



# The Impact Of Takeover Announcements On Share Price: An Empirical Study About Home Takeovers And Cross-Border Takeovers Using Event Study

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**Abstract:** This article examines the impact of takeover announcement on share price. Prior literature focuses on takeover which has many types, reasons of funding, types of bid, targets firms for takeover announcement and different tactics. Based on the takeover announcement, this article presents the relationship between takeover bids and M&A, structure and financing. This thesis paper presents the impact on share price for M&A activities and international trade related with home and cross-border trade and also presents cross-border takeovers, its benefits and challenges. This thesis paper also presents the history of international trade and World Trade Organization (WTO) and its activities. Based on a data set of takeovers, using the event study method the impact of takeovers on share price and international trade are present in this article. The contribution of this article is threefold. First, basic or general information of takeover and M&A are provided in this article. Second, history of takeover and international trade, and its activities, functions, rules and its impact provided. Third, the findings of the research and its empirical result of takeover on international trade are provided.

**Index Terms - Takeover; Home Takeover & Cross Border Takeover; Share Price; International Trade**

## 1. Introduction:

An event study is a statistical method which performs empirical analysis on a security to investigate the reaction of investors to certain corporate events and, to determine the impact of an event on the value. The event study methodology was introduced by Fama, Fischer, Jensen, and Roll (1969). Sorescu et al. (2003) defined the event studies as examination of stock price movements surrounding corporate events such as voluntary firm announcements. Event studies are used to test market efficiency without having an impact on the market. The objective of an event study is finding the loophole, on which investors can earn excess returns from an event that carries new informational content that is predicted by an appropriate benchmark asset pricing model. Merger and acquisition announcements can be an example of corporate events.

This report presents an event study surrounding M&A, where the events are the announcement dates. When an acquisition announcement is made, the share price of the acquiring firm may fluctuate during the event period. The aim of this study is to analyze the impact of these announcements on the share price of acquiring firms and compare the price reaction between home acquisitions against cross-border acquisitions. We chose 100 observations to conduct this study: 50 of them are home takeover announcements and 50 of them are cross-border takeover announcements.

For the empirical study, standard event study methodology to find the differences with the help of the market model were utilized. In the following sections of this paper, first, we will describe briefly about the literature review and then, talk about data and methodology. After that, analysis of the empirical results is presented followed by a conclusion.

## 2. Literature Review

Whereas the event study methodology is adopted and used extensively to determine the economic impact of new information on equity value, Maynes and Rumsey (1993) suggested that the methodology might give false results for infrequently traded stocks. Cowan and Sergeant (1996) discussed the problem of using daily returns for study when thin trading is present, which might cause statistical tests to be poorly specified. Brown and Warner (1985) recommended that if we choose random securities with different event dates and perform the measurements correctly, there should be no abnormal performance on average. They also added that event studies with daily returns face severe problems like; non-normality, non-synchronous trading and market model parameter estimation, Variance estimation, and important properties captured by simulation. According to Barakat and Terry (2013), the use of artificial portfolios in event studies dragged down the cumulative abnormal return and increased the volatility around the post-events, which resulted in a lower abnormal return on the event day.

Kothari and Warner (2004) noted that two major changes in the methodology happened after the establishment of an event study. One of them is the use of daily returns data rather than monthly, stationarity of the market model parameters, which allowed more accurate measurement of abnormal returns, as well as more revealing outcomes of announcement effects (Gonedes 1973, Binder 1998). Another example is the increasingly sophisticated methods for estimating abnormal returns. They also added that heavily weighted short horizon tests give more precise results than long horizon tests. Nowadays, the event study methodology has become the standard form of measuring price reaction to any announcement. According to Binder (1998), there are two reasons for which the event studies are implemented. Firstly, in the need for testing the null hypothesis that the market efficiently includes information (Fama, 1991). Secondly, to evaluate the influence of some event on the wealth of the firm's security holders.

The market model is one of the simple equilibrium models. A poorly specified event study test based on a market model employs a value weight index rather than logarithmic returns (Brown and Warner, 1980). Agreeing with them, Corrado and Truong (2008) found that tests based on arithmetic returns generally produce inferior test specification than tests based on logarithmic returns. Binder (1998) said that the market model works well as a measure for the benchmark rate of return. Brown and Warner (1980) added that event study methodology based on the market model performed really well under a wide variety of conditions. Mergers and acquisitions play a vital role for businesses around the world. Mergers and acquisitions help a firm to increase profitability (Gugler et al 2003). Bruner (2002) examined the relationship between mergers and acquisition profitability for the shareholders, in terms of stock returns. In a study, Akben-Selcuk (2015) analyzed several Turkish target firms around the announcement of acquisitions for fifteen years duration and used the market model, same as our topic criteria, with the estimation of abnormal returns. Cumulative abnormal returns were estimated over several event windows and expected returns were calculated by using a single parameter market model. In this paper, we used market models from the equilibrium models to conduct the event study, which will be described in following sections.

### **3. Data and Methodology:**

In order to inspect the impact of the announcement of the proposed acquisitions on the stock prices, we used the event study methodology (Brown and Warner 1985, Binder 1989, Wareluk 2013, Antoniadis et al. 2014 also used the similar procedures). To conduct the event study, we needed to collect the observation first. Hence, we collected the data from 'Thompson One Banker', using data type as 'announcement date' and data range as 'last year' for the acquirer firms of the United Kingdom. In total, we found 704 firms including both home takeovers and cross-border takeovers. After sorting the data by date, we deleted the missing date data and were left with 506 observations. We found 305 home takeovers and 201 cross-border takeovers. From these, we selected 100 observations (50 each) randomly. We used "=RAND ()" to order data randomly and then selected first 50 entries for home takeovers, as well as first 50 for cross-border takeovers.

ID	DateEffective/Unconditional	Target Name	TargetNation	Acquiror Name	Acquiror Nation
1	25/10/2016	Undisclosed Care Homes	United Kingdom	Target Healthcare REIT Ltd	United Kingdom
2	07/07/2016	Avonline PLC	United Kingdom	Satellite Solutions Worldwide	United Kingdom
3	15/02/2016	Water Lane Apartments	United Kingdom	GCP Student Living PLC	United Kingdom
4	31/03/2016	Abode Home Products Ltd	United Kingdom	Norcros PLC	United Kingdom
5	22/06/2016	Intu Merry Hill Shopping Centre	United Kingdom	Intu Properties PLC	United Kingdom
6	01/03/2016	HomeOwners Alliance Ltd	United Kingdom	ULS Technology Plc	United Kingdom
7	18/02/2016	CoolLED Ltd	United Kingdom	Judges Scientific PLC	United Kingdom
8	31/03/2016	Drumeldrie Investments -Assests	United Kingdom	Mid Wynd Intl Investment	United Kingdom
9	10/02/2016	Harris + Hoole Ltd	United Kingdom	Tesco PLC	United Kingdom
10	24/06/2016	Undisclosed Care Home	United Kingdom	Target Healthcare REIT Ltd	United Kingdom
11	21/07/2016	Horse Hill Development Ltd	United Kingdom	UK Oil & Gas Inv PLC	United Kingdom
12	24/03/2016	TRM Packaging Ltd	United Kingdom	DS Smith PLC	United Kingdom
13	22/02/2016	Undisclosed Retail Warehouse	United Kingdom	Custodian REIT PLC	United Kingdom
14	07/11/2016	Redcentric PLC	United Kingdom	MXC Capital Ltd	United Kingdom
15	29/03/2016	Intersoft Sys & Programming	United Kingdom	Postal Services Holding Co P	United Kingdom
16	10/02/2017	Oasis Dental Care Ltd	United Kingdom	BUPA Finance PLC	United Kingdom
17	07/10/2016	Kingsbury Packaging Ltd	United Kingdom	Bunzl PLC	United Kingdom
18	24/05/2016	Tredz Ltd,Wheelies Direct Ltd	United Kingdom	Halfords Group PLC	United Kingdom
19	12/05/2016	Fire Alarm Fabrication Svcs	United Kingdom	Marlowe PLC	United Kingdom
20	09/03/2016	Vista Panels Ltd	United Kingdom	Eurocell Plc	United Kingdom
21	17/10/2016	HELICAL PLC-Single Logistics	United Kingdom	LondonMetric Property PLC	United Kingdom
22	31/05/2016	Nameco (No 346) Ltd	United Kingdom	Helios Underwriting PLC	United Kingdom
23	14/11/2016	Optimum Sports Performance Ltd	United Kingdom	Totally PLC	United Kingdom
24	19/07/2016	Paragon Automotive Ltd	United Kingdom	BCA Marketplace PLC	United Kingdom
25	25/04/2016	MCR Ppty Grp-victoria plant	United Kingdom	Empiric Student Property PLC	United Kingdom
26	04/08/2016	Wigan Coachways Ltd	United Kingdom	Rotala PLC	United Kingdom
27	26/04/2016	DBK Partners LLP	United Kingdom	RPS Group PLC	United Kingdom
28	19/01/2016	Rotalac Plastics Ltd	United Kingdom	Coral Products PLC	United Kingdom
29	21/06/2016	Trustmarque Solutions Ltd	United Kingdom	Capita PLC	United Kingdom
30	05/10/2016	Fisher Moy International Ltd	United Kingdom	Park Group PLC	United Kingdom
31	12/02/2016	Birmingham City Council-Grand	United Kingdom	Hammerson PLC	United Kingdom
32	11/08/2016	Weald licence PEDL234, Weald	United Kingdom	UK Oil & Gas Inv PLC	United Kingdom
33	21/03/2016	IFA Abacus Assoc Finl servcs	United Kingdom	Tavistock Investments PLC	United Kingdom
34	03/02/2016	Undisclosed CareHome,Sheffield	United Kingdom	Target Healthcare REIT Ltd	United Kingdom
35	08/06/2016	Health Analytics Ltd	United Kingdom	Capita PLC	United Kingdom
36	11/04/2016	Crown Chicken Ltd	United Kingdom	Cranswick PLC	United Kingdom
37	04/03/2016	Apollo Pass Ltd	United Kingdom	Sky Plc	United Kingdom
38	27/05/2016	Undisclosed Distribution Unit	United Kingdom	Custodian REIT PLC	United Kingdom
39	29/04/2016	E ON SE-E&P Business	United Kingdom	Premier Oil PLC	United Kingdom
40	02/09/2016	Millbrook Proving Ground Ltd	United Kingdom	Spectris PLC	United Kingdom
41	01/11/2016	Barking Mad Ltd	United Kingdom	Franchise Brands PLC	United Kingdom
42	02/09/2016	Modrus Ltd	United Kingdom	Nasstar PLC	United Kingdom
43	22/03/2016	Jampot Consulting Ltd	United Kingdom	reach4entertainment Enterpr	United Kingdom
44	03/01/2017	PrettyLittleThing.com Ltd	United Kingdom	Boohoo.com plc	United Kingdom
45	01/09/2016	Home Retail Group PLC	United Kingdom	J Sainsbury PLC	United Kingdom
46	01/03/2016	Higher Access Ltd	United Kingdom	Vp PLC	United Kingdom
47	27/05/2016	Summerfield House Care Homes	United Kingdom	Target Healthcare REIT Ltd	United Kingdom
48	29/03/2016	Evantage Consulting Ltd	United Kingdom	Wilmington PLC	United Kingdom
49	04/08/2016	Winsford Industrial Estate	United Kingdom	Custodian REIT PLC	United Kingdom
50	31/05/2016	Betdigital Ltd	United Kingdom	NYX Gaming Group Ltd	United Kingdom
51	13/05/2016	Undisclosed Warehouse Facility	United Kingdom	Keller Group PLC	United Kingdom
52	26/04/2016	Chester Laundry Ltd	United Kingdom	Johnson Service Group PLC	United Kingdom
53	26/04/2016	Technical Connection Ltd	United Kingdom	St. James's Place PLC	United Kingdom
54	13/09/2016	Cristie Data Ltd	United Kingdom	iomart Group PLC	United Kingdom
55	08/01/2016	PayPoint Plc-Online Payment	United Kingdom	Capita PLC	United Kingdom

Figure:1

Figure:1 shows the home takeover firms we chose and the following chart shows the cross-border takeover firms used within this study.

ID	DateEffective/Unconditional	Target Name	TargetNation	Acquiror Name	Acquiror Nation
1	03/01/2017	Aalto Invest Holding AG	Switzerland	Man Group PLC	United Kingdom
2	26/09/2016	Addiction Advertising PTE LTD	Singapore	The Marketing Group Plc	United Kingdom
3	05/02/2016	CenTrak Inc	United States	Halma PLC	United Kingdom
4	03/02/2017	6PM Holdings PLC	Malta	Idox PLC	United Kingdom
5	02/05/2016	Serena Software Inc	United States	Micro Focus International PLC	United Kingdom
6	28/02/2017	Van Gansewinkel Groep BV	Netherlands	Shanks Group PLC	United Kingdom
7	17/10/2016	Birkenhead Estates SA	Colombia	Bezant Resources PLC	United Kingdom
8	31/05/2016	Finex Oy	Finland	Johnson Matthey PLC	United Kingdom
9	14/03/2016	Expression	Utd Arab Em	M&C Saatchi PLC	United Kingdom
10	31/08/2016	Stratatech Corp	United States	Mallincrodt PLC	United Kingdom
11	11/07/2016	Mahenge Liandu Graphite	Tanzania	Armada Capital PLC	United Kingdom
12	05/01/2017	Ronez Ltd	Jersey	SigmaRoc PLC	United Kingdom
13	05/12/2016	Universal Pty Brasil	Brazil	Craven House Capital PLC	United Kingdom
14	25/01/2017	Foshan Huaxia Home Textile	China	Tarsus Group PLC	United Kingdom
15	06/06/2016	Gotex SA	Spain	Coats Group PLC	United Kingdom
16	16/03/2016	Fitch Solutions-CDS	United States	Markit Ltd	United Kingdom
17	29/06/2016	Polaris Chemicals SPRL	Belgium	Bunzl PLC	United Kingdom
18	08/06/2016	Costruzioni Meccaniche	Italy	Rotork PLC	United Kingdom
19	09/05/2016	Danal Inc	United States	Bango PLC	United Kingdom
20	29/04/2016	Mastergear Worldwide	United States	Rotork PLC	United Kingdom
21	07/12/2016	Newgate Communications Pty Ltd	Australia	Porta Communications PLC	United Kingdom
22	03/03/2016	DeLorme Inc	United States	Garmin Ltd	United Kingdom
23	22/01/2016	Investor Analytics LLC	United States	StatPro Group PLC	United Kingdom
24	18/04/2016	Xcaliber Technologies LLC	United States	Bianco Technology Group PLC	United Kingdom
25	13/02/2017	Zohr Gas Field	Egypt	BP PLC	United Kingdom
26	29/02/2016	Casa Mining Ltd	Mauritius	Ortac Resources Ltd	United Kingdom
27	02/03/2016	Profant Luft-Technik	Austria	SIG PLC	United Kingdom
28	02/09/2016	Molotov SAS	France	Sky Plc	United Kingdom
29	16/05/2016	Channel Cirkus	Sweden	ITV PLC	United Kingdom
30	31/12/2016	ANNOVA Systems GmbH	Germany	SciSys PLC	United Kingdom
31	15/09/2016	Fabrika duhana Sarajevo dd	Bosnia	British American Tobacco PLC	United Kingdom
32	30/06/2016	PestAway Australia Pty Ltd	Australia	Rentokil Initial PLC	United Kingdom
33	01/09/2016	Schlemmer GmbH	Germany	3i Group PLC	United Kingdom
34	29/11/2016	GOPACA Fabrica de Papel e	Portugal	DS Smith PLC	United Kingdom
35	29/11/2016	Promotion Execution Partners	United States	WPP PLC	United Kingdom
36	24/05/2016	EuroMed Inc	United States	Scapa Group PLC	United Kingdom
37	07/07/2016	Conexance MD SAS	France	WPP PLC	United Kingdom
38	22/12/2016	Undisclosed Mold & Tundish	Brazil	Vestus PLC	United Kingdom
39	01/11/2016	Stroz Friedberg LLC	United States	Aon PLC	United Kingdom
40	13/01/2016	Lidl Stores (9)	Romania	First Property Group PLC	United Kingdom
41	17/11/2016	Plastiapa SpA	Italy	RPC Group PLC	United Kingdom
42	08/04/2016	Ingenious Inc	United States	John Wood Group PLC	United Kingdom
43	04/04/2016	NEOS Business Finance BV	Netherlands	Schroders PLC	United Kingdom
44	26/02/2016	Zon Optimus-Optical Fiber Asts	Portugal	Vodafone Group PLC	United Kingdom
45	12/10/2016	Immunetics Inc	United States	Oxford Immunotec Global PLC	United Kingdom
46	25/01/2016	Signal Processing Devices	Sweden	e2v Technologies PLC	United Kingdom
47	06/04/2016	Galileo Japan KK	Japan	Travelport Worldwide Ltd	United Kingdom
48	07/03/2016	JP Plast sro	Czech Republic	RPC Group PLC	United Kingdom
49	13/01/2016	Laboratorios Brovel SA de CV	Mexico	Dechra Pharmaceuticals PLC	United Kingdom
50	04/10/2016	GWAVA Inc	Canada	Micro Focus International PLC	United Kingdom
51	17/12/2016	Abu Dhabi Co for Onshore Op	Utd Arab Em	BP PLC	United Kingdom
52	22/12/2016	Indumotora Internacional SA	Chile	Inchcape PLC	United Kingdom

Figure:2

For the purpose of the study, we found share prices of estimation period back to -100 trading days before the actual event for all these firms. We collected the same size period for all these firms as data range '1st June 2015 to 31st July 2017' and then sorted them by 'old to new' selecting period. During our data collection from Thomson One Banker, we found that some companies' data (price chart) were not available. So, the next firm was selected from the list (e.g.: From home takeovers, 5<sup>th</sup> company's data was not available. For the research criteria, we had to take 50 observations. So, we took 51<sup>st</sup> as a replacement and so on for the following data.). As I stated in the literature review, previous studies suggest that we use log returns for calculation. We therefore collected daily share prices for acquiring firms, calculated log returns from the daily returns, and manually removed all bank holidays. The following hypotheses were formulated for the study H0: The event does not appear to be related to abnormal returns.

H1: The event does not appear to be related to significant (positive/negative) abnormal returns.

As our research criteria were to compare the home takeovers and cross-border takeovers, our research hypothesis are described below:

H0a: There are no significant abnormal returns when there is a home takeover.

H1a: There are significant abnormal returns when there is a home takeover.

H0b: There are no significant abnormal returns when there is a cross-border takeover.

H1b: There are significant abnormal returns when there is a cross-border takeover.

We used the announcement date (event day) as 'day zero' and sorted all the data from -100 days to +5 days. After sorting all the observations from -100 to +5, we calculated beta, alpha, expected returns, and abnormal returns from the data. Estimation period is from -100 days to -10 days, which was used to calculate beta and alpha. The test period is from -5 days to +5 days, which is used to calculate expected returns and abnormal returns.

**Market model:**

$$E(R_{i,t}) = \alpha_{i,j} + \beta_{i,j}R_{m,t}$$

From the equilibrium models, the market model is the simplest but most effective. We used the market model (as described above) to estimate parameters for computing expected returns. In this case, Alpha is the intercept, and Beta is the slope, both of which occur during the estimation period ( $t = -100, -10$ ) and can be calculated from this time period. Expected returns have been calculated from -5 days to +5 days for each observation using the alpha and the beta and the market returns. Then, we calculated the abnormal returns for each firm from day  $t = -5$  to +5 in the event period. We analysed abnormal returns for each period by simply deducting calculated expected returns from actual returns. Then, we determined the average abnormal return for the test period, from which we can easily see the price fluctuation in the event period.

**Abnormal returns**

$$AR_{i,t} = R_{i,t} - E(R_{i,t})$$

After calculating the average abnormal returns during the test periods and constructing the graph, we separated the test periods into three event windows on which we calculated the cumulative abnormal returns later. The pre-event window contains the days from -5 to -1. Event window contains the days from 0 (event day) to +1. Post

event window contains the days from +2 to +5. With the event window, we can easily distinguish the reaction which can be either neutral or over reaction (delayed response) or under reaction (inefficient response).

## Cumulative abnormal returns

$$CAR_{t,t+K}^i = \sum_k AR_{i,t+k}$$

Then, we calculated the cumulative abnormal returns (using above formula) from all firm observations for each event window. We simply added up the abnormal returns of the specific event time for the desired event windows and then calculated the average cumulative abnormal returns. After constructing the graph from the cumulative abnormal returns for each window, we easily defined the reaction on the price that occurred on either the post-event or the event window or the pre-event.

### Calculate t-statistics:

$$t_{CAR} = \overline{CAR}_{it} / (\sigma(CAR_{it}) / \sqrt{n})$$

To describe the impact of takeover announcements on share price, we needed a test statistic on which we can rely on and calculate the hypothesis test. Using above formula ( $t = t\text{-stat}$ ,  $CAR = \text{cumulative abnormal return}$ ,  $\sigma = \text{standard deviation of returns}$ ,  $n$  is number of observations), we calculated the T-stat values of each event time for average abnormal return and each event window for average cumulative abnormal return to determine the significances of event announcements on the share price. We tested the T-stats against the critical values of 1% level, 5% level, and 10% level. We used a T-distribution critical values chart to get the critical values. As we had 50 observations, we had to calculate the values with 49 degrees of freedom (DF is calculated as  $n-1$ ). In the chart, we used the values of 50th as it is the closest one from 49th. Using these data and methodology, we developed the empirical results and findings for home takeovers and cross-border takeovers, which will be described below.

#### 4. Empirical Results:

We calculated the event study for 100 acquirer firms (50 home takeovers and 50 cross-border takeovers) and got the results. We will compare both situations' T-stats with different critical values to accept or reject the null hypothesis. With the observations of 50 firms each and degree of freedom 49, we found different critical values (For 10%, 5%, and 1% level of critical values T-stats are 1.676, 2.009, and 2.678). If the calculated T-stat is above the critical value, we can reject the null hypothesis. If the calculated T-stat is below the critical value, we cannot reject the null hypothesis.

<b>critical value (10% level)</b>	<b>1.676</b>
<b>critical value (5% level)</b>	<b>2.009</b>
<b>critical value (1% level)</b>	<b>2.678</b>
<b>This is with 49 degrees of freedom. DF is calculated as n-1.</b>	

For home takeovers, we did not find any evidence that there is a significant abnormal return. For all the event time in 'average abnormal return', we cannot reject the null hypothesis with 5% level of critical value. In this case, we can say that it reflects a weak form of market where we cannot beat the market. There was a positive reaction on the event day, but not significant enough to reject the null hypothesis. However, there was a significant positive ARR on the day -5 at 1.19%, which is significant enough to reject the null hypothesis at 10% level of critical values. Perhaps, there might be some leakage of positive internal information (good news) present in home takeovers that caused the market to overreact to the event news and get exaggerated up on the price before the actual event. However, when the actual events occurred, the market realized that the impact would be less than expected and began to fall with a negative AAR, creating a new equilibrium line. After the event day, there was positive AAR, which held the level, but not enough because the market was already in shock from the downward price movement, resulting in negative AAR for the following post-event days.

<b>Home takeovers</b>			
<b>Event time</b>	<b>Average Abnormal return (AAR)</b>	<b>T-stats</b>	
-5	1.19%	1.878	
-4	0.13%	0.432	
-3	-0.11%	-0.466	
-2	0.38%	1.324	
-1	-0.16%	-0.686	
0	0.19%	0.242	
1	0.57%	1.179	
2	-0.11%	-0.330	
3	-0.10%	-0.327	
4	-0.13%	-0.329	
5	-0.26%	-0.798	

Figure:3



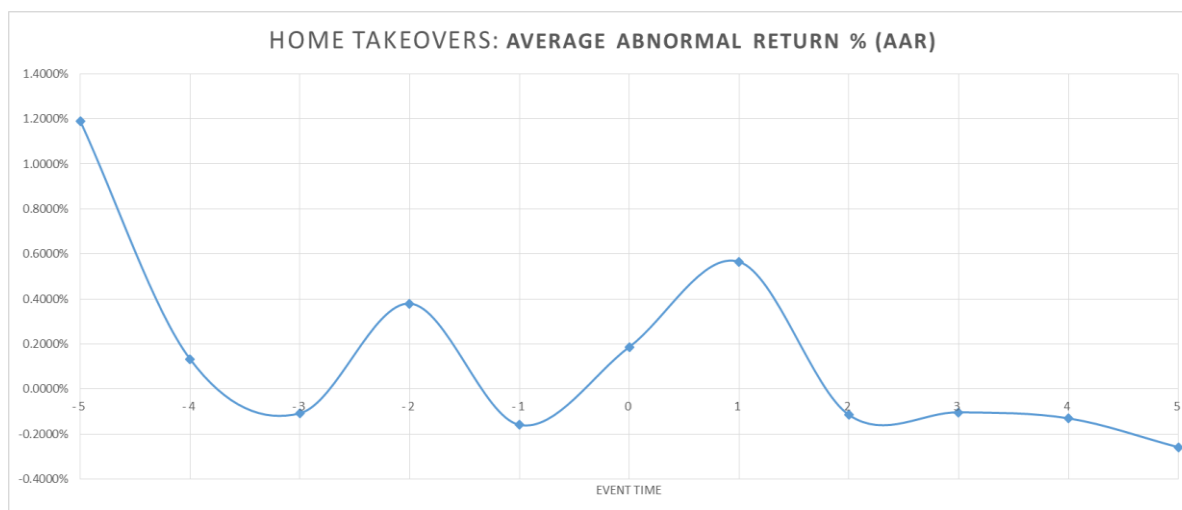


Chart:1

On the other hand, we can see a better efficient market scenario in cross-border takeovers. On day 0 (event day), ARR is at 1.48%, and the T-stat indicated that it is significant at 1% level of critical value. We can accept the null hypothesis and conclude that there are significant abnormal returns when a cross-border takeover occurs. Further, we can see an immediate fall in ARR, as well as in T-stats which ends up to negative until day 4. On day 4, we can see a generous upward movement in ARR, which is significant at 10% level of critical value, and created a new equilibrium line. This is similar with the overreaction to 'good news' with reversion on the event day, which also known as 'inefficient response'.

Cross-Border takeovers			
Event time	Average Abnormal return (AAR)	T-stats	
-5	0.63%	1.192	1.192
-4	0.21%	0.539	0.539
-3	0.02%	0.057	0.057
-2	0.20%	0.503	0.503
-1	0.06%	0.184	0.184
0	1.48%	3.283	3.283
1	0.27%	0.759	0.759
2	0.04%	0.104	0.104
3	-0.05%	-0.119	-0.119
4	1.08%	1.770	1.770
5	0.37%	1.040	1.040

Figure: 4

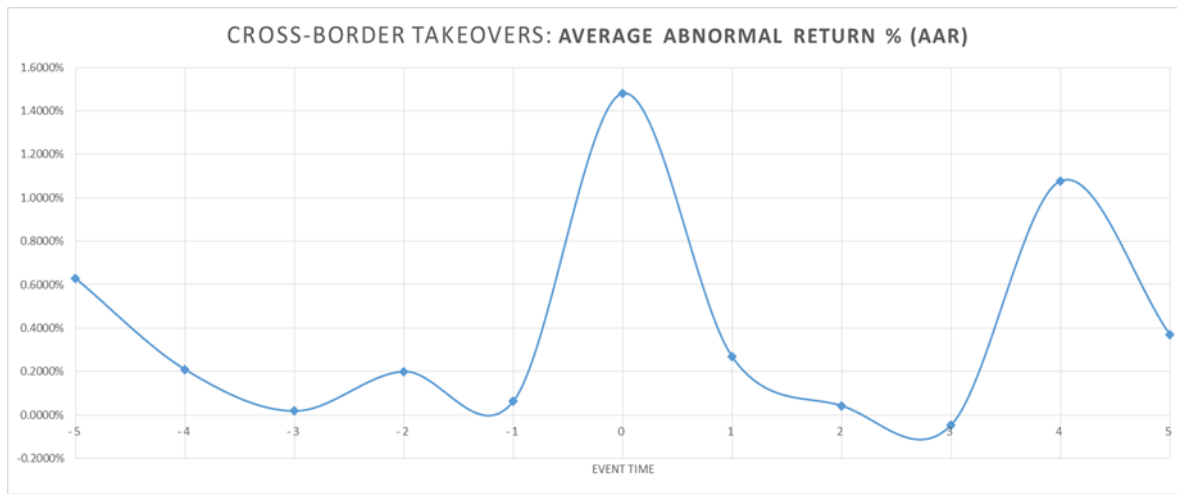


Chart: 2

From the graphs of home takeovers and cross-border takeovers AAR, we can easily see the abnormal returns fluctuation during the event period. For home takeovers, AAR rise during the pre-event days and fluctuates during the test period and ends up with a lower negative AAR. For cross-border takeovers AAR rise on the event day significantly, creating an overreaction in the market that ends up in a lower AAR than the event day after day 4.

Home takeovers		
Event window	Cumulative Average Abnormal return (CAAR)	T-stats
(-5, -1) Pre-event	1.44%	1.810
(0,+1) Event	0.75%	0.797
(+2, +5) Post-event	-0.61%	-1.075

Figure: 5

In different event windows, we can see a different reaction in the market, when we calculate the cumulative average abnormal return (CAAR). With this, we can differentiate the impact by their event window. In home takeovers, there is a significant increase in the pre-event window at 1.44%, which is significant enough to reject the null hypothesis at 10% level of critical value. But the null hypothesis cannot be rejected on the event day. As a result, we can say that there are no significant abnormal returns when there is a home takeover. On the other hand, CAAR for cross-border takeovers (1.75%) indicates that there is a proof of significance at 1% level critical value on the event window to reject the null hypothesis. As a result, there are significant abnormal returns when there is a cross-border takeover.

Cross-border takeovers			
Event window	Cumulative Average Abnormal return (CAAR)		T-stats
(-5, -1) Pre-event		1.12%	0.843
(0,+1) Event		1.75%	2.776
(+2, +5) Post-event		1.44%	1.618

Figure: 6

Comparison of home takeover with cross border takeover with AAR and CAAR show that home takeover announcements do not have an impact on share price whereas cross-border takeover significantly impact the share price on the event day.

The following chart will describe the overall results:

Overall Review		
Condition	Home takeovers	Cross-border Takeovers
<b>Accept <math>H_0</math></b>	$H_{0a}$ : There are no significant abnormal returns when there is a home takeover.	$H_{0b}$ : There are no significant abnormal returns when there is a cross-border takeover.
<b>Reject <math>H_0</math></b>	$H_{1a}$ : There are significant abnormal returns when there is a home takeover.	$H_{1b}$ : There are significant abnormal returns when there is a cross-border takeover.
<b>Result =</b>	<b>Accept <math>H_{0a}</math></b>	<b>Reject <math>H_{0b}</math></b>

Figure: 7

When conducting the research study, we found thinly traded companies in the data sample as the log returns of them were mostly zero. Firms with a high number of zero log returns were likely traded infrequently. This is more of an issue if the chosen country is an emerging market or developing country. Because the market is underdeveloped, and trading is limited.

## 5. Conclusion:

The announcement of another firm's acquisition has an effect on the acquirer's share price, whether for a domestic or cross-border takeover. The reaction to the news may be due to the firm's fever or it may not be due to market efficiency. In a weak market, announcement news may have a greater impact than in a strong market. Acquiring firm size matters on event significance. For this empirical study, there were different firms who acquired different targets. It is possible that the size of the acquiring firm or the target firm makes a difference. We can clearly see the difference when we calculate the impact on an individual. However, this outcome cannot be the same for every company. In our empirical study, we used event study methodology to conduct the study on 50 home takeover announcements, as well as 50 cross-border announcements.

As a result, we found that home takeover announcements do not make much impact on the share price, but cross-border takeover announcements positively influence the share price. Due to positive average abnormal returns, there is some evidence of anticipation or information leakage prior to the event on day -5 for both home as well as cross-border takeovers. Home takeovers resulted in a significant level, whereas cross-border takeovers failed to reach the critical value limits. There was evidence of a positive impact on day 0 (the event day) as a result of positive and significant average abnormal returns for cross-border takeovers. However, no significant results were discovered for home takeovers on the event day. Furthermore, no significant results were found with cumulative average abnormal returns for domestic takeovers, whereas severe significant results were found with cumulative average abnormal returns for cross-border takeovers.

In the conclusion of this paper, we can say that event study is one of the simplest and effective ways to differentiate the impact on share price from a corporate event announcement. In my study, there were some limitations present which may affect the empirical results such as thin trading and the randomness of selectivity of firms without knowing their size. However, the results show distinct points that we can relate to this study as well as other literature.

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