



**The shortrun impact of acquisitions on shareholder value
during the economic downturn for acquiring JSE listed
companies**

A research project submitted

by

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ABSTRACT

The study of Mergers and Acquisitions has remained very topical for over two decades. Mergers and acquisitions attract attention from different stakeholders like Governments, Media, Investors, Employees, Private Equity Firms, Legal Firms, and Investment Banks. However it remains unclear whether Mergers and Acquisitions add shareholder value or not. The aim of this research is to investigate the shortrun impact of acquisitions on shareholder value for companies listed on the Johannesburg Securities Exchange (JSE) within the current economic downturn. It also touches on the impact of Black Economic Empowerment acquisitions on shareholder value.

The Cumulative Abnormal Returns (CAR) of acquiring companies around the announcement date were tested to determine whether they were significantly different from zero.

The study did find some glimpses of positive and negative statistically significant Cumulative Abnormal Returns over some event windows. However the holistic view did not show any proof of statistically significant Cumulative Abnormal returns around the announcement date. In conclusion this study showed that on average Mergers and Acquisitions have a neutral impact on shareholder value of the acquiring companies.



DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Percy Gumede

11th of November 2009



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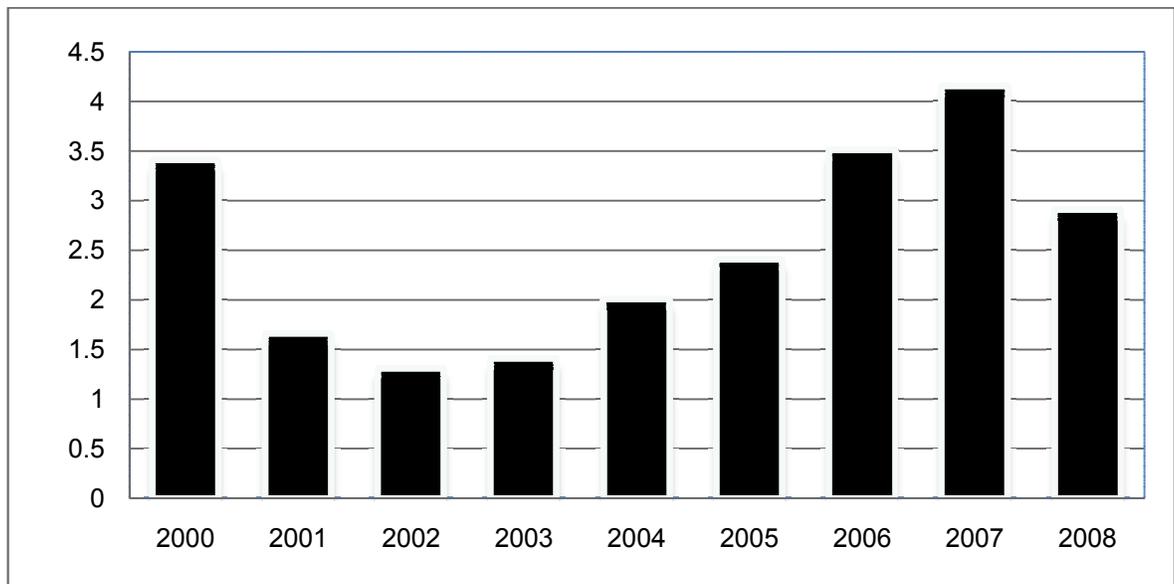
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1 CHAPTER 1 - INTRODUCTION TO THE RESEARCH PROBLEM

According to the Ernst and Young Mergers and Acquisitions report in 2008 the value of Global M&A activities was over USD 4 trillion, an increase of over 8% from 2006. However in 2008 the reported value was USD 2.9 trillion, which is 30% down from the record volume of 2007.

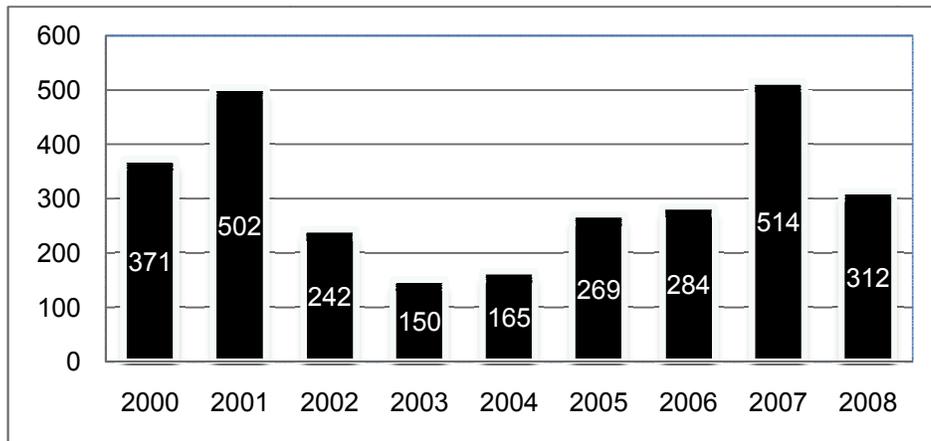
Figure 1: Global M&A deals between 2000 and 2008 – value in USD trn



Source: Thomson Reuters

In South Africa the total value of M&A activities in 2007 was ZAR 514 billion which was an increase of 20% from 2006. In 2008 the value dropped to ZAR 312 billion which was a decrease of approximately 39% from 2007.

Figure 2: The number of South African M&A deals between 2000 and 2008



Source: Ernst and Young (2007) M&A report

The study of Mergers and Acquisitions has remained very topical for over two decades. Mergers and acquisitions attract attention from different stakeholders like Governments, Media, Investors, Employees, Private Equity Firms, Legal Firms, and Investment Banks.

The government is always there to ensure that consumers' interests are looked after and also to ensure that the market remains competitive if a merger is recommended or proposed. According to Okeahalam (2007) in 1999 the Competition Commission of South Africa intervened and stopped the bid by Nedcor to takeover Standard Bank Investment Corporation. The bid was rejected primarily on the grounds that this would lead to an increase in market power, which would be destructive to the welfare of consumers.

There are a number of professional advisors that are involved in an M&A deal. According to Ernst and Young, in 2007 in South Africa the top three Investment



Advisors were Rand Merchant Bank, Deutsche Securities and Goldman Sachs and the top three Legal Advisors were Webber Wentzel Bowens, Bowman Gilfillan and Werksmans.

During the bullish market these were some of the most reputable institutions and their services came at a premium. The deals are structured in such a way that all the advisors that are involved in the deal are remunerated for the work that they have done, regardless of whether the deal comes to fruition or not. This implies that the shareholders take the biggest risk as they are not guaranteed any value. Krishnan, Hitt and Park (2007) state that paying acquisition premiums lead to destroying post acquisition synergy. However Laamanent (2007) states that the sizes and the complexity of some of the merger and acquisition deal justify the premium.

Referring to *Figure 1 and 2* above it is clear that the value in M&A activity is very high, and yet research findings are suggesting that mergers and acquisitions do not yield significantly high returns. (Smit and Ward, 2007)

1.1 Relevance

1.1.1 Global Economic Crises

“There were five main merger waves in the 20th century. These waves typically coincided with economic expansion, booming stock markets, and fundamental changes to the economic environment, often under the form of technological innovation leading to higher



economies of scale and larger geographical markets” (Lambrecht 2005, pg 1). Figure 1 & 2 depict the global and South African M&A trends which are almost identical to the global economic trends. They peak together with the global economy and followed suit during the global economic downturn.

According to Ofek and Richardson (2003) the internet sector earned over 1000 percent returns on its public equity between 1998 and 2000. However these returns vanished by the end of 2000. According to Lambrecht (2005) this was the fifth merger wave which slowed down after the collapse of the internet bubble in 2000.

According to Crouhy (2008) the credit crisis of 2007 started in the United States in the subprime mortgage market. However the impact has been felt globally. Crotty (2008) describes the current subprime crisis as the worst economic crisis since the Great Depression which happened in the 1930s.

Ofek and Richardson (2003) suggest that asset prices are equilibrium determined to the extent that they reflect the underlying beliefs about payoffs. Overzealous asset buying during the economic upturn disturbs this equilibrium and the market reacts through self correction. This implies that the current global economic situation is due to the system trying to re-establish the equilibrium.



The state of the current global economy has led to many local and international organisations losing value. The current bearish market situation has turned many of these organisations into targets for takeovers. However not everything that can be bought should be bought especially during uncertain times. It is vital that organizations, management and directors embark on activities that maximise shareholder value.

1.1.2 The aim of this study

The aim of this study is to determine the shortrun impact of large mergers and acquisitions during the economic downturn. The current economic conditions also call for an urgent need to try and understand the impact on Black Economic Empowerment (BEE) deals during economic downturn and also the method of financing them. Although there are several working papers that looked at the impact of BEE on shareholder value, there were none that could be accessed that studied the impact during economic downturn. The aim of this study is not to take an indepth look at the very complex study of BEE deals but it aims to show if they add value as deal drivers and also pave way for similar future studies. It also aims to look at foreign companies merging with South African companies (Cross Border Deals) and test if such deals do add shareholder value.



2 CHAPTER 2 - LITERATURE REVIEW

2.1 Mergers and Acquisitions

According to Ragozzino and Reuer (2007) mergers and acquisitions represent one of the main ways that companies get bigger, and the importance of this vehicle of corporate growth for the global economy has only seemed to increase. Andrade and Stafford (2004) support this above statement by stating that mergers and acquisitions can also play an 'expansionary' role where mergers are similar in spirit to internal investment, adding to capital stock. Mergers of this nature are usually witnessed during the economic boom. However during the economic downturn organisations usually engage in mergers characterised by consolidation and reduction of asset base. Andrade and Stafford (2004) refer to these as 'contractionary' mergers, these mergers are associated with removing excess capacity, which lead to efficiency. These mergers usually occur during the economic downturn when organisations are trying to increase shareholder value.

Smit and Ward (2007) concluded that shareholders of acquiring companies do not earn statistically significant positive or negative Abnormal Returns around the announcement date and no statistically significant Average Cumulative Abnormal Returns (ACARs) were observed for any of the event windows considered in their study. The findings of Smit and Ward (2007) are harmonious with the second part of



Bruner (2002) summarised findings of 130 studies conducted during 1971-2001. The results of the studies that focused on short-term returns suggest that target shareholders earn significantly positive abnormal returns and that bidders earn zero risk-adjusted returns. However the combined returns of bidders and targets are positive.

Epstein (2005) concludes by stating that during the economic downturn when stock prices are down throughout the market, a lower price for the merged company gives little or no information as to the real value created by the merger.

2.1.1 Short-run event studies

According to Franks and Harris (1989) and Higson and Elliot (1998) cited in Tuch and O'Sullivan (2007) the 'short-run' event period over which the performance of bidding companies is measured varies considerably between studies with some studies incorporating performance comparisons as much as four months prior to the bid announcement and up to three months afterwards.

Tuch and O'Sullivan (2007) further cited Asquith *et al.* (1983) whose findings suggested that regardless of the event window there is very little if any positive returns to the shareholders of the acquiring firms. Tuch and O'Sullivan (2007) continued to highlight that these studies included takeovers in the 1950s (in the case of



Franks and Harris) and the 1960s (in the case of Asquith et al.). They further mentioned that in that era takeovers appeared to be more beneficial. This suggests that in recent times, mergers and acquisitions have become less value adding to shareholders of the acquiring companies. This is supported by Andrade et al. (2001) cited in Tuch and O'Sullivan (2007). According to Tuch and O'Sullivan (2007) recent literature since 2000 suggest that even over the [-1, +1] event period, only a third of acquirers experience wealth gains. This implies that the majority of mergers and acquisitions do not add shareholder value even in the shortrun.

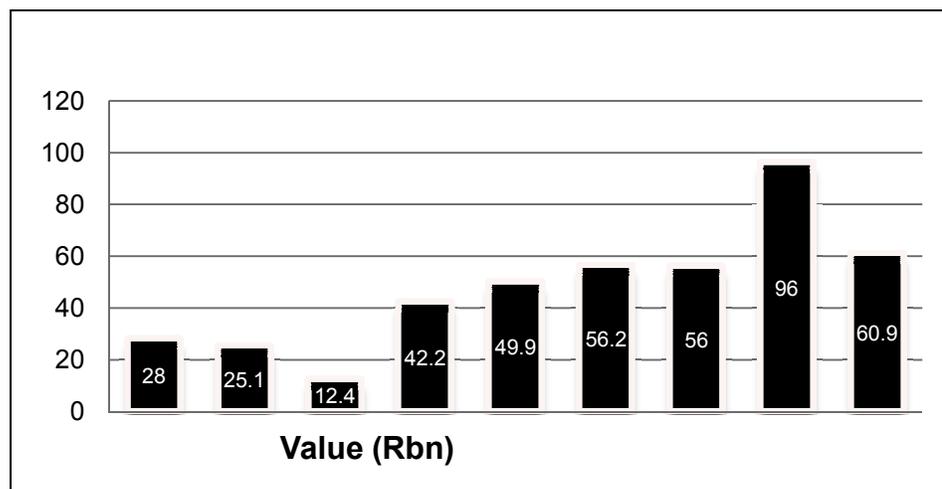
2.2 South African Environment

2.2.1 Black Economic Empowerment as the Deal Driver

According to Cargill (1999), cited in Jackson, Alesandri & Black (2005), in 1995 less than 1% of market value of companies that were listed on the Johannesburg Stock Exchange (JSE) were in the black hands. According to Jackson *et al* (2005) the South African Government introduced BEE act in 2003 to try and increase the participation of blacks in the ownership of major industrial firms. BEE transactions involve the sale of equity stakes of firms to black investors or consortia, usually at a price that is a substantial discount from current market price.

This policy had both negative and positive impact on the economy. According to the Ernst and Young (2006) survey of the attitudes of foreign-owned multi-nationals, it was revealed that 35% felt that the impact of BEE on investment would be negative and 35% felt it would be positive. The survey also noted that the lower the understanding of BEE by the parent company, the greater the negative perception this is cited in West (2006).

Figure 3: The value of BEE deals between 2000 and 2008



Source: The actual figures were sourced from Ernst and Young (2007 and 2008) reports

According to the Ernst & Young (2007) report on Mergers and Acquisitions the value of Black Economic Empowerment activities increased by 71% between 2006 and 2007 as illustrated in *figure 3*. Samuels (2005) stated that organisations engage in BEE M&A transaction to meet regulatory requirements. Without BEE credentials it is almost impossible for organisations to operate within the South African environment. One of Sartorius and Botha



(2008) findings is that compliance is one of the reasons why some organisations engage in BEE activities. Chabane, Goldsteb and Roberts (2006) also allude to this argument by saying that government policies and other factors such as globalisation have played an important role in this high numbers of BEE M&A deals.

Ponte, Roberts and van Sittert (2007) also added that the bullish (now bearish) stock market played a role in the acceleration of the number of BEE deals. Ponte *et al* (2007) built on this by claiming that for the financing required for acquisitions, a longer-term view is needed to evaluate the actual changes represented in the deals made, as the acquisitions have in principle been made at market prices and do not represent any more equitable distribution of capital. These deals are entered upon on the incorrect assumption of limitless market growth and expansion. These assumptions are likely to destroy shareholder value.

Esser and Dekker (2008) suggested that, high BEE volumes in the recent years have helped to accelerate the growth of the South African Economy. These high volumes are expected to continue for the next five to seven years and they also expected to have a positive impact on the economy (and shareholder value). However the current economic conditions have led to a decline in BEE deals of approximately 37% from ZAR 96 billion to ZAR 60.9 billion as

illustrated in *Figure 3*. According to Sartorius and Botha (2008) there are still many companies that are not BEE compliant which suggests a lot of future deals.

It is quite clear that the BEE deals subject is quite broad and complex, but it remains fundamentally important to understand the role that they play in shareholder value creation. There is more evidence that suggest that BEE is more for compliance than shareholder value. Sartorius and Botha (2008) further mentioned that in addition to compliance companies do engage in BEE deals to create shareholder value.

2.3 Cash and Stock Deals

According to the study conducted by Slovin, Sushka and Polonchek (2006) share funded mergers and acquisition activities create shareholder value. This study further suggests that the wealth that is generated by share funded transactions is shared between acquirers and sellers.

According to Perry and Herd (2004), cited in Slovin *et al* (2006) the decision of the target company management to accept stock over cash has a profound meaning. It suggests that the target company has belief in its own and the buyers' capabilities and projections. This also implies a long term commitment of sharing both the upside and the downside. Fuller, Netter and Stegemoller (2002), cited in Slovin *et al* (2006) using



a sample of 3135 takeovers, found that bidders have significantly negative returns when buying public targets and significantly positive returns when buying private or subsidiary targets. When the bids are partitioned on method of payment cash, stock, or a combination of the two, they found that acquisitions of public targets result in insignificant bidder returns for cash or combination offers but significantly negative returns to the acquirers when stock is offered.

Fuller *et al* (2002) continue to state that the alternative payment structures that can be implemented during the negotiation of a deal and add value by shifting some of the overpayment risk borne by acquirers to sellers better informed about the prospects for their businesses. Using stock in place of cash as a medium of exchange is one partial means of transferring risk. But, as a more sophisticated and potentially more effective means of limiting overpayment risk, earn out contracts can be negotiated with sellers whereby a portion of the payment is deferred and made dependent on the target's ability to meet certain performance objectives over time.

Bruner's views in 2004 suggest that other factors like the economic cycle, interest rate and stock prices are very influential in terms of the deal design, suggesting that during the economic upturn cycle organisations are most likely to use stock to acquire other organisations. According to Yook (2003) stock funded acquisitions send a signal to the



market that the share price of the acquiring company is overvalued and this normally results in a share price decline. This has adverse effects on shareholder value.

2.4 Cross Border Deals

Graham, Martey and Yawson (2008) examined the decision to acquire firms in emerging markets from the perspective of acquirers from the UK. They found that large firms which are characterised by high market to book ratios, high stock price performance and strong liquidity have a high inclination to engage in acquisitions in emerging markets. This finding is consistent with an earlier similar finding by Seth, Song and Pettit in 2002. Graham *et al* (2008) also found that emerging markets with good judiciary systems attract more acquisitions from the UK. An additional discovery was that the value of acquisitions in emerging markets is negatively related to corruption index.

However, this finding is driven by acquisitions in Asia and South America. Emerging economies in Africa and Europe that have a high corruption index, indicating low levels of corruption also attract more acquisitions from the UK. According to Seth *et al* (2002) there is a link between value creation and the national governance systems that prevail in the home country of the bidder: bidding firms from group-oriented countries (such as Germany and Japan) tend to outperform countries from market-oriented governance systems (such as Britain) in



terms of shareholder value. According to a study conducted by KPMG cited in Shimizua, Hittb, Vaidyanathc and Pisanod (2003) only 17% of crossborder acquisitions created shareholder value, while 53% destroyed it.

This suggests that crossborder mergers destroy shareholder value. Some of the characteristics that are required for a successful crossborder merger are high market to book ratios, high stock price performance and strong liquidity as stated by Graham *et al* (2008). These characteristics describe many companies during the economic upturn and during economic downturn companies struggle to maintain high stock price performance and strong liquidity.

2.5 Event Studies

According to MacKinlay (1997) event studies are used to measure the effects of an economic event on the value of firms using financial market data. The usefulness of such a study comes from the fact that, given rationality in the marketplace, the effects of an event will be reflected immediately in security prices. Thus a measure of the event's economic impact can be constructed using security prices observed over a relatively short time period. In contrast, direct productivity related measures may require many months or even years of observation. In finance research like this study event studies have an important role to



play in measuring the impact of events like mergers and acquisitions on the value of the firm.

Although there is no unique structure for an event study but MacKinlay (1997) defined the following structure which forms a good basis for discussion. The details are discussed in the following seven steps below:

2.5.1 Event Definition

This step involves defining the event, to which the share price is expected to react, and establishing the period over which the reaction will take place (the event window).

The initial task of conducting an event study is to define the event of interest and identify the period over which the security prices of the firms involved in this event will be examined—the event window. As an example if one is looking at the information content of earnings with daily data, the event will be the earnings announcement and the event window will include the one day of the announcement. It is customary to define the event window to be larger than the specific period of interest. This permits examination of periods surrounding the event. In practice, the period of interest is often expanded to multiple days, including at least the day of the announcement and the day after the



announcement. This captures the price effects of announcements which occur after the stock market closes on the announcement day. The periods prior to and after the event may also be of interest. For example, in the earnings announcement case, the market may acquire information about the earnings prior to the actual announcement and one can investigate this possibility by examining pre-event returns.

2.5.2 Selection Criteria

In this step MacKinlay (1997), suggested that the researcher will define those criteria that determine whether an event will be included in the study or not.

The process goes as follows, after identifying the event, it is necessary to determine the selection criteria for the inclusion of a given firm in the study. The criteria may involve restrictions imposed by data availability such as listing on the Johannesburg Securities Exchange may involve restrictions such as membership in a specific industry. At this stage it is useful to summarise some sample characteristics (e.g., firm market capitalization, industry representation, distribution of events through time) and note any potential biases which may have been introduced through the sample selection.



2.5.3 Normal Returns

For each event, the normal returns must be calculated. The normal return for the share is the return that is expected had no announcement been made. It is calculated from a model that must be chosen beforehand

Appraisal of the event's impact requires a measure of the abnormal return. The abnormal return is the actual *ex post* return of the security over the event window minus the normal return of the firm over the event window. The normal return is defined as the expected return without conditioning on the event taking place. For firm *i* and event date *t* the abnormal return is

$$AR_{it} = R_{it} - E(R_{it}|X_t) \quad (\text{Formula 1})$$

where AR_{it} , R_{it} , and $E(R_{it}|X_t)$ are the abnormal, actual, and normal returns respectively for time period *t*. X_t is the conditioning information for the normal return model. There are two common choices for modelling the normal return—the constant mean return model where X_t is a constant, and the market model where X_t is the market return. The constant mean return model, as the name implies, assumes that the mean return of a given security is constant through time. The market model assumes a stable linear relation between the market return and the security return.



2.5.4 Estimation Procedure

Once a model for normal returns has been chosen, its parameters must be estimated based, say, on the conditions of the market and the share involved.

Given the selection of a normal performance model, the estimation window needs to be defined. The most common choice, when feasible, is using the period prior to the event window for the estimation window. For example, in an event study using daily data and the market model, the market model parameters could be estimated over the 120 days prior to the event. Generally the event period itself is not included in the estimation period to prevent the event from influencing the normal performance model parameter estimates. With the parameter estimates for the normal performance model, the abnormal returns can be calculated.

2.5.5 Testing Procedure

With the model for normal returns established, each event's abnormal returns must be calculated. The abnormal return is the difference between the actual return (ex post) and the calculated normal return. This step also includes the aggregation of



abnormal returns and the testing of the results against the hypotheses.

With the parameter estimates for the normal performance model, the abnormal returns can be calculated. The next step is the design of the testing framework for the abnormal returns. Important considerations are defining the null hypothesis and determining the techniques for aggregating the individual firm abnormal returns.

2.5.6 Empirical Results

The results of the testing procedure must be presented along with any further material information (such as dominant samples, etc.).

The presentation of the empirical results follows the formulation of the econometric design. In addition to presenting the basic empirical results, the presentation of diagnostics can be fruitful. Occasionally, especially in studies with a limited number of event observations, the empirical results can be heavily influenced by one or two firms. Knowledge of this is important for gauging the importance of the results.



2.5.7 Interpretation and Conclusions

Finally, the results must be interpreted and conclusions may be drawn. It is also possible that some insights may be developed into the mechanisms that affect the share price movements.

Ideally the empirical results will lead to insights relating to understanding the sources and causes of the effects (or lack) of the event under study. Additional analysis may be included to distinguish between competing explanations. Concluding comments complete the study.



3 CHAPTER 3 - RESEARCH HYPOTHESES

The literature above focussed on various aspects of mergers and acquisitions. These aspects of M&A have been researched and documented by various experts in the field of Corporate Finance and other related fields. Smit and Ward (2007) found that shareholders of acquiring companies do not earn statistically significant positive or negative return. This research looked at the longrun which was limited to two years subsequent to the acquisition. Due to the fact that the study looked at the two year window it is possible that some transactions were eliminated due to survivorship bias. This study however will focus on the shortrun (6 months) effects of a merger and acquisition during the economic downturn. It focuses on the mergers and acquisitions that were announced between 2007 and 2008. The economic periods will be classified as follows:

Table 1: Describes market conditions since 2000

Market	Description	Periods	
		Start	End
Bullish	Internet boom	01/1998	03/2000
Bearish	Internet bubble burst	04/2000	10/2002
Bullish	Latest economic boom	11/2002	06/2007
Bearish	Subprime crisis	07/2007	-

Source: www.ciovaccocapital.com

However according to Ernst and Young (2008) the largest bank failure occurred in the United States in September 2007. This period was therefore classified as the beginning of the recent economic downturn. The following



hypothesis will measure shareholder value for the acquiring firms using a share price as reported on the JSE during the economic downturn.

Hypothesis 1:

The null hypothesis states that the shareholders of acquiring companies earn significant cumulative average abnormal returns (CAAR) in the shortrun during the economic downturn. The alternative hypothesis states that the shareholders of acquiring companies do not earn significant cumulative average abnormal returns in the shortrun during the economic downturn.

$$H_0: CAAR_d \geq 0$$

$$H_A: CAAR_d < 0$$

Hypothesis 2:

The null hypothesis states that the shareholders of acquiring companies earn significant cumulative average abnormal returns in the shortrun during the economic downturn through cash financed deals than through stock financed deals. The alternative hypothesis states that the shareholders of acquiring companies do not earn significant cumulative average abnormal returns in the shortrun during the economic downturn through cash financed deals than through stock financed deals.

$$H_0: CAAR_c - CAAR_s \geq 0$$



$$H_A: CAAR_C - CAAR_S < 0$$

Hypothesis 3:

The null hypothesis states that the shareholders of acquiring companies earn significant cumulative average abnormal returns in the shortrun during the economic downturn through BEE acquisitions. The alternative hypothesis states that the shareholders of acquiring companies do not earn significant cumulative average abnormal returns in the shortrun during the economic downturn through BEE acquisitions.

$$H_0: CAAR_{DBEE} - CAAR_{0BEE} \geq 0$$

$$H_A: CAAR_{DBEE} - CAAR_{0BEE} < 0$$

Hypothesis 4:

The null hypothesis states that the shareholders of acquiring companies earn significant cumulative average abnormal returns in the shortrun through crossborder acquisitions during the economic downturn. The alternative hypothesis states that the shareholders of acquiring companies do not earn significant cumulative average abnormal returns in the shortrun through crossborder acquisitions during the economic downturn.

$$H_0: CAAR_{DCB} \geq 0$$

$$H_A: CAAR_{DCB} < 0$$



4 CHAPTER 4 - PROPOSED METHODOLOGY

4.1 Research Design

The quantitative approach was used to complete this study. The main aim of the research was to investigate the cause and effect between merger and acquisition transactions and shareholder value in the shortrun during the economic downturn. The following aspects of mergers and acquisitions were analysed at:

- All Mergers and Acquisitions
- Cash-funded and stock-funded deals
- Black Economic Empowerment driven deals
- Cross Border Deals (Companies listed on the JSE acquiring foreign companies)

4.2 Unit of Analysis

The unit of analysis is the merger and acquisition transaction that was announced between 01 September 2007 and 31 December 2008 and the size must be at least 20% of the value of the acquired company.

4.3 Population of relevance

The population of relevance consisted of all acquisitions undertaken by JSE listed companies during 2007 and 2008. In particular all mergers



and acquisitions that were announced between the 1st of September 2007 and 31 of December were considered for this study.

4.4 Description of the Sample

Data was selected based on appropriate characteristic of the sample members. This means that the sample used in this study was a judgement sample. According to the Ernst and Young Mergers and Acquisitions database there is total of 1053 mergers and acquisitions that took place between the 1st of September 2007 and the 31st of December 2008. However all the merger and acquisition transactions that did not meet the criteria set in paragraph 4.2 were excluded and only 57 transactions met the criteria.

Because the sample size was not very large it tended to be very sensitive to data changes. It was therefore important to have all the required share price data for all the event windows of interest. As a result some of the companies did not have required data for various event windows this resulted in 14 transactions being excluded as illustrated in figure 4.

The final sample was therefore 43 transactions. Certain companies did not have share price data for various event windows this resulted in 14 additional transactions being excluded. The final sample was therefore 43 transactions. Table 2 below contains the breakdown of the 43 transactions.



Table 2: Summary of mergers and acquisitions announced between 2007 and 2008 and the acquiring companies had share price data available.

Population Size	1053
Sample size	43
Frequency of year of occurrence	43
2007	8
2008	35
Frequency of increase in focus or diversification	43
Increased focus	31
Diversification	1
Black Economic Empowerment	11
Frequency of cross-border or local transactions	43
Cross-border	20
Local	23
JSE sectors	43
Banks	3
Broadcasting & Entertainment	3
Building Materials & Fixtures	2
Business Support Services	2
Business Training & Employment Agencies	1
Computer Services	3
Diamonds & Gemstones	1
Diversified Industrials	3
Electronic & Electrical Equipment	5
Fixed Line Telecommunications	1
General Financial	1
General Mining	3
Gold Mining	1
Heavy Construction	1
INDUSTIAL SUPPLIERS	1
Life Insurance	4
Mobile Telecommunications	2
Nonferrous Metals	1
Paper	1



Pharmaceuticals	1
Other	3
Method of payment	43
Frequency share-funded acquisitions	13
Frequency cash-funded acquisitions	23
Frequency of payment in a combination of share and cash	7
<i>Number of combination payments consisting of more than 85% shares</i>	1
<i>Number of combination payments consisting of more than 85% cash</i>	1
Purchase consideration (R' million)	
Largest	26201
Smallest	0.6
Mean	1749.94
Median	214.1
Standard deviation	4344.78

Adopted from Smit and Ward (2007)

4.5 Data Filtering

According to Ernst and Young, the United States experienced its largest bank failure in history in September 2007. This occasion signalled failure in the system and no further economic growth was witnessed in the financial sector beyond this date and various bailout packages have been issued since. The end date was chosen because of data availability. Ernst and Young have only published their review of mergers and acquisitions up to the end of 2008. Therefore they could only release mergers and acquisitions data up to the 31 December 2008.

The reasons for studying large acquisitions are that they normally involve large companies which are likely to engage in cross border transactions.



Graham, Martey and Yawson (2008) found that large firms which are characterised by high market to book ratios, high stock price performance and strong liquidity have a high inclination to engage in acquisitions in emerging markets.

Also According to Moeller, Schlingemann, Stulz (2004) large firms experience significant shareholder wealth losses when they announce acquisitions of public firms irrespective of how the acquisition is financed. This is due to the fact that large firms are likely to overpay, regardless of whether cash or shares are used as a payment method.

Moeller *et al* (2004) also suggest that the hubris hypothesis is big factor in large acquisitions. Managers tend to reduce value from mergers and acquisitions by overpaying. Loderer and Martin (1990), cited in Smit and Ward (2007) also stated the publicity that that large acquisitions attract has the ability to impair judgement.

Similar to Smit and Ward (2007), the population of relevance was extracted from the database of mergers and acquisitions compiled by Ernst & Young for their annual review of mergers and acquisitions in South Africa. The market capitalisation information was obtained from the McGregor's BFANet database. The population of relevance consisted of all transactions from the Ernst & Young database that met the following criteria:



- The transaction description in the Ernst & Young database was one of the following:
 - Acquisition of Related Business
 - Acquisition of Related Business*Outward Investment
 - Black Economic Empowerment
 - Buyout of Minorities
 - Group Reconstruction
 - Hostile Takeover - Hostile Action
 - Outward Investment
 - Offshore company
 - Property transaction
 - Section 311 Scheme of Arrangement
 - Share buy-back
- The acquiring company is listed on the JSE, or was listed at the time of the acquisition, for at least six months prior to the large acquisition to ensure that share price data prior to the acquisition was available; the acquiring company was listed on the JSE for at least six months after the large acquisition to ensure that share price data after the acquisition was available.
- The transaction was a large acquisition, as described in paragraph 4.2.
- The percentage acquired was obtained from the Ernst and Young Mergers and Acquisitions database.



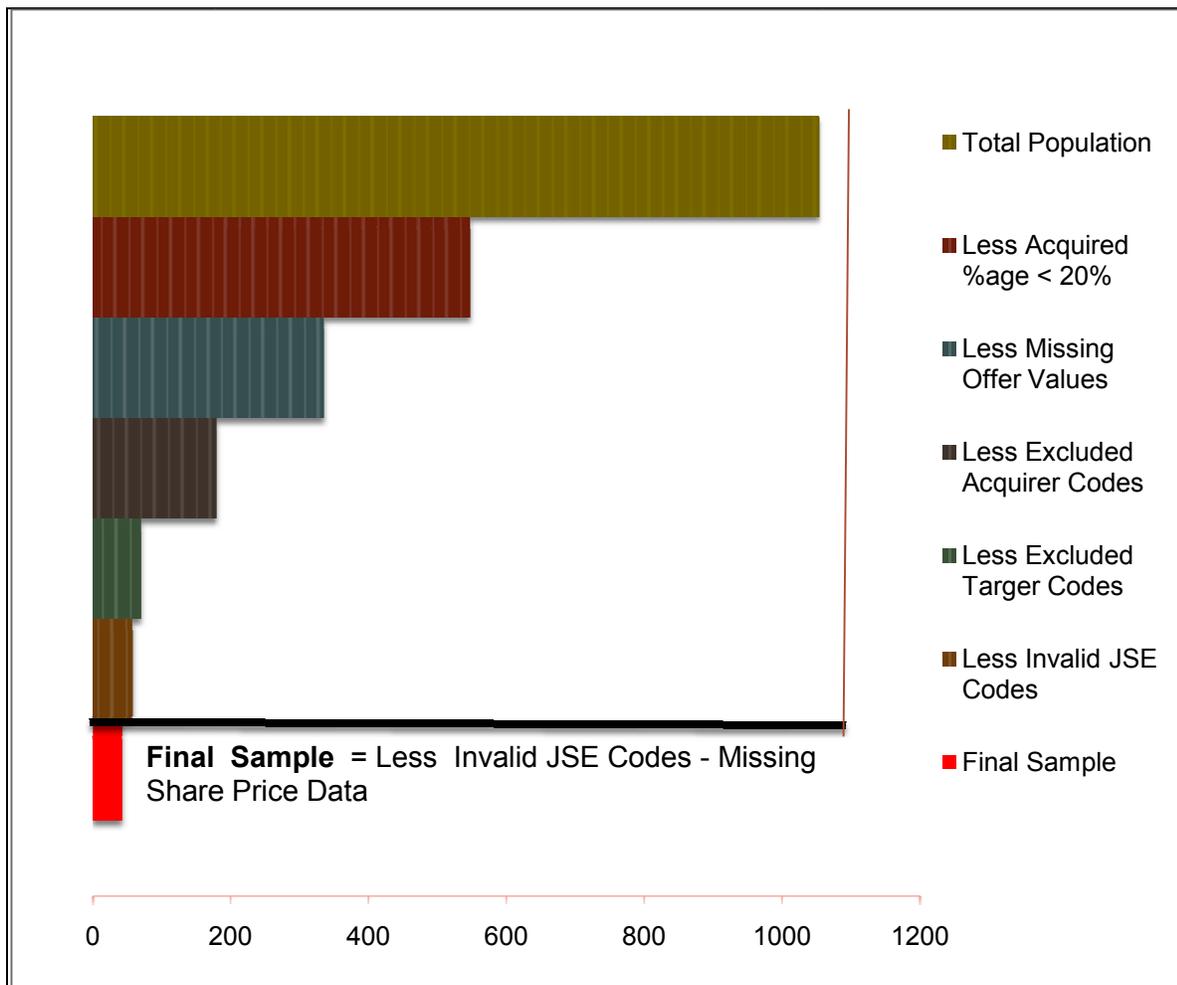
- The financing method (cash or shares) was also obtained from the Ernst and Young Mergers and Acquisitions database.

Draper and Paudyal (2006) stated that in contrast to listed targets where information is available and potential bidders may compete for control, information on unlisted targets is likely to be poor and competition weak in takeovers of privately held targets. The market for privately held companies is typically illiquid. This enhances the bargaining power of the acquirer and is likely to cause underpayment by bidding firms. This lack of quality information on unlisted companies also inhibits the market from reacting.

It was because of the reasons mentioned above that this study only focussed on acquirers who targeted companies that are listed on the JSE, or were listed prior to the acquisition. However this requirement was not imposed where the target was a foreign company or a deal was classified as a Black Economic Empowerment transaction.

Figure 4 below is a high-level illustration of the data filtering process that was followed in order to arrive at the sample size of 43.

Figure 4: High-level illustration of the data filtering process



4.6 Data Collection

This study used secondary data, which was sourced from the Ernst and Young and McGregor's BFANet database. The Ernst and Young Mergers and Acquisitions database was the source of all mergers and acquisitions for acquirers and targets listed on the JSE. The McGregor's BFANet database was the source of share price and market capitalisation data.



4.7 Data Analysis Approach

According to McWilliams and Siegel (1997) event study methods are used to measure the impact of an unanticipated event on stock prices. Since the aim of this study was to investigate the share price reaction of large organisations that are listed on the JSE after the announcement of a merger and acquisitions. The event study method was deemed to be appropriate to complete data analysis. .

As in Smith and Ward (2007) the hypotheses testing, statistical inference testing for all hypotheses was made using two-tailed t-tests to determine whether the mean abnormal share price performance, as a result of the acquisitions, was statistically significantly different from zero at the 5% error level.

The share price performance was measured using the Market Model. MacKinlay (1997, p. 18) described the market model as a statistical model which relates the return of any given security to the return of the market portfolio.

Daily equal-weighted indices were constructed for each of the twelve control portfolios using log returns - see formula 2.

$$R_{it} = \log [P_{it}/P_{it-1}] \quad (\text{Formula 2})$$

Where



R_{it} = the equal weighted share return for portfolio i for day t; and

P_{it} = the equal weighted share value of portfolio i at the end of day t.

The model's linear specification follows from the assumed joint normality of asset returns. For any security i the market model is:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (\text{Formula 3})$$

$$E(\varepsilon_{it}) = 0 \quad \text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_i}$$

Where R_{it} and R_{mt} are the period-t returns on security i and the market portfolio, respectively, and ε_{it} is the zero mean disturbance term. α_i , β_i , and $(\sigma_{\varepsilon_i})^2$ are the parameters of the market model. These market model parameters α_i and β_i for each firm can be estimated using an Ordinary Least Squares approach.

In applications a broad based stock index is used for the market portfolio, with the S&P 500 Index (JSE All Share Index for this study), the CRSP Value Weighted Index, and the CRSP Equal Weighted Index being popular choices.

The market model represents a potential improvement over the constant mean return model. By removing the portion of the return that is related to variation in the market's return, the variance of the abnormal return is reduced. This in turn can lead to increased ability to detect event effects. The benefit from using the market model will depend upon the R^2 of the



market model regression. The higher the R^2 the greater is the variance reduction of the abnormal return, and the larger is the gain.

4.8 Calculation of Abnormal Returns

The abnormal return AR_{it} for the company i on day t can be expressed in the form of Formula 1, $AR_{it} = R_{it} - E(R_{it})$.

4.9 Calculation of Average Abnormal Returns

To eliminate stock shocks average abnormal returns for the event windows discussed in section 4.9 below were calculated using formula 4.

$$AAR_t = \frac{1}{N} \sum_{t=1}^N AR_t \quad (\text{Formula 4})$$

Where AAR_t is the Average of the Abnormal Return for day t and N is the number of securities

4.10 Calculation of Cumulative Average Abnormal Returns

The Cumulative average return was calculated by aggregating AAR over the even window.

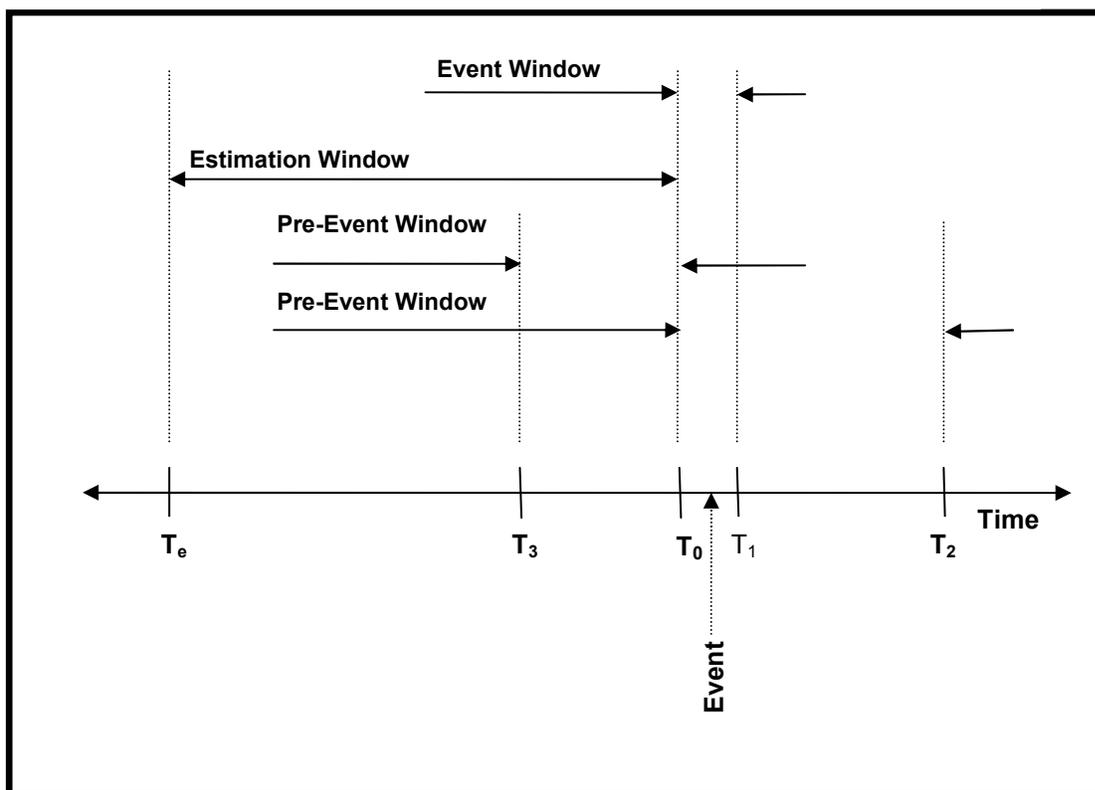
$$CAAR_t = \frac{1}{N} \sum_{t=1}^N AAR_t \quad (\text{Formula 5})$$

Where CAAR is the Cumulative Average Abnormal Return for the event period t .

4.11 Event Window Selection

For this study four event windows were chosen. The announcement day for each window will be referred to as T_0 .

Figure 5: Event Study Window (Sourced from Frolich (2006))



According to McWilliams and Siegel (1997) in order to minimise the impact of confounding events the event must be kept very short. Brown and Werner (1980, 1983) cited in McWilliams and Siegel (1997) showed that using a long event window severely reduces the power of the t-statistics, Z_t . This reduction leads to false inferences about the significance of an event.



Since the aim of this research is to study a short-term impact of large acquisitions the following event windows were chosen. A three day window $[-1,+1]$, an eleven day window $[-5,+5]$, a twenty one day window $[-10,+10]$, a forty one day window $[-20,20]$ and a hundred and forty one day window $[-20,+120]$. While the first three event windows have been investigated in various papers, the -20 days pre-event was chosen to avoid using data from the economic upturn. The 120 days post event was chosen in order to capture as many transactions as possible during the economic downturn.

4.12 Statistical Analysis

The AAR and CAAR results obtained above were then tested for statistical significance. A t-test was used for hypotheses testing using a statistics analysis tool called NCSS. CAAR data was used to test each hypothesis over the $[-1,+1]$, $[-5,+5]$, $[-10,+10]$, $[-20,20]$ and $[-20,+120]$. The null hypothesis H_0 could not be rejected at the 5% significance levels in cases where the p-value was less than $\alpha = 5\%$. The alternative hypothesis H_1 was rejected at the 5% significance levels in cases where the p-value was greater than $\alpha = 5\%$.



4.13 Research Limitation

During the economic downturn share price performance for most organisations is below par. This makes it difficult to differentiate between poor performance due to a merger activity or due to generally unfavourable economic conditions. Epstein (2005) also stressed this as a serious limitation by stating that using a stock price to measure performance during the economic downturn is a futile exercise.



5 CHAPTER 5 - PRESENTATION OF RESULTS

5.1 Share price performance

5.1.1 Cumulative Average Abnormal Returns

Table 3 indicates that no statistically significant Cumulative Average Abnormal Returns (CAARs) for all acquisitions were observed for the following event windows:

- 3-day event window $[-3,+3]$, starting on the first day before (D-1) and ending on the first day (D+1) after the announcement.
- 11-day event window $[-5,+5]$, starting on the fifth day before (D-5) and ending on the fifth day (D+5) after the announcement.
- 21-day event window $[-10,+10]$, starting on the tenth day before (D-10) and ending on the tenth day (D+10) after the announcement.
- 141-day event window $[-20,+120]$, starting on the twentieth day before (D-20) and ending on the one hundred and twentieth day (D+120) after the announcement.

However statistically significant Cumulative Average Abnormal Returns (CAAR) for all acquisitions were observed for the following event windows:

- 41-day event window $[-20,+20]$, starting on the twentieth day before (D-20) and ending on the twentieth day (D+20) after the announcement.



For cash funded acquisitions no statistically significant Cumulative Average Abnormal Returns (CAAR) for all acquisitions were observed for the following event windows:

- 3-day event window $[-3,+3]$, starting on the first day before (D-1) and ending on the first day (D+1) after the announcement.
- 11-day event window $[-5,+5]$, starting on the fifth day before (D-5) and ending on the fifth day (D+5) after the announcement.
- 141-day event window $[-20,+120]$, starting on the twentieth day before (D-20) and ending on the one hundred and twentieth day (D+120) after the announcement.

However statistically significant Cumulative Average Abnormal Returns (CAAR) for cash funded acquisitions were observed for the following event windows:

- 21-day event window $[-10,+10]$, starting on the tenth day before (D-10) and ending on the tenth day (D+10) after the announcement.
- 41-day event window $[-20,+20]$, starting on the twentieth day before (D-20) and ending on the twentieth day (D+20) after the announcement.

For share funded acquisitions no statistically significant Cumulative Average Abnormal Returns (CAAR) were observed for the following event windows:



-
- 141-day event window $[-20,+120]$, starting on the twentieth day before (D-20) and ending on the one hundred and twentieth day (D+120) after the announcement.

However statistically significant Cumulative Average Abnormal Returns (CAAR) for share funded acquisitions were observed for the following event windows:

- 3-day event window $[-3,+3]$, starting on the first day before (D-1) and ending on the first day (D+1) after the announcement.
- 11-day event window $[-5,+5]$, starting on the fifth day before (D-5) and ending on the fifth day (D+5) after the announcement.
- 21-day event window $[-10,+10]$, starting on the tenth day before (D-10) and ending on the tenth day (D+10) after the announcement.
- 41-day event window $[-20,+20]$, starting on the twentieth day before (D-20) and ending on the twentieth day (D+20) after the announcement.

No statistically significant Cumulative Average Abnormal Returns (CAAR) for crossborder acquisitions were observed for the following event windows:

- 3-day event window $[-3,+3]$, starting on the first day before (D-1) and ending on the first day (D+1) after the announcement.
- 11-day event window $[-5,+5]$, starting on the fifth day before (D-5) and ending on the fifth day (D+5) after the announcement.



-
- 141-day event window $[-20,+120]$, starting on the twentieth day before (D-20) and ending on the one hundred and twentieth day (D+120) after the announcement.

However statistically significant Cumulative Average Abnormal Returns (CAAR) for crossborder acquisitions were observed for the following event windows:

- 21-day event window $[-10,+10]$, starting on the tenth day before (D-10) and ending on the tenth day (D+10) after the announcement.
- 41-day event window $[-20,+20]$, starting on the twentieth day before (D-20) and ending on the twentieth day (D+20) after the announcement.

No statistically significant Cumulative Average Abnormal Returns (CAAR) for BEE acquisitions were observed for the following event windows:

- 3-day event window $[-3,+3]$, starting on the first day before (D-1) and ending on the first day (D+1) after the announcement.
- 11-day event window $[-5,+5]$, starting on the fifth day before (D-5) and ending on the fifth day (D+5) after the announcement.
- 141-day event window $[-20,+120]$, starting on the twentieth day before (D-20) and ending on the one hundred and twentieth day (D+120) after the announcement.



However statistically significant Cumulative Average Abnormal Returns (CAAR) for crossborder acquisitions were observed for the following event windows:

- 21-day event window $[-10,+10]$, starting on the tenth day before (D-10) and ending on the tenth day (D+10) after the announcement.

41-day event window $[-20,+20]$, starting on the twentieth day before (D-20) and ending on the twentieth day (D+20) after the announcement.

No statistically significant Cumulative Average Abnormal Returns (CAAR) for Non-BEE acquisitions were observed for the following event windows:

- 3-day event window $[-3,+3]$, starting on the first day before (D-1) and ending on the first day (D+1) after the announcement.
- 21-day event window $[-10,+10]$, starting on the tenth day before (D-10) and ending on the tenth day (D+10) after the announcement.
- 11-day event window $[-5,+5]$, starting on the fifth day before (D-5) and ending on the fifth day (D+5) after the announcement.
- 141-day event window $[-20,+120]$, starting on the twentieth day before (D-20) and ending on the one hundred and twentieth day (D+120) after the announcement.



However statistically significant Cumulative Average Abnormal Returns (CAAR) for Non-BEE acquisitions were observed for the following event windows:

- 41-day event window $[-20,+20]$, starting on the twentieth day before (D-20) and ending on the twentieth day (D+20) after the announcement.

Table 3 shows the CAAR for the for the following event windows:

- 141-day event window $[-20,+120]$, starting on the twentieth day before (D-20) and ending on the one hundred and twentieth day (D+120) after the announcement.
- 3-day event window $[-3,+3]$, starting on the first day before (D-1) and ending on the first day (D+1) after the announcement.
- 11-day event window $[-5,+5]$, starting on the fifth day before (D-5) and ending on the fifth day (D+5) after the announcement.
- 21-day event window $[-10,+10]$, starting on the tenth day before (D-10) and ending on the tenth day (D+10) after the announcement.
- 41-day event window $[-20,+20]$, starting on the twentieth day before (D-20) and ending on the twentieth day (D+20) after the announcement.



Table 3: Contains Cumulative Abnormal Average Returns for the 141-day, 3-day, 11- day, 21-day and 41-day event window.

	Sample Size	CAAR				
		141 Days	3 Days	11 Days	21 Days	41 Days
All acquisitions	43	-0.06%	1.88%	1.27%	-0.17%	-3.04%
Cash	23	-0.24%	-0.32%	-0.31%	-2.64%	-5.97%
Shares	13	0.09%	4.58%	4.87%	4.50%	2.18%
Crossborder	20	-0.19%	-1.44%	-0.39%	-2.56%	-5.50%
BEE	11	0.20%	8.09%	3.42%	2.77%	0.74%
Non-BEE	32	-0.16%	-0.22%	0.46%	-1.26%	-4.57%

Figure 5 shows the Cumulative Abnormal Returns for Non-BEE, BEE, Crossborder, Local, Cash funded and Share funded and All transactions for the 11-day event window [-5,+5], starting on the fifth day before (D-5) and ending on the fifth day (D+5) after the announcement.

Figure 5: Cumulative Abnormal Returns for the 11-day event window [-5,+5]

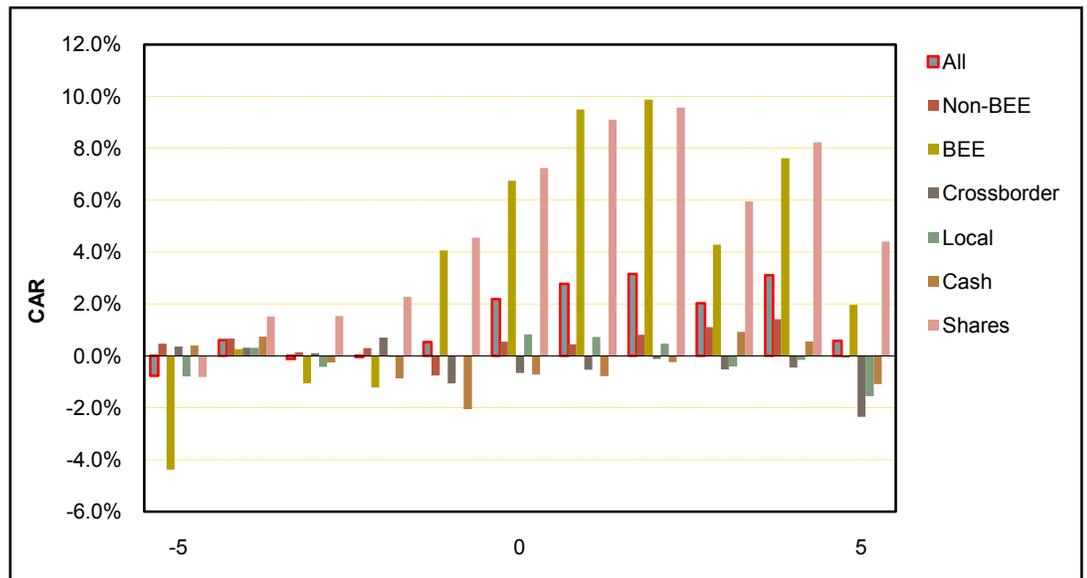


Figure 6 shows the Average Abnormal Returns for Non-BEE, BEE, Crossborder, Local, Cash funded and Share funded and All transactions for the 11-day event window [-5,+5], starting on the fifth day before (D-5) and ending on the fifth day (D+5) after the announcement.

Figure 6: Average Abnormal Returns for the 11-day event window [-5,+5]

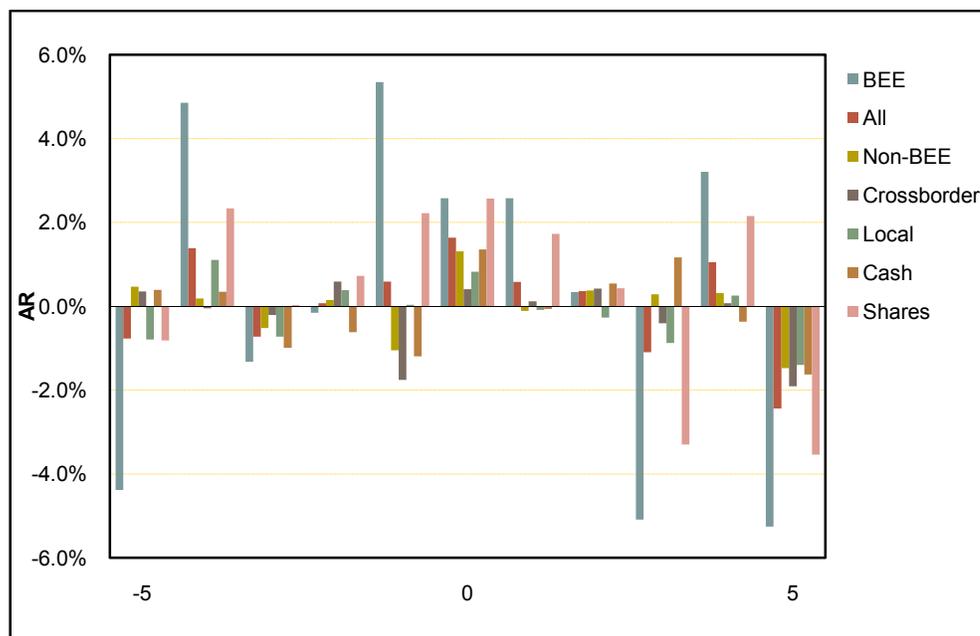


Figure 7 shows the Cumulative Abnormal Returns for Non-BEE, BEE, Crossborder, Local, Cash funded and Share funded and All transactions for the 21-day event window [-10,+10], starting on the fifth day before (D-10) and ending on the fifth day (D+10) after the announcement.



Figure 7: Cumulative Abnormal Returns for the 21-day event window [-10,+10]

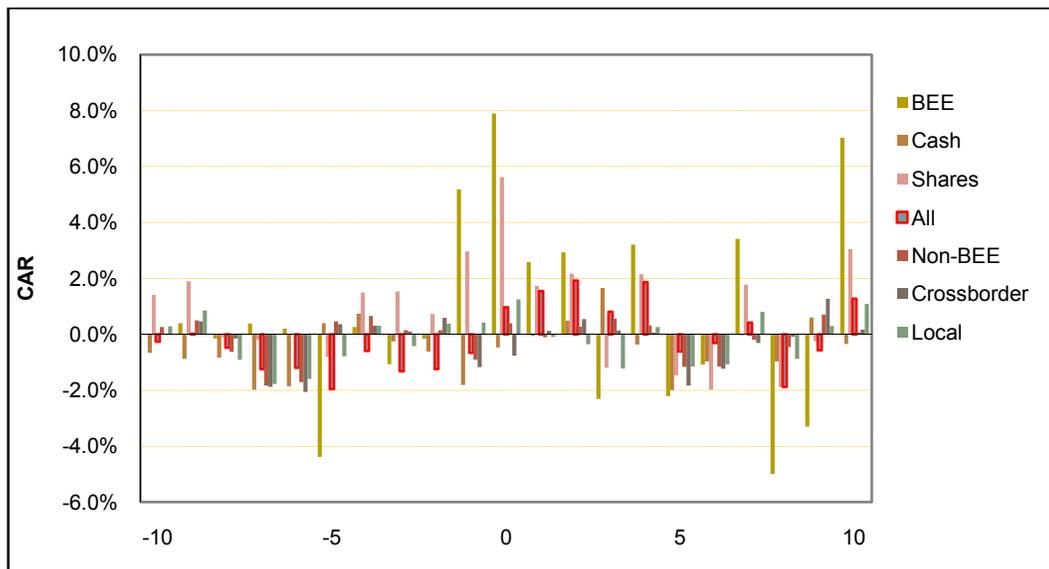


Figure 7 shows the Average Abnormal Returns for Non-BEE, BEE, Crossborder, Local, Cash funded and Share funded and All transactions for the 11-day event window [-10,+10], starting on the fifth day before (D-10) and ending on the fifth day (D+10) after the announcement.



Figure 7: Average Abnormal Returns for the 11-day event window [-10,+10]

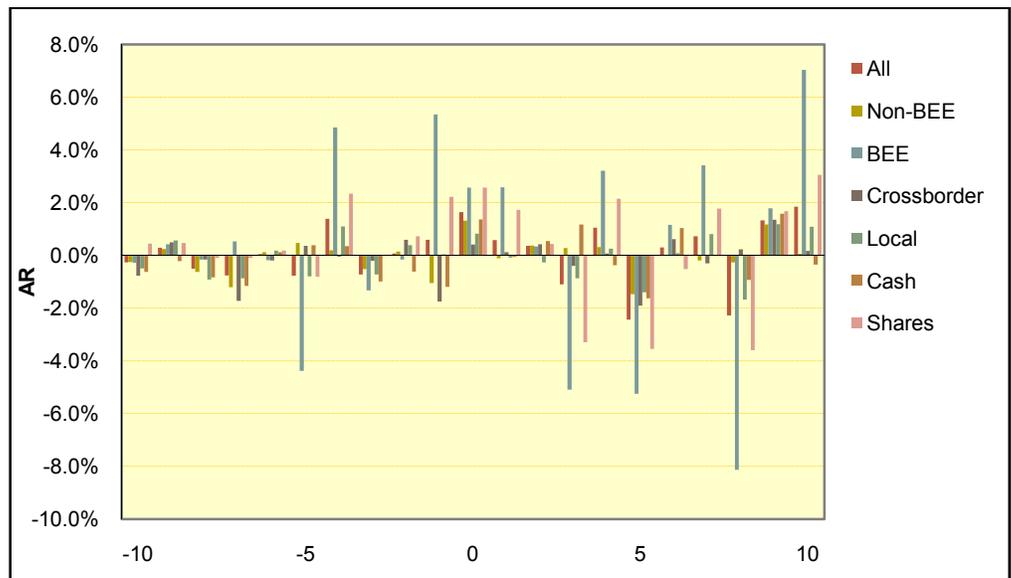


Figure 8 shows the Cumulative Abnormal Returns for Non-BEE, BEE, Crossborder, Local, Cash funded and Share funded and All transactions for the 41-day event window [-20,+20], starting on the fifth day before (D-20) and ending on the fifth day (D+20) after the announcement.

Figure 8: Cumulative Abnormal Returns for the 21-day event window [-20,+20]

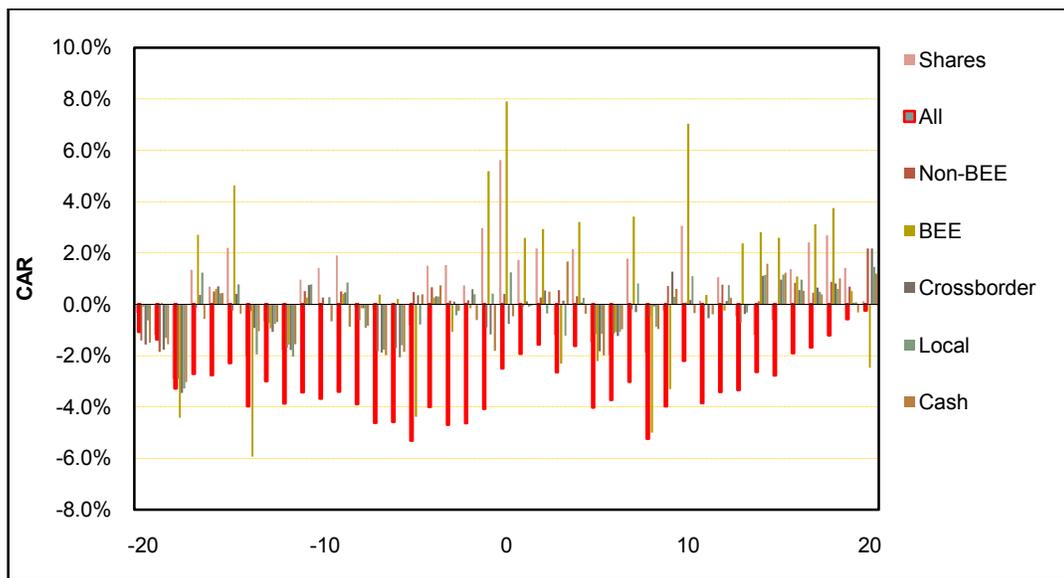


Figure 9 shows the Average Abnormal Returns for Non-BEE, BEE, Crossborder, Local, Cash funded and Share funded and All transactions for the 11-day event window [-20,+20], starting on the fifth day before (D-20) and ending on the fifth day (D+20) after the announcement.

Figure 9: Average Abnormal Returns for the 11-day event window [-20,+20]

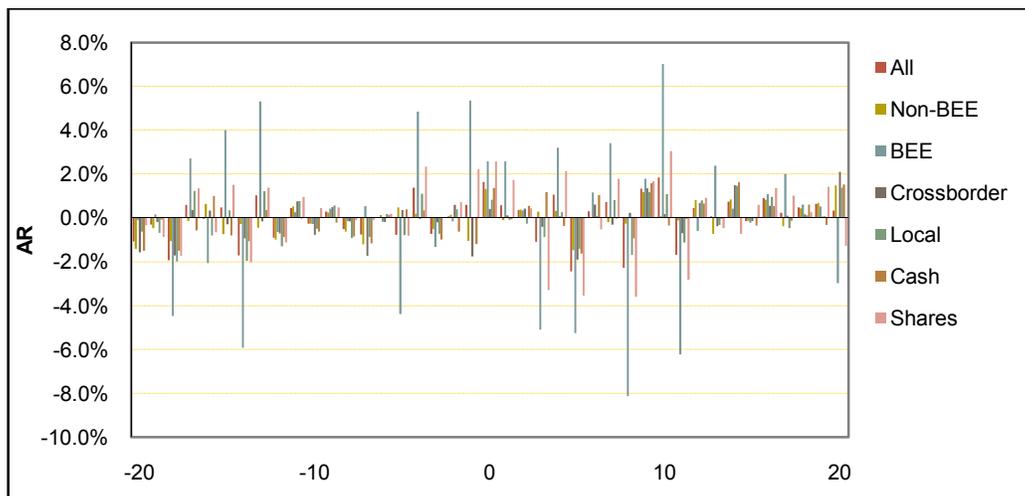


Figure 10 shows the Cumulative Abnormal Returns for Non-BEE, BEE, Crossborder, Local, Cash funded and Share funded and All transactions for the 141-day event window [-20,+120], starting on the fifth day before (D-20) and ending on the fifth day (D+120) after the announcement.

Figure 10: Cumulative Abnormal Returns for the 21-day event window [-20,+120]

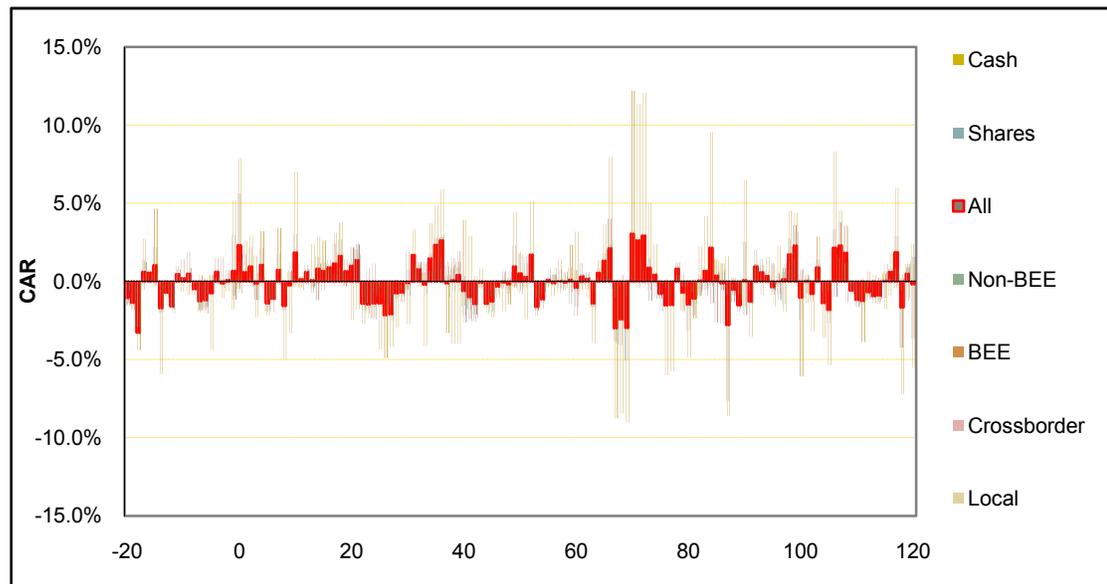


Figure 11 shows the Average Abnormal Returns for Non-BEE, BEE, Crossborder, Local, Cash funded and Share funded and All transactions for the 11-day event window [-20,+120], starting on the fifth day before (D-20) and ending on the fifth day (D+120) after the announcement.

Figure 11: Average Abnormal Returns for the 141-day event window [-20,+120]

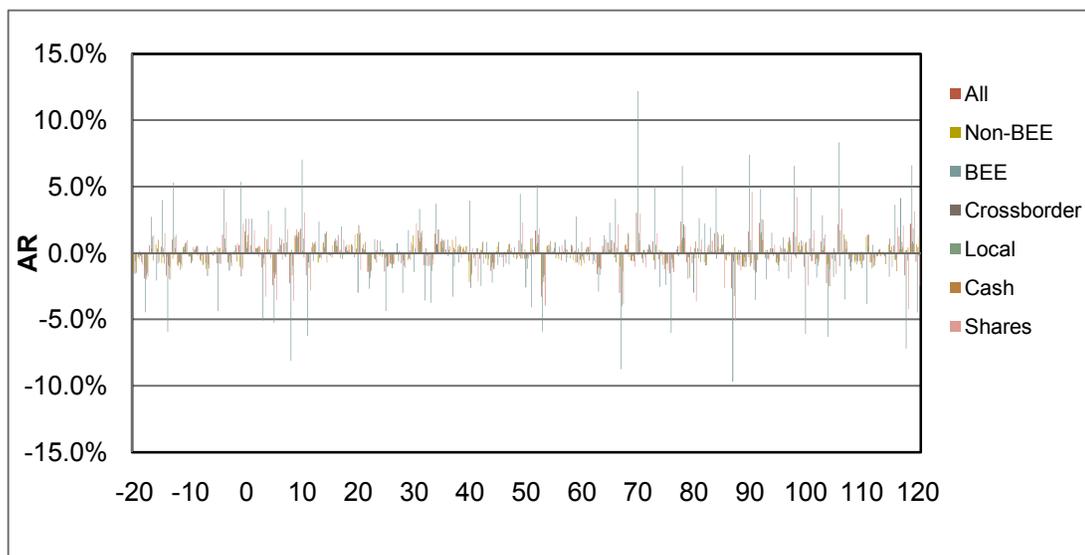


Table 4 below shows the alpha value, p-value and the mean-difference grouped by hypotheses as documented in chapter 3 for the following event windows:

- 3-day event window [-3,+3], starting on the first day before (D-1) and ending on the first day (D+1) after the announcement.
- 11-day event window [-5,5], starting on the fifth day before (D-5) and ending on the fifth day (D+5) after the announcement.
- 21-day event window [-10,+10], starting on the tenth day before (D-10) and ending on the tenth day (D+10) after the announcement.
- 41-day event window [-20,+20], starting on the twentieth day before (D-20) and ending on the twentieth day (D+20) after the announcement.



- 141-day event window [-20,+120], starting on the twentieth day before (D-20) and ending on the one hundred and twentieth day (D+120) after the announcement.

Where

Hypothesis 1:

The null hypothesis states that the shareholders of acquiring companies earn significant cumulative average abnormal returns (CAAR) in the shortrun during the economic downturn. The alternative hypothesis states that the shareholders of acquiring companies do not earn significant cumulative average abnormal returns in the shortrun during the economic downturn.

$$H_0: CAAR_d \geq 0$$

$$H_A: CAAR_d < 0$$

Hypothesis 2:

The null hypothesis states that the shareholders of acquiring companies earn significant cumulative average abnormal returns in the shortrun during the economic downturn through cash financed deals than through stock financed deals. The alternative hypothesis states that the shareholders of acquiring companies do not earn significant cumulative average abnormal returns in the



shortrun during the economic downturn through cash financed deals than through stock financed deals.

$$H_0: CAAR_c - CAAR_s \geq 0$$

$$H_A: CAAR_c - CAAR_s < 0$$

Hypothesis 3:

The null hypothesis states that the shareholders of acquiring companies earn significant cumulative average abnormal returns in the shortrun during the economic downturn through BEE acquisitions. The alternative hypothesis states that the shareholders of acquiring companies do not earn significant cumulative average abnormal returns in the shortrun during the economic downturn through BEE acquisitions.

$$H_0: CAAR_{DBEE} - CAAR_{0BEE} \geq 0$$

$$H_A: CAAR_{DBEE} - CAAR_{0BEE} < 0$$

Hypothesis 4:

The null hypothesis states that the shareholders of acquiring companies earn significant cumulative average abnormal returns in the shortrun through crossborder acquisitions during the economic downturn. The alternative hypothesis states that the shareholders



of acquiring companies do not earn significant cumulative average abnormal returns in the shortrun through crossborder acquisitions during the economic downturn.

$$H_0: CAAR_{DCB} \geq 0$$

$$H_A: CAAR_{DCB} < 0$$

5.1.1 Hypotheses Results of CAARs of the Full Sample

Hypothesis 1:

$$H_0: CAAR_d \geq 0$$

$$H_A: CAAR_d < 0$$

As illustrated in table 4 and discussed in paragraph 5.1.1 the null hypothesis was not rejected for the [-20,120], [-1,+1], [-5,+5] and [-20,+20] event windows. However the null hypothesis was rejected for the [-5,+5] and [-20,20]. The difference between the CARs was only statistically significant (at the 5% level) for the [-20,+20] event window.

Table 4: Contains the alpha value, p-value and the mean-difference (CAAR) for the 141-day, 3-day, 11-day, 21-day and 41-day event window.

Window	Hypotheses 1	
	p-value	Mean Difference
141 Days	69.34%	-0.06%
3 Days	5.33%	1.88%
11 Days	0.66%	1.28%
21 Days	73.66%	0.17%



	Hypotheses 1	
Window	p-value	Mean Difference
41 Days	100.00%	-3.04%
α -value	5%	

5.1.2 Hypotheses Results of CAARs of the Cash Funded and Share Funded acquisitions

Hypothesis 2:

$$H_0: CAAR_c - CAAR_s \geq 0$$

$$H_A: CAAR_c - CAAR_s < 0$$

As illustrated in table 5 and discussed in paragraph 5.1.1 the null hypothesis was not rejected for the all the event windows. However the difference between the CAARs was not statistically significant (at the 5% level) for the [-20,+120] event window. For all the cash funded acquisitions the CAARs were negative with the value of -5.97% for the [-20,120] event window.

Table 5: Contains the alpha value, p-value and the mean-difference (CAAR) for the 141-day, 3-day, 11-day, 21-day and 41-day event window.

	Hypotheses 2	
Window	p-value	Mean Difference
141 Days	95.95%	0.33%
3 Days	98.32%	-4.90%
11 Days	99.96%	-5.17%
21 Days	100.00%	-7.14%
41 Days	100.00%	-8.15%
α -value	5%	



5.1.3 Hypotheses Results of CAARs of the BEE and Non-BEE

Acquisitions

Hypothesis 3:

$$H_0: CAAR_{DBEE} - CAAR_{0BEE} \geq 0$$

$$H_A: CAAR_{DBEE} - CAAR_{0BEE} < 0$$

As illustrated in table 6 and discussed in paragraph 5.1.1 the null hypothesis was rejected for the [-1,+1], [-5,+5] and [-20,+20] event windows. However the null hypothesis was not rejected for the [-20,120] event window. The difference between the CAARs was statistically significant (at the 5% level) for all the event window except for the [-20,+120] window.

The CAARs for the BEE transactions were positive for all the event windows with the highest CAAR value (for the full sample) of 8.09% for the [-1,+1] event window. However it was statistically insignificant for the [-20,+20] and [-20,+120] event windows.

Table 6: Contains the alpha value, p-value and the mean-difference (CAAR) for the 141-day, 3-day, 11-day, 21-day and 41-day event window.

Window	Hypotheses 3	
	p-value	Mean Difference
141 Days	15.14%	-0.36%
3 Days	1.13%	8.31%
11 Days	2.87%	2.96%
21 Days	0.01%	4.04%
41 Days	0.00%	5.31%
α -value	5%	



5.1.4 Hypotheses Results of CAARs of Crossborder acquisitions

Hypothesis 4:

$$H_0: CAAR_{DCB} \geq 0$$

$$H_A: CAAR_{DCB} < 0$$

As illustrated in table 7 and discussed in paragraph 5.1.1 the null hypothesis was not rejected for all the event windows. The difference between the CAARs was statistically significant (at the 5% level) for the [-10,+10] and [-20,+20] event windows.

Table 7: Contains the alpha value, p-value and the mean-difference (CAAR) for the 141-day, 3-day, 11-day, 21-day and 41-day event window.

Window	Hypotheses 4	
	p-value	Mean Difference
141 Days	98.57%	-0.19%
3 Days	99.42%	-1.44%
11 Days	92.10%	-0.38%
21 Days	100.00%	-2.56%
41 Days	100.00%	-5.50%
α -value	5%	

Table 8 below shows the summary of the hypotheses testing results for the following event windows:

- 3-day event window [-3,+3], starting on the first day before (D-1) and ending on the first day (D+1) after the announcement.



- 11-day event window $[-5,5]$, starting on the fifth day before (D-5) and ending on the fifth day (D+5) after the announcement.
- 21-day event window $[-10,+10]$, starting on the tenth day before (D-10) and ending on the tenth day (D+10) after the announcement.
- 41-day event window $[-20,+20]$, starting on the twentieth day before (D-20) and ending on the twentieth day (D+20) after the announcement.
- 141-day event window $[-20,+120]$, starting on the twentieth day before (D-20) and ending on the one hundred and twentieth day (D+120) after the announcement.

Table 8: Contains the summary of the hypotheses test results for the 141-day, 3-day, 11-day, 21-day and 41-day event window.

Event Window	Hypotheses 1	Hypotheses 2	Hypotheses 3	Hypotheses 4
141 Days	Could not reject the null hypothesis at the 5% significance level.	Could not reject the null hypothesis at the 5% significance level.	Could not reject the null hypothesis at the 5% significance level.	Could not reject the null hypothesis at the 5% significance level.
3 Days	Could not reject the null hypothesis at the 5% significance level.	Could not reject the null hypothesis at the 5% significance level.	Rejected the null hypothesis at the 5% significance level.	Could not reject the null hypothesis at the 5% significance level.
11 Days	Rejected the null hypothesis at the 5% significance level.	Could not reject the null hypothesis at the 5% significance level.	Rejected the null hypothesis at the 5% significance level.	Could not reject the null hypothesis at the 5% significance level.
21 Days	Could not reject the null hypothesis at the 5% significance level.	Could not reject the null hypothesis at the 5% significance level.	Rejected the null hypothesis at the 5% significance level.	Could not reject the null hypothesis at the 5% significance level.



Event Window	Hypotheses 1	Hypotheses 2	Hypotheses 3	Hypotheses 4
41 Days	Could not reject the null hypothesis at the 5% significance level.	Could not reject the null hypothesis at the 5% significance level.	Rejected the null hypothesis at the 5% significance level.	Could not reject the null hypothesis at the 5% significance level.



6 CHAPTER 6 - ANALYSIS OF RESULTS

6.1 Share price performance

6.1.1 Cumulative Average Abnormal Returns

The results in paragraph 5.1.1 demonstrated that the majority CAARs are statistically significant 20 days after the announcement. The cash deals, crossborder, Non-BEE deals CAARs were negative whereas the share deals and BEE deals were positive.

This implies that BEE deals add more shareholder value if shares are used as the means of payment. This further implies that it is optimal to do engage in BEE acquisitions during the economic upturn.

6.1.2 Hypotheses Testing of CAARs of the Full Sample

Hypothesis 1:

$H_0: CAAR_d \geq 0$

$H_A: CAAR_d < 0$

As illustrated in table 5 and discussed in paragraph 5.1.1 the null hypothesis was not rejected for the [-20,120], [-1,+1], [-5,+5] and [-20,+20] event windows. However the null hypothesis was



rejected for the $[-5,+5]$ and $[-20,20]$. The difference between the CAARs was only statistically significant (at the 5% level) for the $[-20,+20]$ event window.

About 72% of mergers and acquisitions that were looked at in this study were of the increased focus kind. This is explained by Andrade and Stafford (2004) who referred to these as 'contractionary' mergers, these mergers are associated with removing excess capacity and merging with similar organisation, which normally leads to efficiency. These mergers usually occur during the economic downturn when organisations are trying to increase shareholder value. Although the number of 'contractionary' or 'increased focus' acquisitions was high which supports the findings of Andrade and Stafford (2004) but the findings of this study did not demonstrate any statistically significant CAAR value that resulted from mergers and acquisitions.

However these results are consistent with the findings of Smit and Ward (2007) who concluded that shareholders of acquiring companies do not earn statistically significant positive or negative Abnormal Returns around the announcement date and no statistically significant CAARs were observed for any of the event windows considered in this study.



6.1.3 Hypotheses Testing of CAARs of the Cash Funded and Share Funded acquisitions

Hypothesis 2:

$$H_0: CAAR_c - CAAR_s \geq 0$$

$$H_A: CAAR_c - CAAR_s < 0$$

As illustrated in table 5 and discussed in paragraph 5.1.1 the null hypothesis was not rejected for all the event windows. However the difference between the CAARs was not statistically significant (at the 5% level) for the [-20,+120] event window. For all the cash funded acquisitions the CAARs were negative with the value of -5.97% for the [-20,120] event window.

The CAARs for all the share funded acquisitions were positive for all the event windows. However the CAAR was not statistically significant for the [-20,+120] event window.

From the sample it was very clear that the amount of cash funded acquisitions is almost double the amount of share funded acquisitions. This is inline with Bruner's views in 2004 where he suggested that other factors like the economic cycle, interest rate and stock prices are very influential in terms of the deal design, suggesting that during the economic upturn cycle organisations are most likely to use stock and use cash during the economic



downturn to acquire other organisations. Yook (2003) stated that the stock funded acquisitions send a signal to the market that the share price of the acquirer is overvalued. However during the downturn most companies stock tends to be undervalued this also explains the reason why most acquisitions are cash funded.

In conclusion, around the announcement date the differences in CAARs are statistically significant however this study showed that they become statistically insignificant closer to 120 days after the announcement day.

6.1.4 Hypotheses Testing of CAARs of the BEE and Non-BEE acquisitions

Hypothesis 3:

$$H_0: CAAR_{DBEE} - CAAR_{0BEE} \geq 0$$

$$H_A: CAAR_{DBEE} - CAAR_{0BEE} < 0$$

As illustrated in table 5 and discussed in paragraph 5.1.1 the null hypothesis was rejected for the [-1,+1], [-5,+5] and [-20,+20] event windows. However the null hypothesis was not rejected for the [-20,120] event window. The difference between the CAARs was statistically significant (at the 5% level) for all the event window except for the [-20,+120] window.



The CAARs for the BEE transactions were positive for all the event windows with the highest CAAR value (for the full sample) of 8.09% for the [-1,+1] event window. However it was statistically insignificant for the [-20,+20] and [-20,+120] event windows.

The CAARs for the non-BEE transactions (all transactions excluding BEE transactions) was positive for the [-5,+5] event window and negative for the rest of the event windows. However it was only statistically significant for the [-20,+20] event window.

These results suggest that the market perceived BEE acquisitions as non-value adding transactions. These findings support Sartorius and Botha (2008) who suggested that BEE acquisitions are more for compliance than shareholder value. However the results also suggested that these sentiments faded away 120 days after the transaction announcement. Judging by the sample the number of BEE acquisitions was very small. This is explained by Ponte *et al* (2007) who added that the bullish (now bearish) stock market played a role in the acceleration of the number of BEE deals. The economic downturn has decelerated the amount of BEE transactions.



6.1.5 Hypotheses Testing of CAARs of Crossborder acquisitions

Hypothesis 4:

$$H_0: CAAR_{DCB} \geq 0$$

$$H_A: CAAR_{DCB} < 0$$

As illustrated in table 5 and discussed in paragraph 5.1.1 the null hypothesis was not rejected for all the event windows. The difference between the CAARs was statistically significant (at the 5% level) for the [-10,+10] and [-20,+20] event windows.

Graham *et al* (2008) found that large firms which are characterised by high market to book ratios, high stock price performance and strong liquidity have a high inclination to engage in acquisitions in emerging markets. These characteristics describe many companies during the economic upturn and during economic downturn companies struggle to maintain high stock price performance and strong liquidity. Graham *et al* (2008) explained the findings of this study which showed a statistically insignificant negative CAAR value of -0.19% (at the 5% significant level) over the [-20,+120] event window.



7 CHAPTER 7 - CONCLUSION

The aim of this study was to investigate the shortrun impact of mergers and acquisitions on shareholder value during the economic downturn.

Many South African studies that have been completed in the Mergers and Acquisitions field however this seem to be the only study that focused on the shortrun impact on shareholder value during the economic downturn.

Similar to Asquith *et al.* (1983) cited in Tuch and O'Sullivan (2007) who found that regardless of the event window there is very little if any positive returns to shareholders of the acquiring firms. This study also showed statistically insignificant positive Cumulative Average Abnormal Returns for the majority of the event windows for the full sample. These CAAR values ranged from 0.17% over the [-10,+10], 1.28% over the [-5,+5] event window to 1.88% over the [-1,+1] event window. The statistically insignificant negative CAAR for the [-20,+20] event window was -0.06% and the only statistically significant positive CAAR value over the [-20,+120] event window was -3.04%.

This research also found that the majority of CAARs of share funded acquisitions were statistically significant positive values. The CAAR value over the [-1,+1] event window was 4.58%, over the [-5,+5] event window was 4.87%, over the [-10,+10] event window was 4.50%, over the [-20,+20] event window was 2.18% and over the [-20,+120] event window was 0.09%. All the CAARs values of cash funded acquisitions were negative, however only two



were statistically significant. The CAAR value over the $[-1,+1]$ event window was -0.32% , over the $[-5,+5]$ event window was 0.31% , over the $[-10,+10]$ event window was -2.62% , over the $[-20,+20]$ event window was -5.97% and over the $[-20,+120]$ event window was -0.24% . These findings of were not entirely consistent with Smit and Ward (2007) who found lower CAARs for share funded acquisitions.

Sartorius and Botha (2008) alluded to the fact that in addition to compliance companies do engage in BEE deals to create shareholder value. However this study showed that in the long-run the returns are neither negative nor positive. This research found that most CAARs of BEE acquisitions were statistically significant positive values. The CAAR value over the $[-1,+1]$ event window was 8.09% , over the $[-5,+5]$ event window was 3.42% , over the $[-10,+10]$ event window was 2.77% , over the $[-20,+20]$ event window was 0.74% and over the $[-20,+120]$ event window was 0.20% . The majority of CAARs of Non-BEE acquisitions were statistically insignificant negative values, however only one was statistically significant. The CAAR value over the $[-1,+1]$ event window was -0.22% , over the $[-5,+5]$ event window was 0.46% , over the $[-10,+10]$ event window was -2.56% , over the $[-20,+20]$ event window was -5.50% and over the $[-20,+120]$ event window was -0.16% .

This study also showed statistically insignificant negative Cumulative Average Abnormal Returns for the majority of the event windows for crossborder acquisitions. These CAAR values ranged from 0.19% over the $[-20,+120]$,



-0.39% over the [-5,+5] event window to -1.44% over the [-1,+1] event window. The statistically significant negative CAAR for the [-20,+20] event window was -5.50%. The study conducted by KPMG cited in Shimizua, Hittb, Vaidyanathc and Pisanod (2003) stated that only 17% of crossborder acquisitions created shareholder value, while 53% destroyed it. However the 141-day window of this study showed that the returns are neither negative nor positive.

According to Sartorius and Botha (2008) there are still many companies that are not BEE compliant which suggests a lot of future deals. This inturn suggests that there is a requirement for more indepth studies that will investigate the role of BEE mergers and acquisitions in the economy. In particular there is a shortage of BEE studies that calculate Cumulative Average Abnormal Returns to measure the impact of these deals on shareholder value.

This study serves as a foundation for future studies that will focus on the role of mergers and acquisitions during economic downturn. The results might differ because the sample size will possible be bigger and that will improve the accuracy of the findings. It has also opened doors for future studies that will compare shareholder returns on mergers and acquisitions between the bullish and the bearish market.



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