

THE IMPACT OF SPONSORSHIP ON
STOCK VALUE

by

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Abstract

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This thesis investigates the impact of sponsorship agreements with English Premier League and German Bundesliga football clubs on the stock price of sponsoring firm. A half of income from jersey sponsorship in Europe belongs to these leagues. The main finding of the study is that the market does not react on the news of sponsorship announcement for most the cases. GARCH-type event study methodology was used for this investigation. GARCH model was applied to check whether football club results can affect the stock price of sponsoring firm through investors' sentiments. The impact of football club performance was found to be insignificant.

TABLE OF CONTENTS

<i>Chapter 1: INTRODUCTION</i>	1
<i>Chapter 2: LITERATURE REVIEW</i>	3
<i>Chapter 3: METHODOLOGY</i>	6
<i>Chapter 4: DATA DESCRIPTION</i>	11
<i>Chapter 5: EMPIRICAL RESULTS</i>	16
<i>Chapter 6: CONCLUSION</i>	22
WORKS CITED.....	24
APPENDIX A: GARCH(1,1) results for the estimation window	26
APPENDIX B: CAR evolution during event window	28

LIST OF FIGURES

<i>Number</i>	<i>Page</i>
Figure 1. The time line of the event study.....	7
Figure 2. Total annual income from jersey sponsorship.....	11
Figure 3. Total expenditures by industry sector for jersey sponsorship	12
Figure 4. The event window for Aon Corporation.....	14
Figure 5. CAR evolution after announcing sponsorship (Aon).....	17
Figure 6. CAR evolution after announcing sponsorship (AIG).....	18
Figure B1. CAR evolution during event window.....	28

LIST OF TABLES

<i>Number</i>	<i>Page</i>
Table1. Descriptive statistics for sponsors' companies stock returns.....	13
Table 2. Descriptive statistics for the results of the sponsored clubs.....	15
Table 3. Normal returns estimation for Aon Corporation.....	16
Table 4. CAR evolution during event window.....	19
Table 5. GARCH(1,1) results for the estimation of the result effect.....	20
Table A1. GARCH(1,1) results for the estimation window.....	26

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Chapter 1

INTRODUCTION

The sponsorship of football clubs has become a popular way for companies to promote their brand. The TV audience of some important football events reaches hundred millions of people. As a result, companies think they can boost their popularity quickly through football sponsoring. For this opportunity, companies pay tens of millions dollars. For instance, the second largest current sponsorship agreement was signed between FC Bayern Munich and Deutsche Telecom in November 2009. According to this contract, FC Bayern Munich will get 37.5 million dollars a year (through 2013). It was the most generous deal until FC Barcelona signed a five-year sponsorship contract with not-for-profit Qatar Foundation in December 2010. FC Barcelona will get 30 million euros annually. Some companies prefer even longer term contracts. For instance, Arsenal F.C. (London) signed a sponsorship contract with Emirates airline in October 2004. According to this contract Arsenal will get 100 million pounds for 15 year of contract duration.

One can wonder however whether these contracts are a worthwhile investment and add value for the shareholders of the company by increasing the company's share price.

The share price of the sponsor can be affected at several instances. First, the announcement of the sponsorship deal can affect the share price, depending on whether the market sees the sponsorship deal as something positive or negative. Second, the sportive success of the club can affect the share price because

sponsoring an unsuccessful club can mean the sponsors becomes associated with a badly performing entity or because sportive failure can be negatively affect the mood of the investors who invested in the sponsor's stock.

The existing literature shows that football game results have an impact on the stocks of the teams that play (Renneboog and Van Brabant 2000). However, the impact on the sponsor's stock price has not been considered in detail in the literature. Therefore, the current research is going to investigate whether the sponsor's stock price is affected by the sponsorship announcement and by the football club's results. The only study that exists on this issue so far is a case study by Spais and Filis (2008) on Juventus. In this thesis, I extend their research by looking at a large sample of clubs.

The data are available at <http://www.finance.yahoo.com> and <http://www.worldfootball.net>. It consists of stock market movements, sponsor's stock returns and football club results.

The event study methodology is going to be used in the research, since it is an appropriate way to measure the effect of an event (announcement of sponsorship) on the value of a sponsor. We will follow the procedure described in Pynnonen (2005).

The remainder of the paper is organized as follows. Chapter 2 provides a brief literature review on the impact of sponsorship deals and match results on economic activities. Chapter 3 and Chapter 4 present the data and methodological base of the models used. Chapter 5 discussed the obtained results.

Chapter 2

LITERATURE REVIEW

In this literature review we will first consider the studies where the determinants of football club stock price are investigated as they are an example of how sport results can affect stock price. Then we will consider the literature related to the case of national teams and jersey brand stock price. And finally, we will examine the literature, which investigate the announcement effect in sports.

Football club results have been used as dependent variables for several studies. Renneboog and Van Brabant (2000) investigated how football club performance affects the football club's stock price. They found a significant positive relationship between football club results and its stock price. This finding is natural, since good performance increases attendance and profits of a club. In addition, an impact of a defeat was found to be greater than the effect of a win. The impact of the game result's was further found to fade out within 5 trading days, which is the usual period between domestic games.

The importance of the game was also found to affect the football club's stock price change (Bell and al., 2009). The proxy for the importance of the game was the absolute difference between final league positions. The lower is the difference, the higher is game importance. Another interesting result, obtained in this paper was the following: a football club's stock price is only slightly affected by general market movements. The effect was found to be significant, but the size of the effect was small.

In addition to the football game results, other variables have been used to explain the price of football stocks: managerial changes (Dobson and Goddard, 2002), contract renewals with players (Stadtman, 2006), selling players (Fotaki and al., 2009).

Football game results have not only been found to affect the stock of the team that plays, but also the stock of jersey brand sponsor like Nike or Adidas. The effect of national team results on jersey brand sponsor was considered by Hanke et al. (2010). They found that national team results have a significant impact on jersey brand stock prices. This finding could be explained by interrelation between football and commodities (jerseys, shoes), which jersey brands want to promote. Knockout games had larger effect on jersey brand stock prices. In addition, unexpected results of a game had higher impact on jersey brand stock price, than the game result where the favorite won.

World cup results were found to affect not only jersey brand stock price, but countries market indexes as well (Edmans et al., 2007). Small-cap indexes are more vulnerable to such events. Countries with higher football popularity had higher response to world cup results. This effect could be explained by the fact that investors mood depends on the national team performance.

Having established that there is a clear evidence that football matches can affect stock prices, we next focus on the impact of announcing a sponsorship deal. In the literature, there have been found effects of announcing sport event sponsorship deals (Clark et al., 2009). The announcement of event sponsorship usually has a positive effect on sponsor's stock market returns. This happens due to the fact that only well-doing companies should be able to afford sponsorship (this effect fades out over time).

Cornwell et al. (2005) have found a positive impact of “official product” sports sponsorship of the National Basketball Association (NBA) and the National Hockey League (NHL) on the stock price of sponsoring firms.

This literature review makes it clear that there is a large literature on the effect of football results on stock prices of football clubs, jersey brands and national stock indices. It also makes clear that there is a substantial literature on how the announcement of sport sponsorship deals affects stock prices. In this thesis, I add to this literature by looking at the effect of football results and the effect of sponsorship announcements on the stock prices of the jersey sponsors.

Chapter 3

METHODOLOGY

This chapter contains the description of methods used in our research. We are going to investigate the impact of sponsorship on company stock price through two main channels: the fact of sponsorship announcement and the football club performance.

The most frequently used method to measure the impact of the event on the stock price is the event study methodology. In our case the event is the fact of announcement. We will start with the simplest event study procedure. The procedure is described in MacKinlay (1997) paper, where the example of event study for measurement of firms' earning announcements effect on its share price was provided. The announcements were divided into good (if actual earnings were more than 2,5% above expected), neutral and bad (if actual earnings were more than 2,5% below expected). The impact of these types of announcements on the firms' values was studied.

The main equation in the simple event study methodology is the following:

$$AR_{i\tau} = R_{i\tau} - E(R_{i\tau} | X_{\tau}), \quad (1)$$

where $AR_{i\tau}$, $R_{i\tau}$ and $E(R_{i\tau} | X_{\tau})$ are the abnormal, actual and normal return for the firm i stocks at time τ . The actual return $R_{i\tau}$ can be observed in the data. However, the normal stock return should be estimated. The most common models for normal stock return are the constant mean return model and the market model. The normal stock return is assumed to be constant in the mean

return model. This assumption seems to be very strong. Therefore we are going to use the market model.

The market model assumes that security return is a linear function of the market portfolio return. As a result, we can run the following regression:

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

where R_{it} and R_{mt} are the security i and market portfolio returns respectively. The parameters of the equation (2) are estimated based on the “estimation window”, which is shown at the Figure 1.

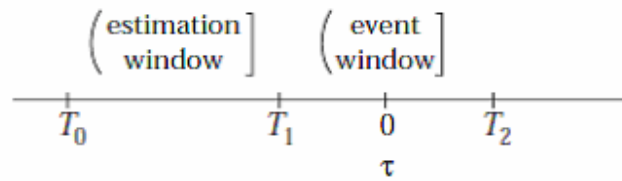


Figure 1. The time line of the event study

Having estimated the normal return on the sponsor stock we are able to find the abnormal returns, which will be the key elements for announcement impact investigation:

$$AR_{i\tau} = R_{i\tau} - \alpha_i - \beta_i R_{m\tau}. \quad (3)$$

In order to get more precise results, we are going to define the event window, where the announcement effect is going to be estimated. We are going to define the cumulative abnormal return (CAR) for the event window:

$$CAR_i(T_1, T_2) = \sum_{\tau=T_1}^{T_2} AR_{i\tau}. \quad (4)$$

The null hypothesis H_0 is that the announcement has no impact on the returns.

Under the null hypothesis we have:

$$CAR_i(T_1, T_2) \sim N(0, \sigma_i^2(T_1, T_2)), \quad (5)$$

where $\sigma_i^2(T_1, T_2) = (T_2 - T_1 + 1)\sigma_{\varepsilon_i}^2$.

Having got the distribution of the cumulative abnormal return, we can test the null hypothesis.

In order to take into account heteroscedasticity which is usually present in stock returns time series, we are going to apply GARCH (Bollerslev, 1986) (with regression component for conditional mean) for estimating market model. Ignoring heteroscedasticity could lead to the incorrect width of the confidence interval and wrong conclusions. According to Hansen and Lunde (2001), the best volatility model for stock returns is GARCH(1,1). Therefore, we are going to use this model in our research. Market returns will be used as regression component for the conditional mean in this case.

GARCH(1,1) is going to be used to predict the volatility of the return in the event window. The conditional mean process the equation (2) will be applied. Suppose we have already applied GARCH model for the estimation window and obtained coefficients for volatility regression:

$$h_{t+1} = w_0 + w_1 u_t^2 + \delta h_t. \quad (6)$$

We can apply law of iterated expectations and obtain the following formula for the predicted return volatility at the event window (Engle 1995):

$$h_{\tau|T_1-1} = w_0 \left(\frac{1 - (w_1 + \delta)^{\tau - T_1}}{1 - (w_1 + \delta)} \right) + (w_1 + \delta)^{\tau - T_1} h_{T_1}, \quad (7)$$

where $T_1 - 1$ is the end of estimation window.

If we assume that abnormal returns are independent, we can claim that variance of cumulative abnormal returns is the sum of variances of each abnormal return. As a result, we can test the null hypothesis H_0 that announcement has no impact on the returns using t-statistics:

$$t = \frac{\sum_{\tau=T_1}^{T_2} AR_{i,\tau}}{\sqrt{Var(CAR_i)}}. \quad (8)$$

If we assume that abnormal returns are independent, the variance of cumulative abnormal returns is:

$$Var(CAR_i) = \sum_{s=T_1}^{T_2} h_{i,s|T_1-1}. \quad (9)$$

We are going to test how the football games results affect the stock price of the sponsor as well. Football games are much more frequent events than sponsorship agreements. Therefore, we can apply GARCH(1,1) model for sponsor returns using market returns and dummies as a regression components for the conditional mean. This model will help us to take into account heteroscedasticity of stock returns.

The model for conditional mean is going to have the following form:

$$R_{c,t} = c + \text{market } R_{m,t} + \text{win } d_{w,t} + \text{draw } d_{d,t} + \text{lose } d_{l,t} + \varepsilon_t, \quad (10)$$

equation (7) for conditional variance will be applied, where $R_{c,t}$ - sponsor stock returns, $R_{m,t}$ - market returns, $d_{w,t}, d_{d,t}, d_{l,t}$ - dummies for win, draw and lose of a club at matchday before the trading day.

DATA DESCRIPTION

We restrict our research to the sponsorship agreements which were signed for the last 10 years, since the sponsors' stock prices are mainly available for this time period.

In addition, we are going to concentrate on the sponsorship agreements in two major European football leagues (the Premier League and the Bundesliga). According to the 2010 SPORT+MARKT jersey report the total jersey sponsorship income in top-six European leagues was 470.7 million Euros. A half of this income belongs to the Premier League and the Bundesliga. Figure 2 shows annual income from jersey sponsorship in major European leagues in m. Euros.

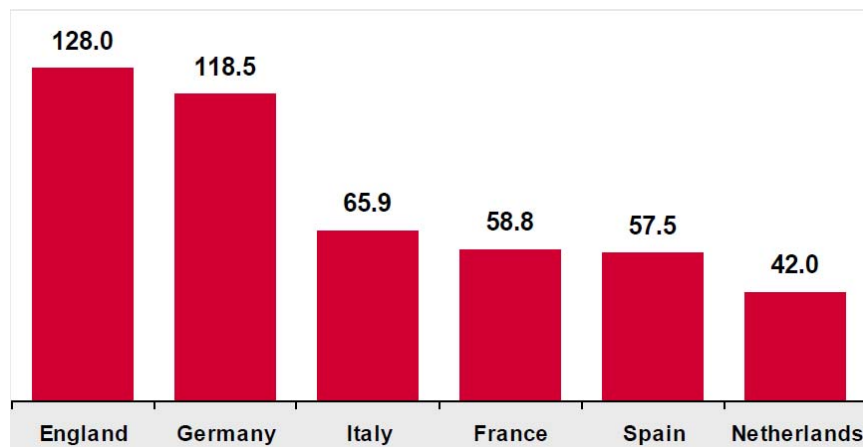


Figure 2. Total annual income from jersey sponsorship.

The Figure 3 shows us which sectors of economy were involved in jersey sponsorship (in mill). The leading position is held by companies, which do not have a direct interaction with sport.

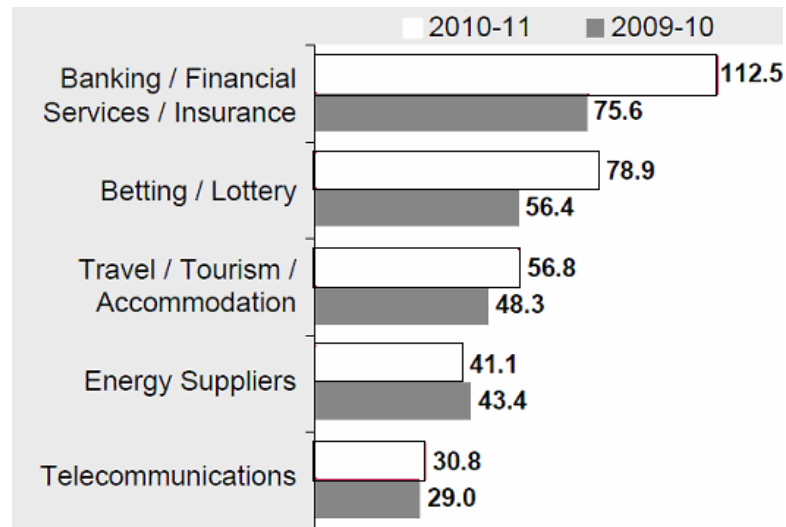


Figure 3. Total expenditures by industry sector for jersey sponsorship.

The data of the club sponsors is available from the official sites of football clubs. The archive of the results is available at <http://www.worldfootball.net>. The sponsors' stock price data is taken from <http://www.finance.yahoo.com>. The descriptive statistics for the annualized sponsors' stock returns is given in Table 1.

We will focus on the adjusted close stock price, since it takes into account the dividends paid and stock splits. We will consider the daily data for the sponsors' stock price.

In spite of the fact, that Premier League and Bundesliga have in total 38 clubs, which sign sponsorship agreements quite frequently, we managed to obtain the sponsors stock prices only for 26 sponsorship agreements, since most of the

sponsors are private owned companies, which stocks are not traded in the market.

Table1. Descriptive statistics for sponsors' companies stock returns.

Company	Data period	Obs.	Annualized		Daily	
			Mean	Std. dev.	Min	Max
Vodafone	1999-2011	3036	0,086	0,397	-0,139	0,149
AIG	2005-2011	1539	-0,064	0,955	-0,308	0,360
AON	2007-2011	768	0,105	0,300	-0,138	0,114
Carlsberg	2004-2011	1775	0,184	0,371	-0,232	0,157
Standard	2008-2011	786	0,192	0,588	-0,158	0,300
Thomson	2000-2011	2798	0,133	0,402	-0,222	0,210
Autonomy	2009-2011	534	0,287	0,358	-0,163	0,080
Investec	2009-2011	534	0,338	0,463	-0,155	0,162
Thomas	2007-2011	874	-0,005	0,669	-0,167	0,213
AMD	2001-2004	1003	0,382	0,739	-0,324	0,261
MTG	2005-2008	776	0,390	0,456	-0,167	0,226
Co-op.	2008-2011	786	0,056	0,256	-0,060	0,039
SpB	2008-2011	785	0,108	0,482	-0,106	0,161
F&C	2005-2011	1542	-0,064	0,455	-0,282	0,223
DTEI	2001-2011	2602	-0,010	0,360	-0,143	0,166
Kyocera	2003-2011	2024	0,124	0,319	-0,103	0,154
PostBank	2008-2011	774	-0,177	0,557	-0,240	0,149
Axel	2007-2011	1022	0,076	0,352	-0,085	0,155
Fraport	2000-2011	2449	0,123	0,349	-0,195	0,144

An example of the data is provided below. Figure 4 shows the evolution of company stock price and NYSE Composite index around the event data (announcement date). Aon Corporation became Manchester United sponsor on June 3, 2009, when the four-year sponsorship agreement was signed. According to the agreement company will pay £20 million each year. Given the net income of Aon Corporation in 2009 of \$747 million and exchange rate of 1,63 dollars per pound in June 2009, we can claim that this sponsorship is worth 4,3% of company's net income, which is a substantial share. Aon Corporation is a

reinsurance company headquartered in Chicago, US. The stocks of the company are traded in NYSE (New York Stock Exchange). Aon Corporation is a large company and S&P 500 component, therefore its stock price returns are highly correlated with market returns. As a proxy for the market return, we have taken the NYSE Composite index returns. For the period 2005-2010 the correlation between stock returns of Aon and market returns was 0.48.

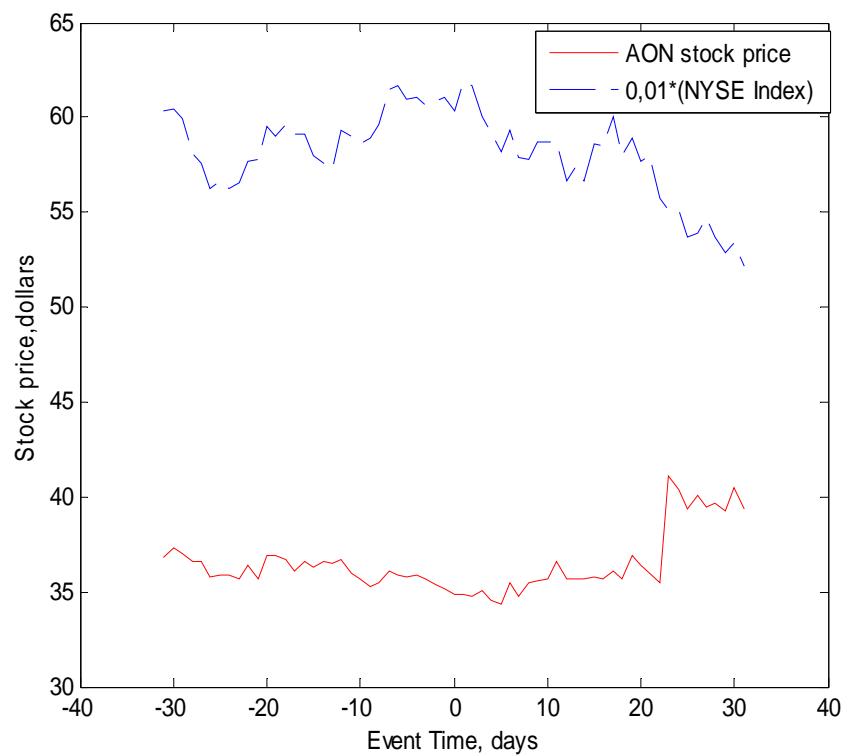


Figure 4. The event window for Aon Corporation.

The descriptive statistics for the performance of corresponding to sponsoring companies' football clubs is given in Table 2. We can see that the sample contains different clubs in terms of their successes.

Table 2. Descriptive statistics for the results of the sponsored clubs.

Sponsor	Obs.	Win	Draw	Lose	Percentage		
					Win	Draw	Lose
Vodafone	346	211	68	67	60,98%	19,65%	19,36%
AIG	234	159	39	36	67,95%	16,67%	15,38%
AON	36	23	11	2	63,89%	30,56%	5,56%
Carlsberg	278	156	65	57	56,12%	23,38%	20,50%
Standard	38	17	10	11	44,74%	26,32%	28,95%
Thomson	167	69	40	58	41,32%	23,95%	34,73%
Autonomy	26	11	10	5	42,31%	38,46%	19,23%
Investec	10	4	2	4	40,00%	20,00%	40,00%
Thomas	119	43	18	58	36,13%	15,13%	48,74%
AMD	50	19	18	13	38,00%	36,00%	26,00%
MTG	79	35	17	27	44,30%	21,52%	34,18%
Co-op.	75	29	19	27	38,67%	25,33%	36,00%
SpB	73	20	17	36	27,40%	23,29%	49,32%
F&C	164	60	48	56	36,59%	29,27%	34,15%
DTEL	193	116	45	32	60,10%	23,32%	16,58%
Kyocera	144	46	39	59	31,94%	27,08%	40,97%
PostBank	59	16	13	30	27,12%	22,03%	50,85%
Axel	98	40	27	31	40,82%	27,55%	31,63%
Fraport	177	60	49	68	33,90%	27,68%	38,42%

EMPIRICAL RESULTS

The event study methodology was applied to companies, which announced sponsorship agreements for the last 10 years. It will be a good idea to consider one of the examples more precise. For this purpose we will take Aon Corporation. The results for other companies are in Appendix A (estimation window) and Appendix B (event window).

Aon Corporation is listed at the NYSE (New York Stock Exchange). Therefore, in order to estimate the normal returns of Aon Corporation stocks the NYSE Composite index was chose as repressor for conditional mean process in GARCH(1,1) . The estimation window was set 100 trading days. The results are:

Table 3. Normal returns estimation for Aon Corporation

Sponsor	C	Market	w0	w1	δ
AON 2009	0,000	0,433	0,000	0,285	0,000
t-stat	-0,188	5,110	0,006	2,024	0,000

We can see that in conditional mean process constant term is insignificant and market returns are significant. These results are inline with our expectations, since normally large stock returns are highly correlated with the market returns. The constant term is insignificant, which is explained by the fact that stock returns are highly unpredictable. In fact, for all other sponsors constant terms are not significant as well.

Based on these results, we can estimate the normal return process of Aon Corporation before announcement and draw a graph for cumulative abnormal returns after (Figure 5). The event window was set 20 days, which is inline with MacKinlay (1997). In order to take into account information leakages we will include days before announcement in the event window.

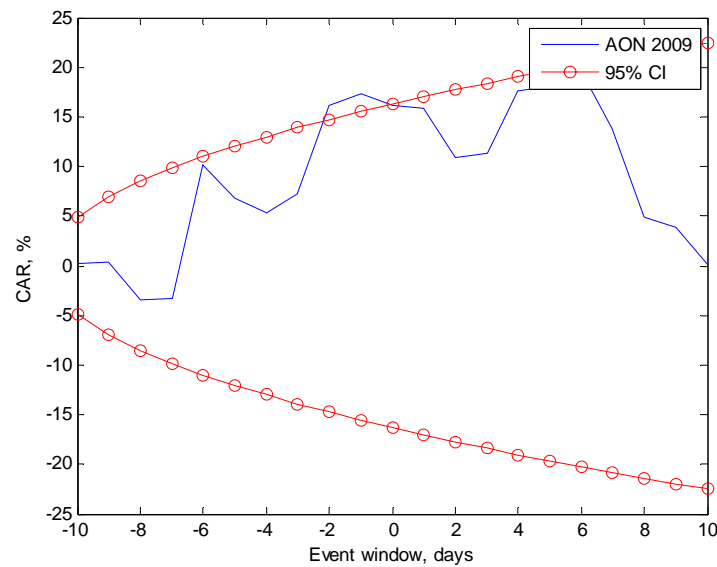


Figure 5. CAR evolution after announcing sponsorship (AIG).

The estimated variance of error term gives us the opportunity to set confidence interval and test null hypothesis that there is no announcement effect. We can see that CAR (Cumulative abnormal returns) of Aon Corporation are inside the confidence interval except for two days. Therefore, we can not reject null hypothesis, which was that there is no announcement effect.

Another example of sport sponsorship is considered below. American International Group (AIG) is an American insurance corporation. Its headquarters are located in New York City. AIG was Manchester United jersey sponsor from 2006 till 2010.

Figure 6 contains the effect of AIG sponsorship announcement.

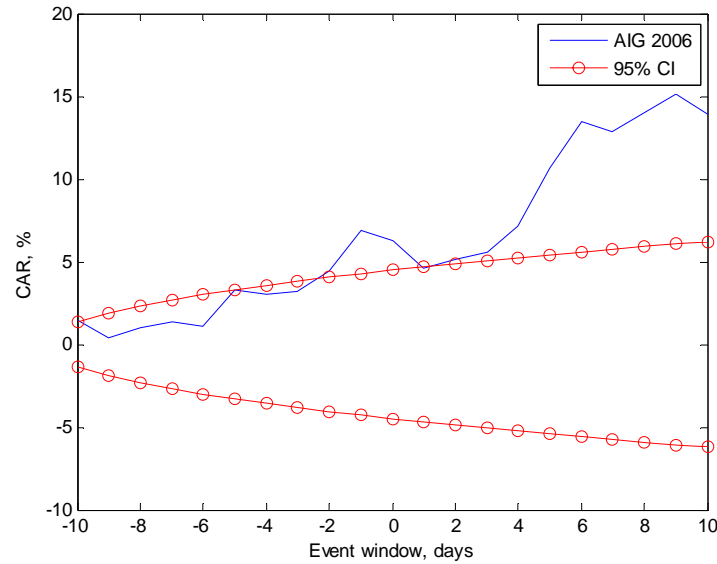


Figure 6. CAR evolution after announcing sponsorship (AIG).

We can see that the CAR for AIG are significant from the second day before announcement of sponsorship agreement. As a result, we can reject the null hypothesis that sponsorship announcement has no impact on the sponsors stock price. This case shows us that the effect of announcement could be extremely large: 15% increase in 10 days.

Appendix B contains graphs similar to Figure 5 and Figure 6 for other sponsors. According to these results, the announcement effect was significant at 5% significance level for 8 out of 26 companies (for 5 out of 20 days CAR is significant). For 3 out these 12 the announcement has positive effect on a stock price. For 5 out of 12 the announcement has negative effect on a stock price. The GARCH(1,1) result for the event window are in Appendix A.

Table 4. CAR evolution during event window.

	Event window, days				
	-8	-4	0	4	8
Vodafone 2000	0,00	0,00	0,00	0,01	0,00
Vodafone 2003	0,01	0,01	0,08	0,07	0,09
AIG 2006	0,01	0,03	0,06*	0,07*	0,14*
AON 2009	-0,03	0,05	0,16*	0,18	0,05
Carlsberg 2005	0,02	0,02	-0,01	0,03	0,05
Carlsberg 2007	-0,05*	-0,05*	-0,14*	-0,15*	-0,08
Standard 2009	-0,03	-0,02	0,02	-0,05	-0,07
Thomson 2002	-0,08*	-0,22*	-0,12	-0,18*	-0,21*
Autonomy 2010	0,02	0,03	-0,06	-0,04	0,02
Investec 2010	-0,03	-0,10*	-0,13*	-0,26*	-0,25*
Thomas 2008	0,01	-0,05	-0,06	0,02	0,03
AMD 2002	0,04	-0,02	-0,06	-0,12	-0,05
MTG 2006	0,02	0,00	-0,02	-0,01	-0,07
Cooperative 2009	0,05*	-0,04	-0,09	-0,10*	-0,13*
SpBet 2009	0,05	-0,02	-0,11	-0,12	-0,07
SpBet 2010	0,03	0,01	0,11	-0,05	0,01
F&C 2007	0,12*	0,17*	0,08	0,26*	0,16
F&C 2009	-0,04	0,05	0,11	0,06	-0,03
DTEL 2002	0,05	0,08	0,06	0,08	0,04
DTEL 2007	-0,04	-0,04	-0,11*	-0,07	-0,16*
DTEL 2009	-0,01	-0,12*	0,09*	0,03	-0,03
Kyocera 2004	-0,01	-0,07	-0,05	-0,01	-0,08
Postbank 2009	0,05	0,04	-0,10	-0,08	0,04
Postbank 2010	0,01	0,00	-0,02	-0,04	-0,05
AXEL 2008	-0,05	-0,02	0,03	0,07	0,15
Fraport 2010	-0,01	-0,01	0,05	0,14*	0,10

Note: *p<0,05

We applied the GARCH(1,1) model with dummy variables for performance as conditional mean repressors using the whole sample of data (not just the estimation window).

The results are in Table 5.

Table 5. GARCH(1,1) results for the estimation of the result effect.

Company	Obs.	Const	Market	Win	Draw	Lose	w0	w1	δ
Vodafone	1501	0,00	0,67	0,00	0,00	0,00	0,00	0,94	0,06
t-stat		1,56	24,93	-1,22	-1,37	-0,93	5,73	42,23	8,21
AIG	1001	0,00	0,85	0,00	0,01	0,00	0,00	0,89	0,11
t-stat		-2,04	24,14	1,61	5,06	-1,10	8,38	97,08	20,68
AON	150	0,00	0,80	0,00	0,00	0,01	0,00	0,94	0,00
t-stat		1,45	9,40	-0,50	0,02	0,35	2,11	1,65	0,00
Carlsberg	1205	0,00	0,82	0,00	0,00	0,00	0,00	0,75	0,25
t-stat		1,45	23,83	0,43	0,75	-0,72	5,76	36,45	10,64
Standard	150	0,00	1,22	0,00	0,00	0,00	0,00	0,05	0,30
t-stat		-0,35	11,79	-0,54	-0,58	-0,08	2,42	0,17	2,45
Thomson	1001	0,00	0,72	0,00	0,00	0,00	0,00	0,95	0,04
t-stat		1,65	12,82	-0,90	0,52	-0,68	3,34	48,14	6,20
Autonomy	129	0,00	0,65	0,01	0,00	0,00	0,00	0,42	0,00
t-stat		-0,29	2,17	0,58	-0,33	0,09	19,37	50,14	0,00
Investec	125	0,00	1,13	0,00	0,00	0,00	0,00	0,73	0,00
t-stat		-1,44	12,21	0,38	-0,49	0,14	4,22	67,67	0,00
AMD	191	0,00	2,27	0,00	0,01	-0,01	0,00	0,26	0,73
t-stat		-0,13	17,20	-0,39	0,57	-1,34	3,77	2,49	4,37
MTG	360	0,00	0,62	0,00	0,00	0,01	0,00	0,47	0,43
t-stat		0,44	6,35	-0,18	-1,16	3,92	6,96	11,07	6,22
Co-op.	380	0,00	0,13	0,00	0,00	0,00	0,00	0,94	0,05
t-stat		0,38	1,48	-0,21	0,68	0,02	2,85	26,95	1,82
SpB	380	0,00	0,80	0,00	-0,01	0,00	0,00	0,00	0,11
t-stat		0,04	7,47	0,11	-0,88	-0,77	4,32	0,00	3,29
F&C	900	0,00	0,77	0,00	0,00	0,00	0,00	0,76	0,21
t-stat		0,50	18,44	-1,48	0,70	-0,57	8,72	46,72	17,98
DTEL	930	0,00	0,64	0,00	0,00	0,00	0,00	0,86	0,14
t-stat		-0,34	26,02	-0,37	0,25	-0,64	3,19	44,23	6,85
Kyocera	971	0,00	0,66	0,00	0,00	0,00	0,00	0,92	0,06
t-stat		-0,39	21,19	0,18	0,84	1,18	2,65	65,30	5,84
Postbank	390	0,00	0,78	0,00	0,00	0,00	0,00	0,61	0,32
t-stat		0,33	17,21	-0,66	0,41	-1,40	6,36	13,04	5,31
Axel	630	0,00	0,38	0,00	0,00	0,00	0,00	0,78	0,19
t-stat		1,98	8,98	-1,22	0,29	-0,68	3,78	24,89	6,80
Fraport	1150	0,00	0,87	0,00	0,00	0,00	0,00	0,78	0,18
t-stat		1,21	27,97	-0,03	-2,64	-0,74	5,87	37,52	8,45

We can see, that the performance of the football club does not affect the stock price of a sponsor. This result suggests that investors are rational and their mood, which could be affected by game results, can not affect their decisions. The effect which was observed for the national teams' performance in the World cup and jersey brand sponsor is not present in this case. The following reasons could explain these results. Firstly, the football club games are much more frequent and don't have such a crucial impact on successes of a team than World Cup games. Secondly, the national teams have much more fans than football clubs.

Chapter 6

CONCLUSION

In this thesis, the effect of football club sponsorship on firm value was studied. We considered both the effect of announcement of sponsorship agreement and the effect of football club performance on the value of a sponsoring company.

The sample of 26 sponsorship agreement was used to study the announcement effect. In fact it was a challenge to find a sufficient number of sponsorship agreements where sponsors stocks are traded on the market.

For 8 out of 26 sponsorship agreements the Cumulative Abnormal Returns during the event window were significant based on the confidence interval, which was build using GARCH approach for the estimation window. For 3 out of 8 significant sponsorship announcements the effect was positive (American International Group, F&C Investments, Fraport). For 5 out of 8 significant sponsorship announcements the effect was negative (Carlsberg Group, Investec, Thomson Holidays, Co-operative Bank, Deutsche Telecom). In majority of cases, announcing a sponsorship agreement is neutral for the stock price. For the cases when announcement was significant, the effect is ambiguous.

Market could consider announcements as positive or negative news depending on circumstances. On one hand the announcement could mean that company want to promote the brand and can afford the sponsorship, since it is well performing. On the other hand, the company could try to make a signal to market that everything is good and to hide bad performance in this way.

The impact of football club performance on the sponsor's stock price was found to be insignificant. For the game results we did not find even the pattern of signs in the conditional mean regression. The insignificance of game results means that investors' sentiments do not affect their decisions in this respect.

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APPENDIX A

Table A1. GARCH(1,1) results for the estimation window.

Sponsor	Coef.	Market	w0	w1	δ
Vodafone 2000	0,001	0,534	0,000	0,703	0,157
t-stat	0,555	4,119	1,724	5,471	2,074
Vodafone 2003	-0,001	0,577	0,000	0,000	0,104
t-stat	-0,611	7,962	2,081	0,000	1,066
AIG 2006	0,000	0,823	0,000	0,675	0,000
t-stat	0,182	8,972	4,022	14,956	0,000
AON 2009	0,000	0,433	0,000	0,285	0,000
t-stat	-0,188	5,110	0,006	2,024	0,000
Carlsberg 2005	0,000	0,589	0,000	0,839	0,042
t-stat	0,192	5,340	0,663	3,985	0,720
Carlsberg 2007	0,001	0,812	0,000	0,691	0,062
t-stat	0,682	7,541	0,555	1,354	0,727
Standard 2009	0,001	1,332	0,000	0,635	0,229
t-stat	0,756	13,211	2,173	7,714	2,518
Thomson 2002	-0,001	1,181	0,000	0,615	0,282
t-stat	-0,287	17,087	2,407	7,084	2,283
Autonomy 2010	0,002	0,938	0,000	0,547	0,093
t-stat	1,563	7,782	1,714	2,428	1,755
Investec 2010	0,001	1,546	0,000	0,093	0,219
t-stat	1,217	20,502	1,447	0,176	2,866
Thomas 2008	-0,001	0,362	0,000	0,672	0,018
t-stat	-0,327	1,582	0,161	3,336	0,172
AMD 2002	-0,002	2,460	0,001	0,000	0,739
t-stat	-0,976	6,894	3,599	0,000	3,783
MTG 2006	0,001	0,958	0,000	0,000	0,060
t-stat	0,929	4,621	0,628	0,000	2,898
Co-op. 2009	0,001	0,139	0,000	0,000	0,100
t-stat	0,746	1,574	2,969	0,000	0,914
SpB 2009	0,001	0,420	0,001	0,000	0,275
t-stat	0,483	4,473	2,919	0,000	2,714
SpB 2010	0,000	0,589	0,000	0,436	0,054
t-stat	0,238	3,764	0,790	3,648	0,855
F&C 2007	0,002	0,971	0,000	0,492	0,405
t-stat	1,207	4,109	2,709	4,977	3,042
F&C 2009	-0,001	0,760	0,000	0,689	0,176
t-stat	-0,130	5,152	1,875	5,700	1,980

Table A1. GARCH(1,1) results for the estimation window – Continued.

Sponsor	Coef.	Market	w0	w1	δ
DTEL 2002	-0,002	1,197	0,000	0,448	0,311
t-stat	-1,064	13,139	2,199	2,549	2,318
DTEL 2007	0,000	0,611	0,000	0,781	0,106
t-stat	0,254	7,568	1,662	8,366	2,135
DTEL 2009	0,000	0,508	0,000	0,864	0,077
t-stat	-0,062	7,862	1,021	9,330	1,309
Kyocera 2004	-0,001	0,912	0,000	0,755	0,109
t-stat	-0,837	7,734	1,184	4,211	1,370
Postbank 2009	0,006	0,940	0,001	0,177	0,671
t-stat	1,660	9,052	2,156	0,917	3,225
Postbank 2010	0,000	0,955	0,000	0,441	0,216
t-stat	0,004	13,815	1,608	3,433	1,747
AXEL 2008	-0,002	0,323	0,000	0,626	0,234
t-stat	-0,708	2,922	2,337	8,612	2,477
Fraport 2010	0,000	0,882	0,000	0,000	0,217
t-stat	0,136	10,729	2,040	0,000	2,014

APPENDIX B

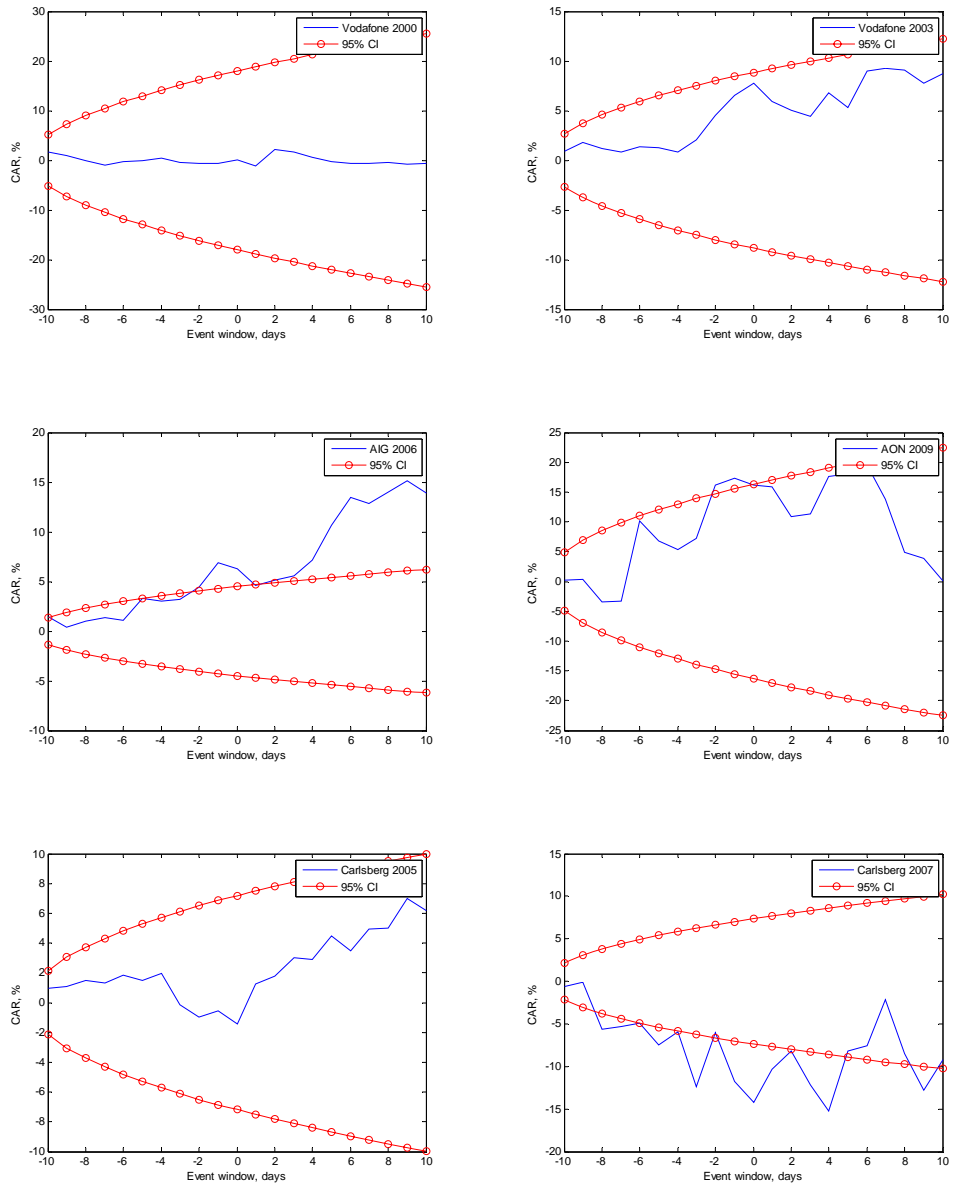


Figure B1. CAR evolution during event window.

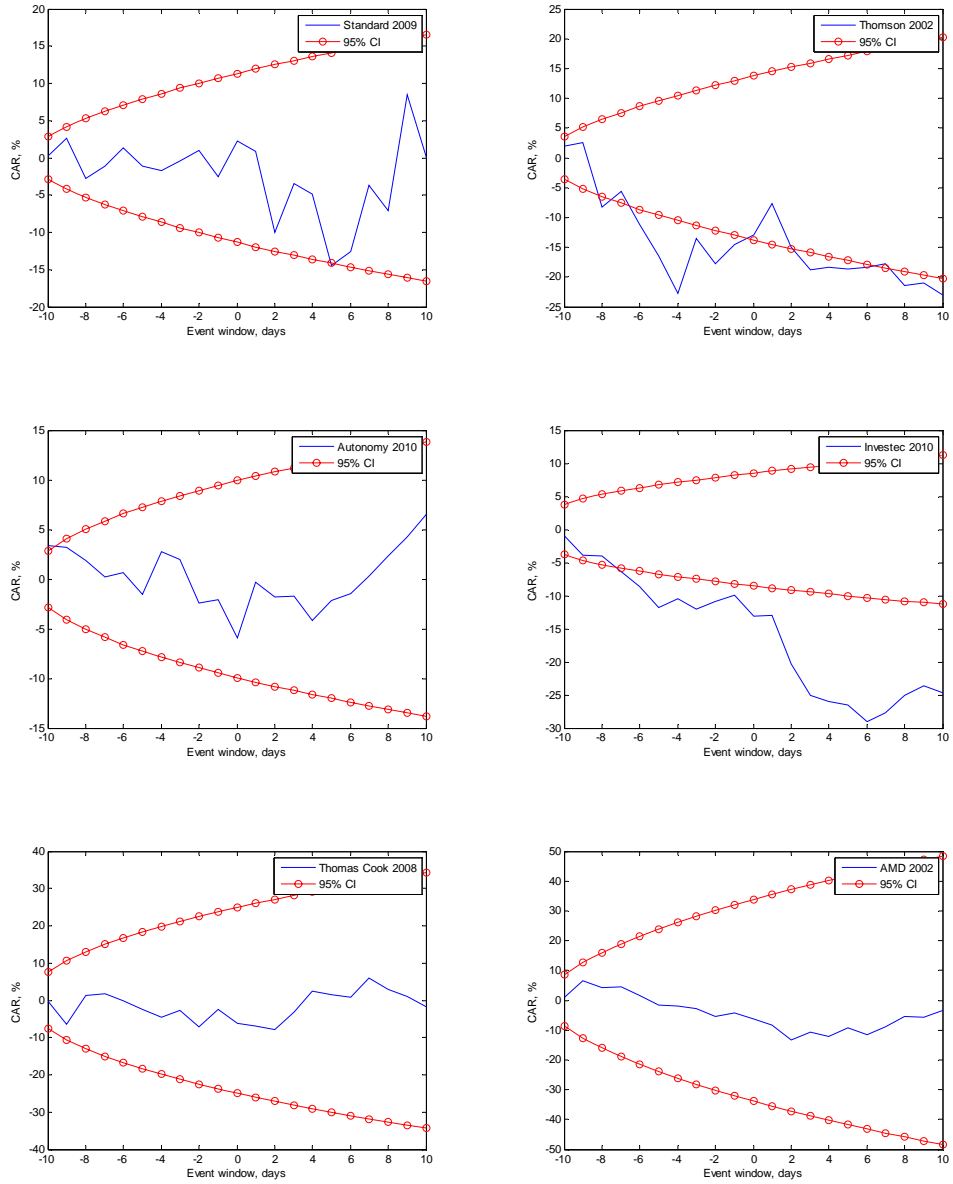


Figure B1. CAR evolution during event window – Continued

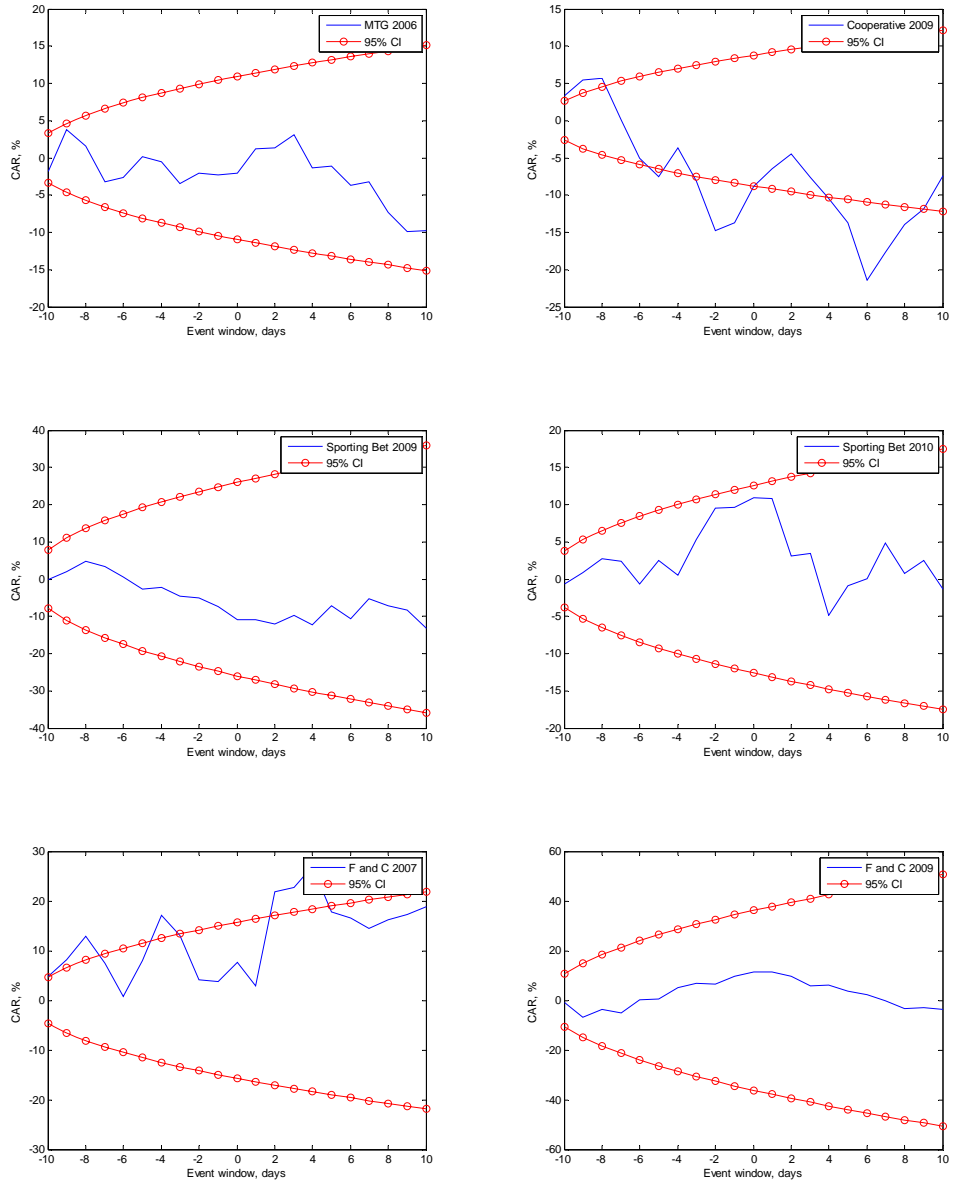


Figure B1. CAR evolution during event window – Continued

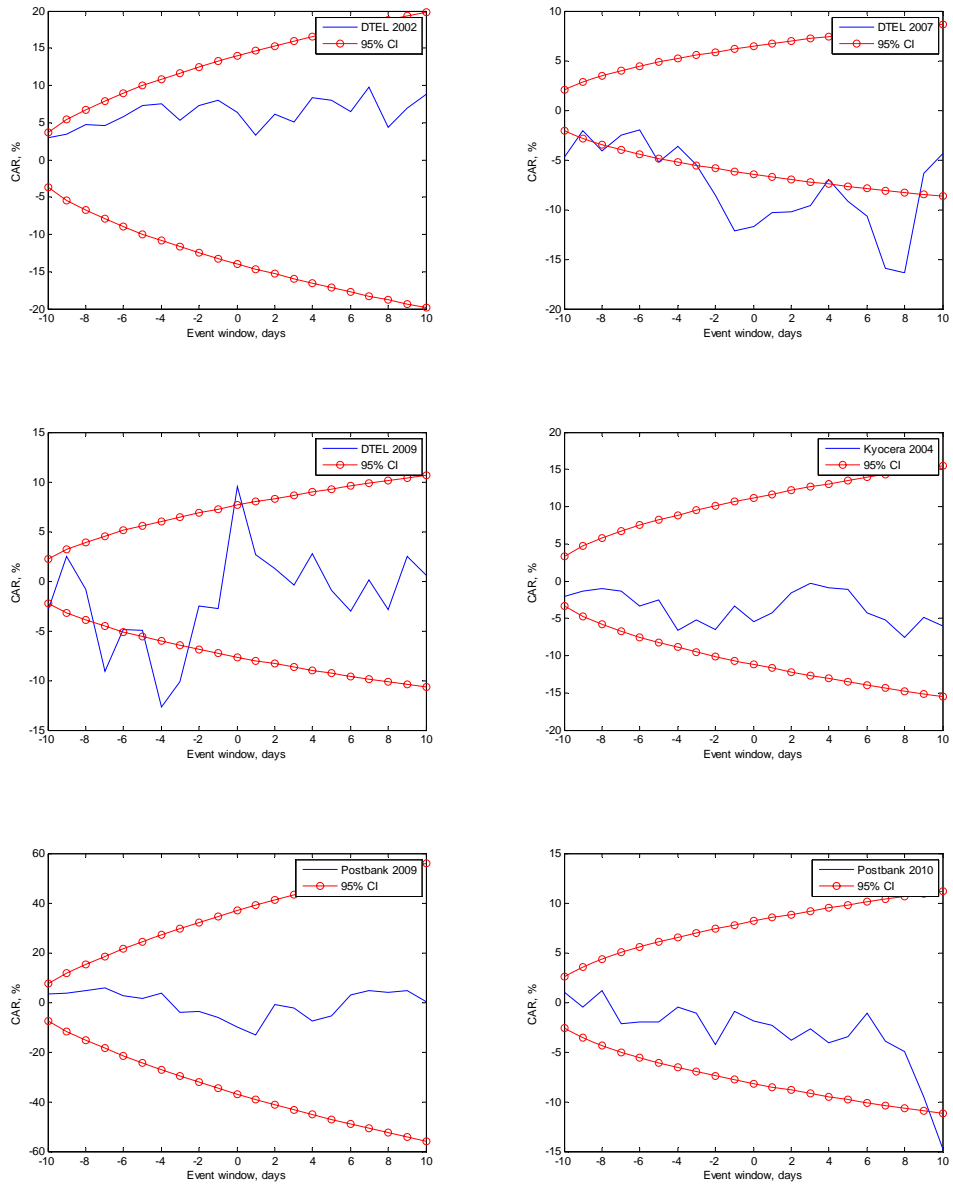


Figure B1. CAR evolution during event window – Continued

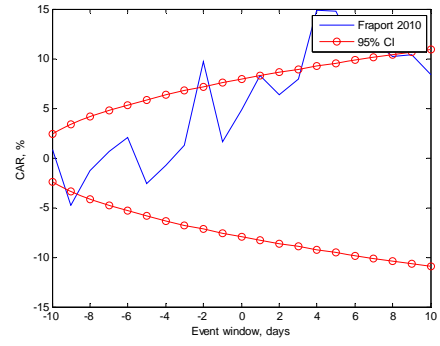
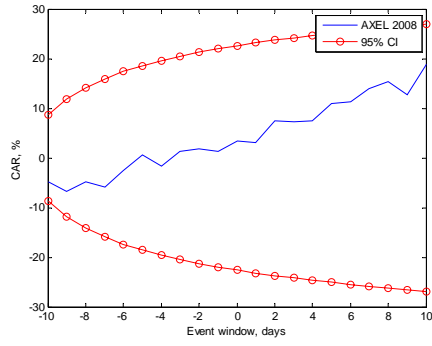


Figure B1. CAR evolution during event window – Continued

