t3 and Q t0, t1, t2, t3. To control for firm size and firm age, the natural log of companies age and the natural log of the company size were added. To test the added value of board representation a dummy variable will be used. Furthermore, dummy variables were added for every two digit NAICS code and for every starting year of the activism (2000-2012). To check the robustness of the data the outcomes are checked with ROA t-1, t0 and Q t-1, t0 as control variables. These control variables test if the results change if controlled for ROA and Q in the year before the event and the year of the event. To normalize the outliers in the data we winsorized all continuous variables at the 1st and 99th percentile.

4. Results

4.1 Performance development target firms

Table 4 and 5 report the statistics of ROA and Q from one year before (t-1) activism to three years after (t3) the year of the activism event. The number of observations is declining from t-1. This can be attributed to the fact that more target companies went private and financial data is no longer published. Another reason for disappearances in Compustat are mergers and acquisitions. For ROA an increasing median is observable from the event year to t3, with and without board representation. This substantiates the hypothesis because the development of ROA without board representation is flat and

even slightly decreases. ROA increases from t event year every year with the highest ROA at t3. Remarkable is the slight decrease of the mean ROA when there is no board representation. The median of ROA shows a sharp decline from t-1 to the event year.

Table 4: ROA over time

Board seats	t-1	t event year	t1	t2	t3
Mean	0.016	0.038	0.048	0.053	0.055
Standard deviation	0.083	0.081	0.079	0.086	0.084
Median	0.435	0.207	0.221	0.266	0.240
Observations	335	276	240	208	194
No board seats	t-1	t event year	t1	t2	t3
Mean	0.044	0.042	0.036	0.035	0.041
Standard deviation	0.096	0.069	0.085	0.086	0.087
Median	0.360	0.207	0.461	0.383	0.425
Observations	1,027	855	714	638	572

For Q the mean is increasing from the event year to t3. However, from t-1 to the event year is the mean of Q declining. The median of Q shows a decline from t-1 to the event year. Obviously the increase of the median is stronger when there is no board representation.

Table 5: Q over time

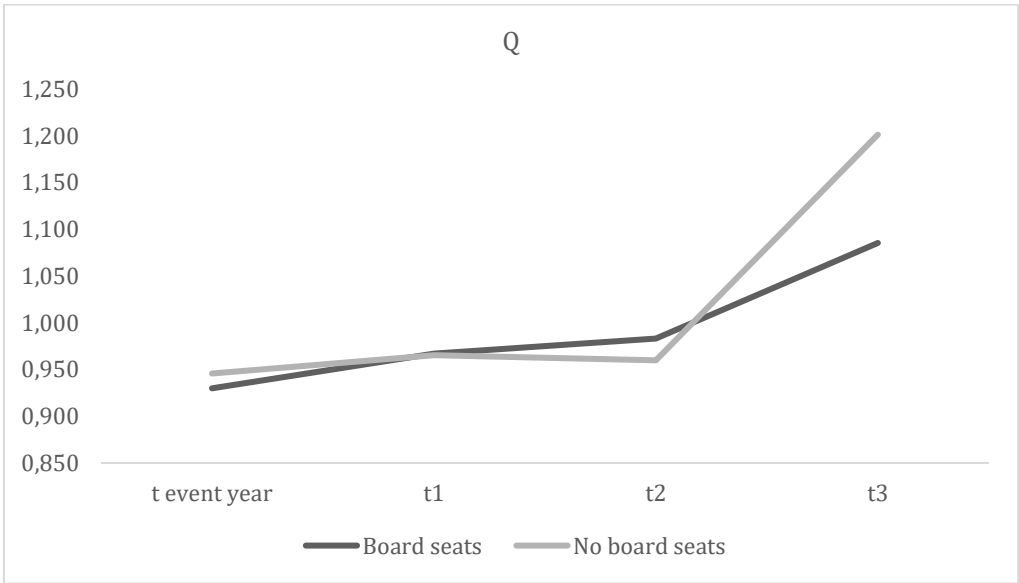
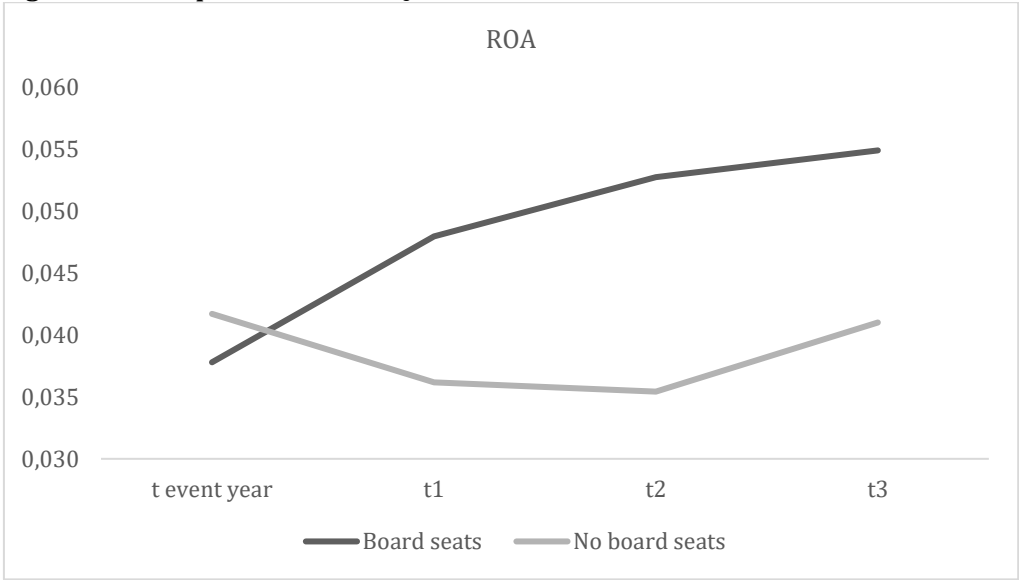
Board seats	t-1	t event year	t1	t2	t3
Mean	1.109	0.930	0.967	0.983	1.085
Standard deviation	0.823	0.727	0.683	0.688	0.706
Median	1.275	0.882	1.152	1.014	1.184
Observations	352	316	266	235	214
No board seats	t-1	t event year	t1	t2	t3
Mean	1.042	0.946	0.965	0.960	1.201
Standard deviation	0.721	0.671	0.676	0.701	0.727
Median	1.398	1.168	1.431	1.049	2.855
Observations	1,115	992	827	739	657

Remarkable is that the median of ROA and Q is higher at t-1 in comparison with the four subsequent years. There is no direct explanation, but over 10% of the companies is not

observable at the event year compared with t-1. There could be a relation between the type of companies that are delisted and their performance.

Figure 2 displays the development of ROA and Q from the event year. The ROA shows a sharper increase when board seats are obtained. This suggests a stronger positive effect of activism when activists have board representation. However, the graph of Q shows the opposite, Q increases weaker when board seats are obtained. This can be explained by a higher market value or higher divestiture of assets when there is no board representation.

Figure2: Development ROA and Q over time



4.2 Regression analysis performance development

The results are measured at four different moments, at the year of the activism event and the three years thereafter. The dependent variables are ROA and Tobin's Q. Table 6 shows the outcomes of the eight regressions. The *, ** or *** indicate a 10%, 5% or 1% significance level. The tables show the coefficient and the (t-statistic) value of the board representation. Only at ROA t3 a 5% significant effect is measured. This negative coefficient relates to a negative effect of board representation on the ROA after three years of the activism event. The ln(Size) is a standard control and 1% significant at all regressions. The other control variable ln(Age) is not significant overall. Only at Q t2 there is some (10%) significance. The lack of significance on ROA and Q can be partly explained by the relatively little influence from directors on ROA and Q. The level of ROA and Q are subject to various factors. For example, macro-economic and industry- and company specific factors. It is tried to minimize these effects and isolate the effect of board representation from the other factors. Furthermore, the performance of the company depends on many company specific influences. Nevertheless, ROA and Q are the indicators that could give the best observable relation between hedge fund activism with board representation and firm performance.

The R-squared of the regressions of table 6 is between the 9% and 20%. This also substantiated the relatively low explanatory value of the influence from hedge fund activism on firm performance. The sample contains 1,569 observations. After adjustments, a sample remains between 764 and 1,308 observations that are used in the regressions. The R-squared and number of observations decline overtime because of the delisting of targeted companies and thereby the increasing absence of the published information. The Year FE and NAICS2 FE include the use of dummy variables for year and industry effects.

Table 6: Regressions development ROA and Q over time

	ROA t=0	ROA t=1	ROA t=2	ROA t=3	Q t=0	Q t=1	Q t=2	Q t=3
Board Representation	-0.010704 (-0.81882)	0.043598 (-1.470355)	-0.038771 (-1.433725)	-0.066643** (-2.140479)	-0.065524 (-1.002517)	-0.028653 (-0.323158)	0.015172 (-0.217442)	0.156608 (-0.814119)
ln(Size)	0.038213*** (-11.13092)	0.041139*** (-5.304569)	0.03568*** (-5.154561)	0.037639*** (-4.77359)	-0.121301*** (-6.876809)	-0.119205*** (-5.05879)	-0.080329*** (-4.386702)	-0.195837*** (-0.043103)
ln(Age)	0.009941 (-0.938541)	0.021951 (-0.890475)	0.039994* (-1.824824)	0.01597 (-0.640891)	0.028283 (-0.53284)	0.106581 (-1.480316)	-0.01301 (-0.233036)	-3.991063 (-0.286106)
Control t=-1	-	-	-	-	-	-	-	-
Control t=0	-	-	-	-	-	-	-	-
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
NAICS2 FE	Y	Y	Y	Y	Y	Y	Y	Y
Observations	1,131	952	884	764	1,308	1,091	972	869
R-Squared	0.19	0.09	0.11	0.09	0.19	0.15	0.20	0.11

Table 7 and 8 display the robustness checks with control variables for t=-1 and t=0. These control variables are 1% significant at all regressions. The significance of the outcomes does not change for board representation when controlled for t=-1. At t=0 there is less significance for board representation. The lower significance at board representation when controlled at t=0 can be explained by the effect of board representation during t=0. Activist directors could already have influence in t=0 when they were appointed before the year end.

Table 7: Regressions development ROA and Q over time controlling for t=-1

	ROA t=0	ROA t=1	ROA t=2	ROA t=3	Q t=0	Q t=1	Q t=2	Q t=3
Board Representation	-0.015234 (-1.283875)	0.038652 (1.320532)	-0.040585 (-1.503263)	-0.071523** (-2.305391)	-0.033828 (-0.691081)	0.001395 (0.018698)	0.031782 (0.494993)	0.259333 (1.499621)
ln(Size)	0.026937*** (8.387112)	0.030207*** (3.827502)	0.028648*** (4.038326*)	0.029031*** (3.599632)	-0.043668*** (-3.232239)	-0.039688* (-1.938747)	-0.031513* (-1.83727)	-0.053803 (-1.177427)
ln(Age)	0.010289 (1.06539)	0.024403 (1.002029)	0.042063 (1.92978)	0.018618 (0.751762)	0.00163 (0.039565)	0.081604 (1.291531)	-0.027726 (-0.524396)	-0.045903 (-0.326352)
Control t=-1	0.2559*** (16.13624)	0.231631*** (6.055007)	0.148955*** (4.426864)	0.177016*** (4.794368)	0.545183*** (32.4187)	0.570999*** (22.92933)	0.322956*** (15.8914)	0.883469*** (16.76879)
Control t=0	-	-	-	-	-	-	-	-
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
NAICS2 FE	Y	Y	Y	Y	Y	Y	Y	Y
Observations	1,113	946	838	757	1,275	1,050	934	832
R-Squared	0.35	0.12	0.13	0.12	0.56	0.44	0.37	0.35

Table 8: Regressions development ROA and Q over time controlling for t=0

	ROA t=1	ROA t=2	ROA t=3	Q t=1	Q t=2	Q t=3
Board Representation	0.035746 (1.502226)	-0.027104 (-1.068943)	-0.054903* (-1.863483)	0.006741 (0.088595)	0.042261 (0.793176)	0.246929* (1.655599)
ln(Size)	0.008229 (1.250022)	0.007972 (1.163591)	0.011372 (1.44017)	-0.036981* (-1.779786)	-0.003427 (-0.241004)	0.009445 (0.239837)
ln(Age)	0.026684 (1.36383)	0.037225* (1.828946)	0.015728 (0.668912)	0.096128 (1.555869)	-0.020609 (-0.487058)	0.002723 (0.023355)
Control t=-1	-	-	-	-	-	-
Control t=0	0.713087*** (12.65372)	0.708526*** (11.98921)	0.65651*** (9.818921)	0.664299*** (20.72697)	0.58359*** (27.17594)	1.42353*** (24.59828)
Year FE	Y	Y	Y	Y	Y	Y
NAICS2 FE	Y	Y	Y	Y	Y	Y
Observations	920	830	761	1,073	952	849
R-Squared	0.24	0.25	0.20	0.40	0.56	0.49

Appendix 2 provides an overview of the different NAICS two digit industries in the regressions. Industry code 32 (Manufacturing) is significant in all regressions. In general, it can be concluded that there is more industry significance at Q regression in comparison with the ROA regressions. The second part of the table shows the significance per event year with 2000 as base year. There is less significance at the first years after 2000 and in the years after the start of the financial crisis.

5. Conclusion and Discussion

This study examined the added value of board representation by hedge fund activists in comparison with hedge fund activism without board representation in the long term. Previous studies found many performance indicators which improved after hedge fund activism events but no significant relation between activism and firm performance. The research in this study contributed to the discussion about the added value of board representation of hedge fund activists.

The study includes over 1,500 activism events during 2000-2012, examining the year prior to three years after the event. There is no significance evidence in this data sample that proves a better performance of target firms with hedge fund activism where board representation is obtained. There is no statistical significant improvement of the performance in the long term. Only, on average, ROA and Q increased from the event year to t3. The data substantiated that activist events do not result in weaker performance in long term. This is in contrast to the findings of (Lipton, 2008).

The relative short track record of hedge fund activism makes it hard to get a comprehensive research that studies hedge fund activism over a long-time period with sufficient observations every year. Nevertheless, the reliability would not increase if this contains a longer period with data before 2000. Another limitation is observed period after the event. A longer observation period, for example five years, gives better support for the long term pattern of increasing ROA. More available data and activism events per year in the future can contribute to studies concerning board representation at hedge fund activists. The different starting years of the activist events and the activists without board representation provide a validity to the outcomes of this study. In addition, the controls for size and age and industry contribute to valid results.

The contribution of this study to the existing literature is the focus on the differences between hedge fund activism with and without board representation. Other studies provide more attention to the influence of hedge fund activism on firm performance and see some stronger effects or weaker effects when board representation is obtained. This study especially examined the added value of board representation. Despite the lack of

evidence in the contribution of board representation, future research can provide new insights and new results.

The results presented in this study do not imply a direct demonstrable significant effect on firm performance. The value creating effect of board representation in the long-term is observed in the return on assets, but there is no significant outperformance compared to activism without board representation. The Tobin's Q ratio even underperformed in the long term at target firms with board representation. The data do not provide in-depth information about the firm and board characteristics. Information about hedge funds' characteristics is even harder to collect. Despite the lack of significance in the outcomes of the analysis, the wide described documentation of the aspects, which are associated with activist directors, implies the relevance of activist directors as a mechanism to influence the decision making process in favor of hedge funds. The assertion that this type of activism has disadvantages for the long term performance can be rejected. The results imply no negative relation between board representation and firm performance. Hedge funds are representative as shareholders who intend to maximize shareholders' wealth. Bebchuck et al. (2015) refute the claim of a pump and dump pattern when hedge funds become active at target firms.

More information about the costs associated to activist campaigns for hedge funds and the considerations to obtain board seats can provide more clarity of activism with board representation. Another aspect that contributes to future research is the amount of data. Activists with board representation tend to target firms with specific characteristics and that result in limited interventions with board representation. The observed data over twelve years resulted in 226 usable observations.

The signals which can be noticed from the data motivates to extra research to the contribution of activist directors. The findings of the theory derived from the literature contributes to the ongoing debate of activist directors and their contribution in the interest of the shareholders and the firms itself. Short-term effects are easier to observe than the effects on the long-term. The implications of this study can be relevant for boards who want to improve operating performance or if they want to prevent their firms against hedge fund activists. The characteristics of activist directors can be applied

to the recruitment policy of new board members. Also the changes that activists often demand in financial structures of target firms can be reviewed at the boards own firm to potentially improve performance and decrease their probability of being targeted. Most important is that policymakers and supervisory bodies should not change the regulations concerning the reduction of power and rights of shareholders. The results contradict adverse effects of hedge fund activists with board representation.

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Appendix 1: Description and number of events per industry code

IC 21	Agriculture, Forestry, Fishing and Hunting	1
IC 23	Mining, Quarrying, and Oil and Gas Extraction	58
IC 31	Utilities	19
IC 32	Construction	20
IC 33	Manufacturing	45
IC 42	Wood Product Manufacturing	195
IC 44	Primary Metal Manufacturing	319
IC 45	Wholesale Trade	33
IC 48	Retail Trade	105
IC 49	Transportation and Warehousing	27
IC 51	Information	234
IC 52	Finance and Insurance	181
IC 53	Real Estate and Rental and Leasing	40
IC 54	Professional, Scientific, and Technical Services	101
IC 56	Administrative and Support and Waste Management and Remediation Services	50
IC 61	Educational Services	2
IC 62	Health Care and Social Assistance	47
IC 71	Arts, Entertainment, and Recreation	20
IC 72	Accommodation and Food Services	59
IC 81	Other Services (except Public Administration)	13

Appendix 2: Significance NAICS and event starting year

NAICS two digit industries

Industry Codes	ROA t=0	ROA t=1	ROA t=2	ROA t=3	Q t=0	Q t=1	Q t=2	Q t=3
IC 11		NA	NA	NA		NA	NA	NA
IC 21			*	*	***	***	***	
IC 23	***	*			***	**	**	
IC 31					***	**	***	
IC 32	***	***	***	*	***	***	***	***
IC 33	**				***	***	***	*
IC 42	**				***	**	**	
IC 44					***			
IC 45					**	*	***	
IC 48	**				*			
IC 49								
IC 51					***	***	***	**
IC 52								
IC 53					***	**	***	
IC 54					***		***	
IC 56					***	**	***	*
IC 61								
IC 62					***	**	**	
IC 71								
IC 72					***	**	***	*
IC 81								

Event Starting Year

Event Year	ROA t=0	ROA t=1	ROA t=2	ROA t=3	Q t=0	Q t=1	Q t=2	Q t=3
2001	**				*		***	**
2002				**			***	
2003			*		**	*	***	
2004	***		**	***	***	*	***	***
2005	***	*	**	**	***	**	***	
2006	***	**	***	**	***	***	**	
2007	***	**	***	**	***	*	***	*
2008	***	**	**	**	**	**	***	**
2009	***				***	**	***	*
2010	***	*	**		***	**	***	**
2011	***	**	***	**	***	***	***	**
2012	***	***	**	**	***	***	***	**