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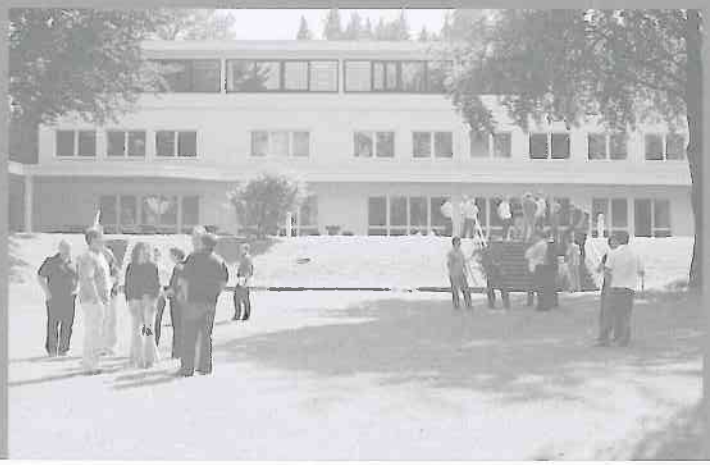

M&A Transactions by Private Equity and Hedge-Funds – Some Empirical Evidence for Financial Regulation

Gerhard Wörtche and Tristan Nguyen

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Abstract

Due to the recent financial and economic crisis, there is a controversial discussion about the implications of mergers and acquisitions from Private Equity and Hedge-Funds. It is argued that acquisitions, which are driven from Financial Investors like Private Equity and Hedge-Funds, have solely short term profit interests and might be a source for future financial crisis. Therefore, these Financial Investors might have to be regulated more severely. This paper examines the implications of mergers and acquisitions from different types of investors by analyzing the wealth effects of Austrian- and Swiss target companies. The results of our analysis support the necessity of special regulations for Financial Investors such as Private Equity and Hedge-Funds.

1 Introduction

In recent years, the increasing number of Private Equity- and Hedge-Funds has gained the publics attention. These financial investors have lead to various political and economical discussions because the implications of mergers and acquisitions from those companies are in several ways ambiguous. On one side, it is argued that acquisitions, which are driven from financial investors, have solely short term profit interests. This would cause a divestiture of the target company, which in turn results in a negative wealth effect. On the other side, there are arguments from a Neoclassical Economic point of view. According to those theories the wealth is maximized when the market is free from regulation and therefore, there should not be a greater transparency and higher regulations for Private Equity- and Hedge-Funds.

The aim of the paper is judge whether the empirical evidence of M&A transactions supports either of these point of views. We investigate if M&A transactions of Private Equity- and Hedge-Funds (financial investor acquires an industrial company) have the same impact than transactions by the industry itself (industrial company acquires an industrial company). In order to test this hypothesis, we make one crucial assumption - the two types of investors have different motives. We suppose that M&As of non-financial investors (Non-FIs) (containing of individuals, companies or strategic investors) aim for synergy effects, monopoly power, information- or strategic advantages, while on the other side, M&As, which are driven from financial investors (FIs) (comprising Private Equity- and Hedge-Funds) have rather a short term profit motive. If the results are in favour of the hypothesis that the wealth effects of different acquisitions are equal then the type of the investor has no impact. In this case, it would be wrong to excessively regulate M&As of Private-Equity- and Hedge-Funds.[1]

The paper is divided into three parts. The first part comprises a characterization of the considered types of investors, a literature review in the context of this field and an explanation of the data validation procedure. The second part provides an overview of the event study methodology and explains the applied methods. The final part presents the results and offers explanations for the observed parameters.

[1] Note that this argumentation has one crucial assumption: The wealth effect of M&A is solely reflected in the shareprice of the target company.

2 Literature

Craig MacKinlay (1997) was the very first who developed a model that is able to measure the effects of an economic event on the value of the firms. He introduced the event study methodology, which assumes that the effects of an event will be reflected immediately in security prices considering market efficiency and rationality of investors. The often applied method is the measurement of the abnormal return during the period surrounding an announcement date. This approach is based on the assumption of efficient capital markets. If the market is efficient then the pattern of a security is completely random but at the event date when new information passes through to the market the effect can be detected.

In recent event studies, the observed abnormal returns after M&As were mostly positive and statistically weak significant for the target firms (see for example Pauser/Rottke/Schiereck (2007) or Andrade/Mitchell/Stafford (2001) who analyzed more than 4000 M&As). Campa/Hernando (2004) quantify the significant cumulative abnormal return with 9% in a one-month window centred around the announcement date. Besides solely analysing the target company, Becher (2000) showed Bank mergers do create an overall positive wealth effect. Target returns are significantly positive, while bidder returns are statistically negative, but not to such a degree that the combined firm returns are negative.

One of the first articles considering the effects of private equity investments was the paper of Achleitner/Andres/Betzer (2008). They investigated acquisitions of German quoted companies and found that PE investors generate positive wealth effects for target shareholders of 5.66% at the announcement date.

3 Data and Validation Procedure

For empirical analyses, the most crucial point is to rely on correct date since the accurateness of the data increases the explanatory power of the analyses. In order to assure the use of highly qualitative data, a database was created which is based on the information of two well-established databases: Zephyr and Thomson ONE Banker.[2]

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[2] https://zephyr.bvdep.com/version-2009116/cgi/template.dll?product=24, 19.11.2009, http://banker.thomsonib.com/, 19.11.2009

The magnitudes of the two databases were compared with respect to announcement date, target- and acquirer name. In several cases there were deviations between the two databases, therefore, the parameters were validated with third information source - Factiva. Factiva is a platform which provides business and research information by using newspapers, journals and magazines.[3] In this way, a database was created in which the correctness of the parameters was likely to be higher than in one of the single databases.

It was often observed that the announcement date had no impact on shareprices, while the rumour date resulted in significant parameters. It seemed that people relied on the information of the rumour and took this new information into account when they formed their expectations. Therefore, in these cases, the assumption seems valid that the official announcement did not have a further impact since the information is already incorporated in the shareprice. Thus, in these few events, when the rumour date had a significant effect, the collection of data which is needed for the event study is based on the rumour date instead of the announcement date.

In both of the Sub-Samples (Switzerland and Austria) there were extreme outliers of the abnormal returns. For example, the abnormal return of Actelion at time T_{-3} (3 days before the announcement date) was -97%. This was due to the publication of a pharmaceutical study which emphasized the uselessness of an Actelion product.[4] Therefore, on that day, the shareprice of Actelion decreased by 53.3%. With large samples the effects of these extreme outliers are rather small, but since the sub samples in this event study are relatively small, these extreme outliers can measurably distort the results. In order to exclude these external effects, the correctness of outliers which had an absolute value greater than 5% were analysed. In other words, when an abnormal return magnitude was less than -5% or higher than 5%, it was checked if there was an extraordinary event on that particular day. In the cases, in which an extreme shareprice movement was caused by an external event, the abnormal return on that day was set equal to zero. Since the internet research resulted only in limited success, the target companies were called and asked if they knew why there was such an extreme shareprice movement on those particular days. In most of the cases, the companies were not aware of an exceptional event and therefore, the information of these M&As remained in the sample. Nevertheless, this time consuming processing of the data came along with one major advantage – a high quality of the new database.

3 http://www.factiva.com/index_i7_w.asp, 19.11.2009
4 http://www.pressetext.ch/news/010420038/arznei-studie-laesst-actelion-aktie-um-53-3-einbrechen/ 19.11.2009

4 Methodology

4.1 Definition of the Estimation Period and the Event Window

The initial task of an event study is to define the period over which the share prices of the involved firms will be examined. The crucial point in time is the announced (T_0) of an M&A. All the data which is collected is based around this announcement date.

The time before the announcement date is defined as the estimation period. This period is needed to predict the rate of returns that would have happened if the event would not have taken place. There is no standardized length of the estimation period. On the one hand, the period should be long enough to smooth particular outliers; on the other hand, it should not be too long to reflect the short run trend of a security. In this event study, an estimation period has been chosen with 249 consequently daily observations.

The time around the event itself (event window) is not included in the estimation period to prevent the influences of the event to the estimation parameters. In general, the event window contains a time period before and after the announcement date. This allows analyzing whether information was released before the announcement date (insider trading) and how quickly the market reacts to new information (overreaction or delayed reaction).[5] A graphical illustration of the estimation period and the event window is shown in Figure 1.

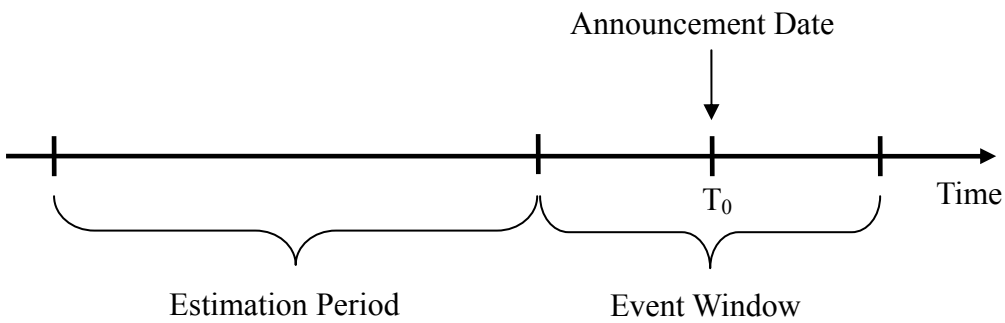

Fig. 1: Graphical illustration of an event study

4.2 Calculation of the Abnormal Return

In order to calculate the abnormal return (AR), it is necessary to have the fictive normal return. The

5 Different lengths in time have been chosen for the event window: [-20;+20], [-7;+7] and [-1;+1].

calculation of the normal return parameters is based on the data of the estimation period. Hence the AR is the actual ex post return over the event window minus the predicted normal return over the event window (Equation 1).

$$AR_{it} = R_{it} - E(R_{it}|\Omega) \tag{1}$$

where AR_{it} is the abnormal return, R_{it} the actual return and $E(R_{it}|\Omega)$ the normal return in which Ω represents the information set from the estimation period. The subscripts i and t stands for an individual firm and for the particular day respectively.

Since the summation of simple daily returns along time would result in incorrect parameters, the continuously compounded returns, which are calculated as in equation 2, were used.

$$Ln(1+r_t) \equiv R_t = Ln\,\frac{P_t}{P_{t-1}} \tag{2}$$

The literature shows several approaches how the abnormal return can be calculated. Basically, these approaches can be grouped into two categories: Statistical and economical.[6] In this paper three different statistical models have been used to predict the normal returns. The models are the constant mean model, the market adjusted model and the market model.

4.3 Constant mean model

In this model the mean is adjusted by taking the arithmetic average of the returns from the estimation period. This means that the normal return is constant over the whole event window.

$$AR_{it} = R_{it} - \overline{R}_i \tag{3}$$

Whereas, $\overline{R}_t$ is defined as:

$$\overline{R}_i = \frac{1}{253}\sum_{-273}^{-21} R_{it} \tag{4}$$

6 MacKinley (1997), p. 17.

A critique of this approach is a lack of sensitivity. The model completely ignores outliers since the mean is adjusted. Therefore, the variance is higher compared to more sophisticated models which take the sensitivity into account.

4.4 Market Adjusted Model

According to this model the estimation period is not necessary. The abnormal return of a particular firm is calculated by subtracting the actual returns of an equally weighted index from the actual returns of the firm.[7]

$$AR_{it} = R_{it} - R_{mt} \tag{5}$$

A critique of the model is its unrealistic assumptions. In the model, the linear specification follows an assumed joint normality of the security returns.[8] In addition, it is assumed that the return of the market index is sufficiently able to explain the returns from an individual security.

4.5 Market Model

This model has similarities from both models but it is more sophisticated. The advantage to the market adjusted model is that it considers the individual correlation between a particular security and the market index. The advantage to the constant mean model is that it removes the portion of the return that results from the variation in the market's return; this in turn reduces the variance of the abnormal return. Therefore, the R^2 of the market model is higher, which can lead to an increased ability to detect particular event effects.

The abnormal return is calculated in two steps. First, a regression has to be carried out in which the dependent variable is a particular security and the independent variable is the market index. This can be done by ordinary least squares (OLS).

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \tag{6}$$

where ε_{it} is a disturbance term with the classical assumption that the observations are independently

7 Brown (1985), p. 7.
8 MacKinley (1997), p. 18.

and identically distributed.[9] In second step, the abnormal return can be calculated by using the obtained magnitudes of Alpha and Beta.

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} \tag{7}$$

4.6 The Aggregation of Abnormal returns

In order to analyze the overall effects of acquisitions the abnormal return parameters have to be aggregated. The aggregation is along two dimensions: through time (daily observations of the event window) and across sections (different transactions). There are two possibilities to aggregate the abnormal return parameters. First, by the summation of the individual daily abnormal returns along the event window (vertical). In this case the cumulative abnormal return (CAR) is defined as:

$$CAR_i = \sum_{t=1}^{T} AR_{it} \tag{8}$$

where T stands for the days in the event window. Second, by the summation of the individual daily abnormal returns along different transactions (horizontal). In this case the CAR is defined as:

$$CAR_t = \sum_{i=1}^{N} AR_{it} \tag{9}$$

where N stands for the number of firms in the sample. By taking the average of the cumulative abnormal returns (horizontal or vertical) the cumulative average abnormal return (CAAR) is obtained.

$$\frac{1}{N}\sum_{i=1}^{N} CAR_i = \frac{1}{T}\sum_{t=1}^{T} CAR_t = CAAR \tag{10}$$

4.7 Test Statistics under the Null Hypothesis

Several methods can be used to detect the significance of the obtained abnormal returns. Since it is reasonable to assume that daily returns are identically and normally distributed, a simple student's t-test is appropriate. The results of the CAR can be positive or negative, which implies that there are

9 Otherwise, the results would be biased and inconsistent.

two critical values and the test is in two directions. In this event study, the CARs are highlighted when they are weak (α=10%), normal (α=5%) and strong (α=1%) significant with *, **, *** respectively.

5 Empirical Results and Interpretation

The tables below show the parameters of the abnormal returns, standard deviations, t-values and the cumulative abnormal returns over an event-period of 41-days. The time-series begins 20 days before the announcement date (t=0) and ends 20 days later. The column ARit illustrates the arithmetic mean of the abnormal returns on a particular day of the event window, while the column CARit describes the cumulated abnormal returns at time t. All the magnitudes in the tables are based on the market model.

		Switzerland				Austria			
		ARit	Std	t-value	CARit	ARit	Std	t-value	CARit
	-20	-0,50%	1,34%	-1,38	-0,50%	0,33%	1,87%	0,64	0,33%
	-19	0,22%	3,80%	0,21	-0,28%	-0,21%	1,94%	-0,39	0,12%
	-18	0,39%	2,15%	0,68	0,11%	-1,17% *	2,18%	-1,94	-1,05%
	-17	-1,67% **	2,39%	-2,61	-1,56%	-0,47%	1,95%	-0,88	-1,53%
	-16	-0,89%	2,58%	-1,29	-2,45%	-0,10%	1,64%	-0,22	-1,63%
	-15	-0,47%	2,45%	-0,71	-2,92%	-0,31%	2,00%	-0,56	-1,93%
	-14	-1,15% *	2,29%	-1,89	-4,07%	-0,05%	2,25%	-0,08	-1,98%
	-13	0,39%	1,69%	0,87	-3,68%	-0,36%	1,99%	-0,65	-2,35%
	-12	0,55%	4,05%	0,50	-3,13%	-0,64%	1,72%	-1,34	-2,98%
	-11	0,33%	2,83%	0,44	-2,80%	-0,59%	1,42%	-1,48	-3,57%
	-10	0,82%	2,25%	1,36	-1,98%	-0,20%	1,37%	-0,52	-3,76%
	-9	0,12%	2,35%	0,19	-1,86%	0,49%	1,11%	1,58	-3,28%
	-8	0,33%	3,80%	0,32	-1,53%	0,07%	2,20%	0,12	-3,20%
	-7	-0,24%	2,88%	-0,31	-1,77%	0,02%	3,08%	0,02	-3,19%
	-6	0,40%	1,89%	0,78	-1,38%	1,16% ***	1,34%	3,13	-2,02%
	-5	0,52%	2,92%	0,67	-0,86%	-0,54%	1,79%	-1,10	-2,56%
	-4	-0,18%	2,00%	-0,33	-1,03%	0,38%	2,24%	0,61	-2,19%
	-3	-0,04%	1,39%	-0,10	-1,07%	0,03%	2,71%	0,05	-2,15%
	-2	-0,38%	1,63%	-0,86	-1,45%	0,03%	1,53%	0,08	-2,12%
D	-1	0,13%	1,72%	0,29	-1,32%	0,29%	1,48%	0,70	-1,83%
a	0	0,86%	2,17%	1,49	-0,45%	1,36%	4,65%	1,06	-0,46%
y	1	-0,75%	2,01%	-1,39	-1,20%	1,22%	5,56%	0,79	0,76%
	2	-0,33%	1,39%	-0,89	-1,53%	0,32%	0,85%	1,36	1,08%
	3	0,92%	3,00%	1,14	-0,61%	-0,89% *	1,54%	-2,10	0,19%
	4	-0,55%	2,44%	-0,85	-1,17%	-0,20%	2,35%	-0,31	-0,01%
	5	0,70%	3,63%	0,73	-0,46%	0,23%	1,74%	0,48	0,22%
	6	0,65%	2,96%	0,82	0,19%	-0,10%	0,58%	-0,64	0,11%
	7	0,19%	2,55%	0,28	0,38%	-1,39%	4,16%	-1,20	-1,28%
	8	0,72%	4,12%	0,65	1,10%	0,59%	2,21%	0,96	-0,69%
	9	1,11%	2,99%	1,39	2,21%	0,82% *	1,57%	1,88	0,13%
	10	0,34%	3,31%	0,38	2,54%	0,80% *	1,59%	1,81	0,93%
	11	-0,88%	2,29%	-1,44	1,67%	-0,45%	3,93%	-0,41	0,48%
	12	1,77%	5,03%	1,32	3,44%	-0,51%	1,26%	-1,45	-0,02%
	13	-0,54%	1,69%	-1,19	2,91%	0,72%	2,59%	1,00	0,70%
	14	0,00%	4,10%	0,00	2,90%	-0,35%	1,98%	-0,63	0,35%
	15	-0,86%	1,99%	-1,63	2,04%	-1,35%	2,92%	-1,66	-0,99%
	16	-0,36%	1,90%	-0,70	1,68%	0,01%	1,52%	0,02	-0,98%
	17	0,56%	1,83%	1,13	2,24%	-0,46%	1,07%	-1,55	-1,45%
	18	0,27%	1,62%	0,62	2,51%	-0,70% *	1,31%	-1,93	-2,15%
	19	1,09%	2,69%	1,51	3,59%	-0,40%	1,20%	-1,20	-2,55%
	20	0,13%	3,93%	0,13	3,73%	-0,02%	1,03%	-0,08	-2,57%

Tab. 1: Observed parameters of FIs based on the market model.

		Switzerland				Austria			
		ARit	Std	t-value	CARit	ARit	Std	t-value	CARit
	-20	-0,54%	1,77%	-1,30	-0,54%	-0,23%	1,40%	-0,89	-0,23%
	-19	0,04%	1,94%	0,09	-0,50%	-0,24%	2,32%	-0,56	-0,47%
	-18	-0,82%	2,36%	-1,48	-1,32%	-0,21%	1,04%	-1,11	-0,68%
	-17	-0,16%	1,86%	-0,37	-1,49%	-0,01%	1,39%	-0,04	-0,69%
	-16	0,86%	2,03%	1,78	-0,63%	-0,22%	0,96%	-1,27	-0,91%
	-15	-0,30%	0,84%	-1,53	-0,93%	0,88%	4,76%	1,02	-0,03%
	-14	0,35%	1,17%	1,25	-0,59%	0,35%	1,98%	0,97	0,33%
	-13	-0,11%	1,48%	-0,32	-0,70%	0,25%	1,27%	1,07	0,57%
	-12	0,37%	1,23%	1,26	-0,34%	0,07%	1,41%	0,25	0,64%
	-11	1,00% **	1,58%	2,67	0,66%	0,03%	1,61%	0,09	0,67%
	-10	0,60%	2,23%	1,15	1,27%	0,32%	1,71%	1,01	0,98%
	-9	-0,58%	2,27%	-1,09	0,69%	-0,04%	1,57%	-0,15	0,94%
	-8	0,72%	2,05%	1,48	1,40%	0,23%	1,38%	0,93	1,17%
	-7	0,32%	1,81%	0,75	1,72%	-0,21%	1,81%	-0,64	0,96%
	-6	-0,03%	1,62%	-0,07	1,69%	-0,42%	1,69%	-1,36	0,54%
	-5	0,14%	2,08%	0,28	1,83%	-0,10%	1,13%	-0,47	0,44%
	-4	-0,28%	2,13%	-0,55	1,56%	-0,29%	1,66%	-0,94	0,16%
	-3	0,44%	1,62%	1,15	1,99%	0,20%	2,48%	0,45	0,36%
	-2	-0,24%	2,16%	-0,48	1,75%	0,02%	2,10%	0,05	0,38%
D	-1	-0,15%	2,21%	-0,29	1,60%	0,04%	1,68%	0,12	0,42%
a	0	1,60%	4,67%	1,45	3,20%	0,55% *	1,75%	1,73	0,97%
y	1	-0,85%	2,44%	-1,49	2,34%	0,11%	1,33%	0,47	1,08%
	2	-0,45%	1,43%	-1,35	1,89%	0,64% **	1,28%	2,75	1,73%
	3	0,16%	1,59%	0,42	2,05%	0,36%	1,27%	1,57	2,09%
	4	-0,63% **	1,19%	-2,24	1,42%	0,40%	1,96%	1,11	2,49%
	5	-0,06%	2,42%	-0,10	1,36%	0,51%	1,97%	1,41	3,00%
	6	0,93%	2,56%	1,54	2,29%	1,13%	6,75%	0,92	4,13%
	7	0,50%	1,80%	1,17	2,79%	0,00%	2,66%	0,01	4,13%
	8	-0,29%	4,71%	-0,26	2,50%	0,36%	2,24%	0,88	4,49%
	9	0,56%	2,95%	0,81	3,06%	-0,03%	1,90%	-0,09	4,46%
	10	0,14%	2,56%	0,23	3,20%	-0,30%	1,77%	-0,93	4,16%
	11	0,30%	2,28%	0,56	3,50%	0,18%	1,10%	0,87	4,33%
	12	-0,35%	1,50%	-0,99	3,15%	-0,03%	0,90%	-0,16	4,30%
	13	-0,18%	1,46%	-0,52	2,97%	-0,99%	3,19%	-1,69	3,32%
	14	-0,01%	3,24%	-0,01	2,97%	0,41% *	1,10%	2,04	3,73%
	15	-0,12%	0,78%	-0,67	2,84%	0,06%	1,28%	0,25	3,79%
	16	0,34%	1,66%	0,86	3,18%	0,34%	1,82%	1,03	4,13%
	17	-0,02%	2,42%	-0,03	3,16%	-0,23%	1,44%	-0,86	3,90%
	18	0,28%	2,22%	0,54	3,45%	-0,26%	2,43%	-0,58	3,65%
	19	0,50%	2,77%	0,77	3,95%	-0,54% **	1,38%	-2,14	3,10%
	20	0,87%	2,32%	1,59	4,82%	-0,40%	2,24%	-0,97	2,71%

Tab. 2: Observed parameters of Non-FIs based on the market model.

The analysis of the type of investor results in two crucial outcomes. Firstly, the evidence indicates that the abnormal returns for Non-FIs are slightly higher compared to those from the FIs. Secondly, the CARs of the Non-FIs are more significant compared to those from the FIs.

The magnitudes indicate that CARs which are caused by Non-FIs are higher compared to the parameters of the CARs from the FIs. Hence it seems that the type of investor has an impact on

shareprice of the target company.[10] These findings support the hypothesis that Private Equity- and Hedge-Funds have different effects on the shareprice of a target company than M&As which are driven from an industrial companies. Since in this context, the wealth effects of the FIs are lower, there should be a greater regulation and a higher transparency of these types of investors.

The following diagrams illustrate the shareprice movements by showing the ARit - and the CARit-values over the event window of 41 days. The first two diagrams demonstrate the FIs from Switzerland and Austria, while the latter ones show the Non-FIs from Switzerland and Austria.

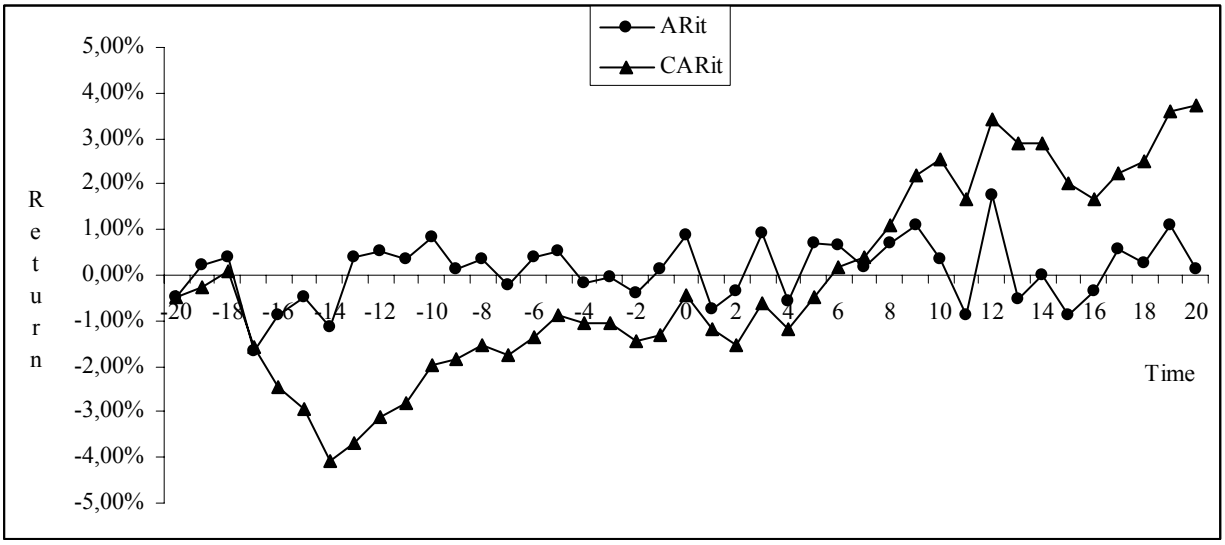

Fig. 2: ARit and CARit of Swiss FIs.

[10] This can be explained by the agency theory and the free-rider problem. According to the agency theory, the acquisition of badly managed firms' lead to high gains for its shareholders as it is supposed that the profitability will increase. However, if people think that the new investor might divestiture the target company, the uncertainty of the future development is higher.

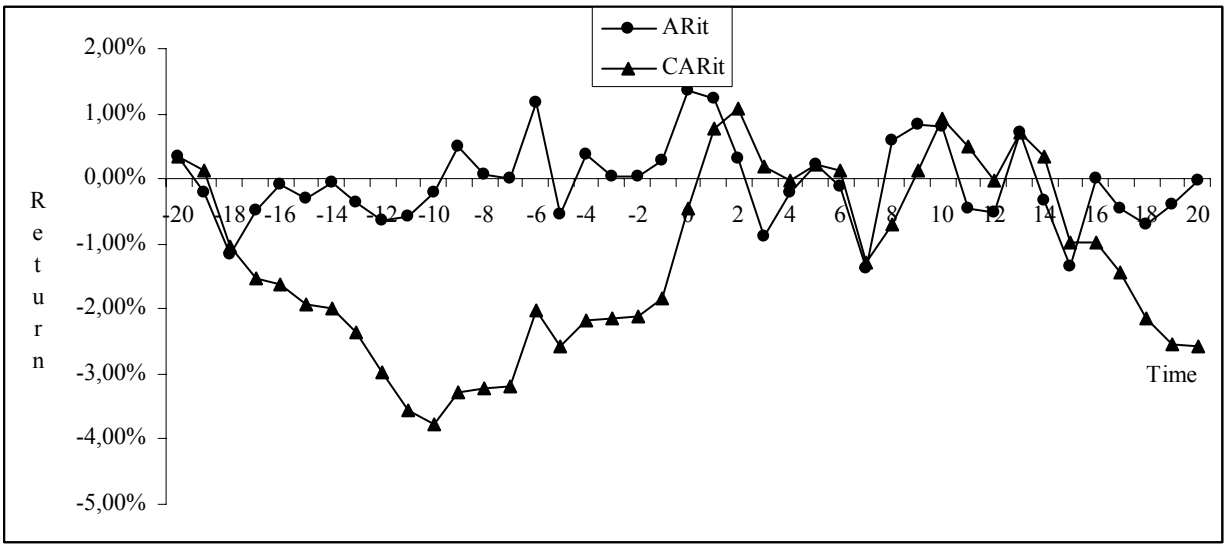

Fig. 3: ARit and CARit of Austrian FIs.

The Swiss target companies show an overall positive performance, while the Austrian FIs show negative returns in the time period of [-20,20]. This is due to the highly negative performance at the beginning of the event-window. If a shorter event window is chosen, the Austrian FIs show a positive performance. It is interesting to see that in both countries the abnormal returns were mostly negative before the announcement date. It seems that, for no plausible reason, there was excess supply of the target company shares and therefore, the price of the target company decreased prior the announcement. The following two diagrams show the Non-FIs from Switzerland and Austria.

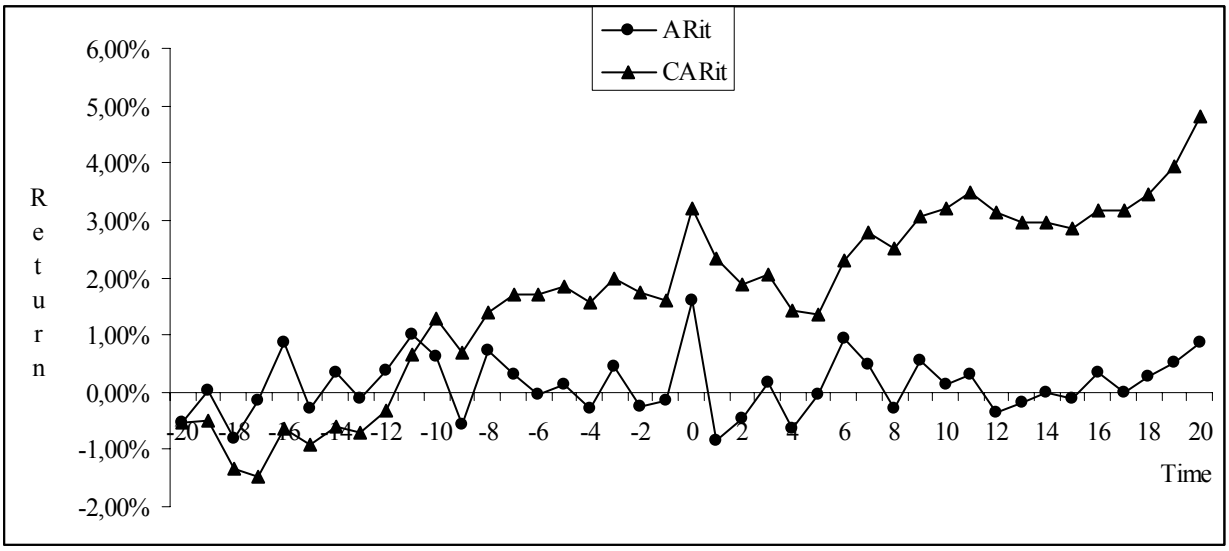

Fig. 4: ARit and CARit of Swiss Non-FIs.

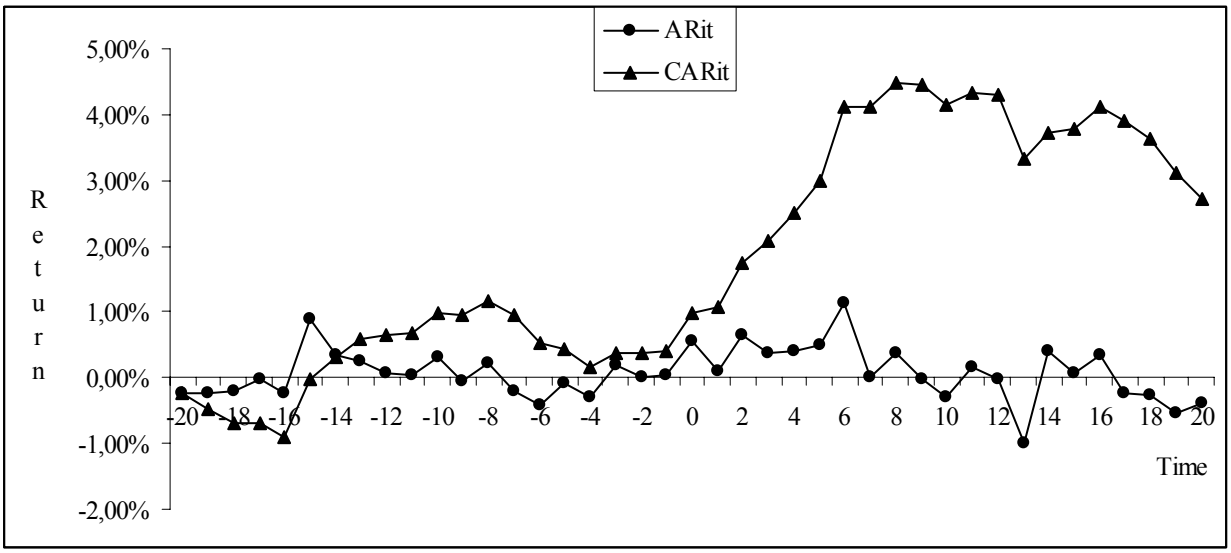

Fig. 5: ARit and CARit of Austrian Non-FIs.

The analysis of the Austrian Non-FIs shows that on several days after the announcement date the abnormal returns were positive. It seems that the announcement of an M&A is not immediately incorporated in the shareprice and that the new information is implemented in the days after the announcement date. In an efficient market, new information should immediately be reflected in the share price. Therefore, it seems that if new information is available, investors in Austria do not directly take it into account. Hence this evidence indicates that investors in Austria adjust slower to new information.

Overall the results are consistent with prior research. However, the observed magnitudes of the CARs and the t-values are lower compared to the results of prior event studies (see for example Pauser/Rottke/Schiereck (2007) or Achleitner/Andres/Betzer (2008)).

Most of the data on M&A event studies are from the UK and from the US during 1980 to 2000. During this time, both countries were characterized by large numbers of small municipally owned utilities and were considered ripe for liberalization and consolidation.[11] This implies that the circumstances were optimal for acquisition in those countries. Hence, the observed return parameters of those studies are biased upwards since whenever acquisitions took place it is likely that the target company was strongly undervalued and therefore the announcement of an M&A had a high positive effect on the shareprice. The number of privatisations in Austria and Switzerland was not as high as in the UK and the US. The results cannot be compared directly with prior finding from the US and the UK. This is one reason why the abnormal returns of this event study are not as

[11] Taylor (1999), p. 37.

high as those from previous event studies.

A reason why these results have a relatively low explanatory power is due to the fact that the samples were small. A well established rule of thumb in econometrics is that the samples should at least include 50 observations. After filtering to obtain a high quality database, the sub-samples contained solely 13, 14, 18 and 30 target companies. Therefore, it was not possible to take advantage of the desirable properties of large samples.

5.1 Comparison of the Models

So far, all demonstrations were based on the market model. In order to check the consistency of the market model with other approaches, the parameters were calculated also with the constant mean- and the market adjusted model. The following two tables demonstrate the results of the three different methods.

		Market Model			Constant Mean Model			Market Adjusted Model		
		CAAR	**t-value**	**Std**	**CAAR**	**t-value**	**Std**	**CAAR**	**t-value**	**Std**
C H	**[-20,20]**	0,09%	0,16	2,12%	0,12%	0,18	2,54%	0,00%	0,00	1,19%
	[-7,7]	0,13%	0,77	0,62%	0,19%	0,86	0,81%	0,00%	0,00	0,55%
	[-1,1]	0,08%	0,66	0,47%	0,07%	0,58	0,47%	-0,04%	-0,28	0,53%
A T	**[-20,20]**	-0,06%	-0,16	1,40%	-0,05%	-0,14	1,35%	-0,11%	-0,26	1,49%
	[-7,7]	0,13%	0,34	1,36%	0,13%	0,36	1,34%	0,03%	0,09	1,07%
	[-1,1]	0,96%**	2,67	1,29%	0,93%**	2,67	1,25%	0,81%**	2,52	1,16%

Tab. 3: Observed parameters of the FIs

		Market Model			Constant Mean Model			Market Adjusted Model		
		CAAR	**t-value**	**Std**	**CAAR**	**t-value**	**Std**	**CAAR**	**t-value**	Std
C H	**[-20,20]**	0,12%	0,95	0,53%	0,15%	1,11	0,57%	0,10%	0,68	0,60%
	[-7,7]	0,09%	0,63	0,62%	0,15%	0,91	0,71%	0,07%	0,41	0,69%
	[-1,1]	0,20%	0,66	1,26%	0,25%	0,72	1,47%	0,17%	0,56	1,29%
A T	**[-20,20]**	0,07%	0,92	0,39%	0,07%	0,94	0,39%	0,05%	0,60	0,44%
	[-7,7]	0,2%**	2,65	0,41%	0,2%**	2,81	0,39%	0,14%	1,51	0,50%
	[-1,1]	0,23%***	4,61	0,28%	0,21%***	3,58	0,32%	0,21%***	3,48	0,32%

Tab. 4: Observed parameters of the Non-FIs.

The values do not deviate in a way that it is possible to argue that one method shows more desirable results than another one.

6 Conclusion

The paper provided an overview of different event study methods and examined the implications of different types of investors by analyzing the wealth effects of Swiss and Austrian target companies. The results have shown that, as it is expected in a rational marketplace, share prices do respond to the announcement of an M&A. The findings are consistent with earlier event studies. The results indicate that the abnormal returns for target firms are positive but in most of the cases not even weak significant.

The abnormal returns were calculated with the market model and for checking the consistency of the results, two other models were used - the constant mean model and the market adjusted model. The results of all three models were similar. The highest abnormal returns were gained by target firms which were taken over by non-financial investors.

Considering the wealth effects of the different types of investors, the findings of this paper support the necessity of special regulations for financial investors such as Private Equity and Hedge-Funds. This is due to the fact that the lower performance is linked to a disgraceful business conduct of a financial investor who is orientated in a short term profit at the cost of the target company and their stakeholders.

References

Achleitner, A.-K., Andres, C., Betzer, A., 2008, Economic Consequences of Private Equity Investments on the German Stock Market, München/Bonn/Aberdeen.

Andrade, G., Mitchell, M., Stafford, E., 2001, New Evidence and Perspective on Mergers. Journal of Economic Perspectives, Vol. 15, No. 2, pp. 103-120.

Becher, D. A., 2000, The Valuation Effects of Bank Mergers. Journal of Corporate Finance, Vol. 6, No. 2, pp. 189-214.

Brown, S., 1985, Using Daily Stock Returns. The case of Event Studies. Journal of Financial Economics, Vol. 14, pp. 3-31.

Campa, J. M., Hernando, I., 2004, Shareholder value creation in European M&As. European Financial Management, Vol. 10, pp. 47-81.

MacKinlay, A. C., 1997, Event Studies in Economics and Finance. Journal of Economic Literature, Vol. 35, No. 1, pp. 13-39.

Pauser, S., Rottke, N., Schiereck, D., 2007, M&A in the Construction Industry – Wealth effects of diversification into real estate life cycle related services. Real Estate Management Institude

Taylor, A., 1999, Europe eyes US market, in Financial Times, London.

Von Auer, L., 2005, Ökonometrie, Berlin/Heidelberg/New York.

Internet Links

https://zephyr.bvdep.com/version-2009116/cgi/template.dll?product=24, 19.11.2009

http://banker.thomsonib.com/, 19.11.2009

http://www.factiva.com/index_i7_w.asp, 19.11.2009

http://www.pressetext.ch/news/010420038/arznei-studie-laesst-actelion-aktie-um-53-3-einbrechen/, 19.11.2009

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