

THE IMPACT OF MERGERS AND ACQUISITIONS ANNOUNCEMENTS ON THE
SHARE PRICE PERFORMANCE OF ACQUIRING COMPANIES: SOUTH AFRICAN
LISTED COMPANIES

By

Mthabisi Ndlovu

Thesis submitted in fulfilment of the requirements for the degree of
Master of Management in Finance & Investment

in the

FACULTY OF COMMERCE, LAW AND MANAGEMENT
WITS BUSINESS SCHOOL

at the

UNIVERSITY OF THE WITWATERSRAND

SUPERVISOR:

DR. Jones Mensah

DECLARATION

I, Mthabisi Ndlovu declare that the research work reported in this dissertation is my own, except where otherwise indicated and acknowledged. It is submitted for the degree of Master of Management in Finance and Investment in the University of the Witwatersrand, Johannesburg. This thesis has not, either in whole or in part, been submitted for a degree or diploma to any other universities.

Signature of candidate:

Date: 31 March 2017

ACKNOWLEDGEMENTS

Glory and praise be to the Lord who makes all things possible. I give thanks to God Almighty, who has led and carried me through this journey.

I would like to extend my gratitude to the following people who have been instrumental in inspiring me to take the leap of faith to start on this journey and complete it.

To my supervisor Dr. Jones Mensah, thank you for your patience, insights and inputs in this research.

I am grateful to my family who have always believed and supported me. To my mother and father, Gertrude and Gibson, thank you for your love and instilling the value of education in me. I know this will make you proud. To my beautiful wife Nkosiphile, thank you for your love, support and encouragement throughout this journey. Thank you for being my rock.

To my friends, thank you for your encouragement, advice and support, especially Donald Sibanda and Similo Chatikobo.

ABSTRACT

This thesis empirically examines the stock market reaction to mergers and acquisitions (M&A) announcements in South Africa, and also analyses the effects of the method payment. Data was collected from 34 acquisitions, consisting of acquirer and target companies in the same industry listed on the Johannesburg Stock Exchange, (JSE). The transactions were of mergers and acquisitions for the period 2003 – 2013. The event study methodology was used to calculate cumulative average abnormal returns for the acquiring companies over the total event window. Parametric t-tests were then applied to test the significance of the cumulative average abnormal returns, and a comparison of the pre and post-announcement returns was done over the event window. A comparison is also done for cash and share acquisitions over the entire event window (-10, +10). From the findings, it is clear that there were no significant abnormal returns or significant differences between the pre and post announcement returns. Comparing the two payment methods (cash and share payments), the results also show that there were no significant differences between these methods. The study therefore concluded that merger and acquisition announcements did not create any value for shareholders of acquiring companies during and around the announcement period.

TABLE OF CONTENTS

DECLARATION.....	2
ACKNOWLEDGEMENTS.....	3
ABSTRACT	4
LIST OF TABLES.....	7
LIST OF FIGURES.....	8
1 INTRODUCTION	9
1.1 INTRODUCTION	9
1.2 BACKGROUND OF THE STUDY.....	9
1.3 RESEARCH PROBLEM	11
1.4 RESEARCH OBJECTIVE	12
1.5 RESEARCH QUESTIONS	13
1.6 SIGNIFICANCE OF THE STUDY	13
1.7 OUTLINE OF THE STUDY	14
2 LITERATURE REVIEW	15
2.1 DEFINING MERGERS AND ACQUISITIONS	15
2.2 TYPES OF MERGERS AND ACQUISITIONS.....	15
2.3 MERGER MOTIVES	16
2.4 VALUE CREATION	16
2.5 MANAGERIAL SELF-INTEREST	16
2.6 THE METHOD OF PAYMENT.....	17
2.7 MARKET EFFICIENCY HYPOTHESIS.....	18
2.8 M&A ANNOUNCEMENT STUDIES	18
2.9 FORMULATION OF HYPOTHESES	20
2.10 CONCLUSION OF LITERATURE REVIEW	22
3 RESEARCH METHODOLOGY	23
3.1 INTRODUCTION	23
3.2 DATA AND DATA SOURCES	23
3.3 RESEARCH DESIGN.....	24

3.4	TEST STATISTICS UNDER THE NULL HYPOTHESIS.....	27
3.5	SUMMARY	29
4	PRESENTATION OF RESULTS.....	30
4.1	INTRODUCTION	30
4.2	AVERAGE ABNORMAL RETURNS	30
4.3	CUMULATIVE AVERAGE ABNORMAL RETURNS.....	32
4.4	PRE-ANNOUNCEMENT VS POST-ANNOUNCEMENT CAARs	35
4.5	SHARE FUNDED DEALS VS CASH DEALS.....	37
4.6	CHAPTER SUMMARY	40
5	CONCLUSION AND RECOMMENDATIONS.....	41
5.1	INTRODUCTION	41
5.2	CONCLUSIONS AND RECOMMENDATIONS.....	41
	REFERENCES.....	43

LIST OF TABLES

Table 1: Sample Statistics	31
Table 2: AARs of total sample over the event window period.....	33
Table 3: T-test results for the Acquirer firms.....	36
Table 4: AARs of cash vs share funded acquisitions over the event window period.....	37
Table 5: Summary statistics and T-test results for Share vs Cash deals	39

LIST OF FIGURES

Figure 1: Average Abnormal Returns	32
Figure 2: Cumulative Average Abnormal Returns	34
Figure 3: Share deals CAARs plotted against Cash deals CAARs	38

1 INTRODUCTION

1.1 Introduction

This study empirically examines the impact of merger and acquisition announcements on the shareholder value of acquiring firms listed on the Johannesburg Stock Exchange (JSE). The first chapter introduces the thesis and is organized as follows: Section 1.2 presents the background on mergers and acquisitions. Section 1.3 presents the research problem. Section 1.4 presents the research objectives. Section 1.5 presents the research question. Section 1.6 highlights the significance of the study, pointing out its contribution to the merger and acquisitions body of knowledge. Section 1.7 discusses the structure of the report and the chapter summary concludes the chapter.

1.2 Background of the study

In today's world companies are faced with numerous challenges, and the need to constantly evolve due to the business environment being so dynamic continues to be of vital importance. This has driven companies to spend a lot of time and money on product development, growth strategies and expansion into new markets. However, the difficulty in all these exercises is that they do not always create value and can in turn be substantially more costly in comparison to the value they create. Mergers and acquisitions are at the center of all these strategies. Over the years mergers and acquisitions have become one of the leading strategies for growth, expansion and tapping into new markets. Companies embark on mergers and acquisitions with high expectations of creating value through synergies, cost reductions through economies of scale, financial gains and tax reductions, market power gains (extending product offerings and entry into new markets) and better efficiency. The belief is that the sum of two is greater than the sum of its parts, referred to as synergistic benefits. These synergies are considered important determinants of shareholders' wealth creation (Houston, James & Ryngaert, 2001; Delong, 2003). This is because mergers and acquisitions constitute investment activities for companies and like any other investment, the expectation is to yield positive returns.

Mergers and acquisitions affect the companies involved in the transactions and the industries they operate in. Their effect on the industries is dependent on their size. Large mergers and acquisitions bear the risks of stifling the growth of small players through dominance and

monopolisation of markets by the companies involved. This has led to the close monitoring of these transactions by many governments in order to ensure that competitive environments are not damaged. In South Africa this is done through The Competition Commission of South Africa, which is the statutory body mandated to investigate and enforce the Competition Act, No. 89 of 1998 before approving any M&A deals. The Commission seeks to promote and maintain competition in order to achieve equity and efficiency in the South African economy.

In Africa, M&A activities grew at a compound rate of 14% during the years 2010 – 2014 (UNCTAD, 2014). Kariuki, Muturi & Kiragu (2016) highlight the fact that a weak confidence in the international markets has led to the phenomenal growth in M&A activities in Africa over the last decade. This, together with other factors such as the improved political and macroeconomic stability, Africa's richness in land and attractive geology, has contributed to it becoming more attractive to foreign investors. Kariuki, et al. (2016) mention that South Africa and Nigeria constitute the highest number of M&A deal flows into Africa, by value and deal count. In 2015 Anheuser-Busch InBev (AB InBev) announced the acquisition of SABMiller. This transaction was recorded as the largest M&A deal ever in South Africa and was also reported by the Institute of Mergers and Acquisitions Alliance as the 6th largest deal in the world.

The effects of M&As are so profound that it directly affects the prices of common stocks of both the bidder and target (Shah & Arora., 2014). This thesis empirically examines the effect of merger and acquisition announcements on the performance of acquirer's shares. The analysis is done on deals by South African acquirers and targets that were listed on the JSE at the time of the announcement. The list of companies in the study consists of companies whose transactions were announced and concluded from 2003 – 2013. Under the event study methodology, stock prices are analysed around the announcement dates of mergers and acquisitions, to ascertain whether they create any value for shareholders of acquiring companies. Value is quantified as abnormal returns for the purpose of this research. The study further investigates the pre and post announcement share price performance and whether there is any difference brought about by the payment methods (cash or stock). Previous literature on a merger and acquisition has shown that acquisitions affect the value of the merging companies and may generate either negative or positive abnormal returns (Ghosh, 2001)

1.3 Research problem

A major research approach in assessing corporate restructuring events, is assessing the value (short and long term) created by the announcement of restructures. Typical findings from early studies suggest that M&As did not enhance firm value, either in the short-run (Dodd, 1980; Asquith, 1983; Malatesta, 1983; Jarrell & Poulsen, 1989) or in the long-run (Asquith, 1983; Agrawal, Jaffe, & Mandelker, 1992).

Over the last two decades, Mergers and Acquisitions related issues have drawn considerable interest from practitioners and academicians. As a result, scores of empirical studies have documented various aspects of M&A activity, including trends in such activities, characteristics of the transactions, and corresponding gains or losses to shareholders (Harford, 2004; Ma, Whidbee & Zhang 2008; Dutta & Jog, 2009). While the majority of the existing empirical evidence focuses on the stock returns surrounding the announcement dates (Moeller, Schlingemann & Stulz, 2004; Campa & Hernando, 2006; Khanal, Mishra, Mottaleb, 2014; Lusyana & Sherif, 2016), the literature on this phenomena and the explanatory variables thereof is far from complete. Some of the factors that have been attributed to the difference in findings are the relative size of the acquirer, whether the companies were private or listed, method of payment and the degree of relatedness between the acquirer and the target.

Stunda (2014) carried out a study in the United States of America (U.S), using a sample of 1 718 firms that were involved in M&As between 2009 – 2012. The study looked at the share price performance of firms that engage in M&As in comparison to firms that opted for organic growth. It further analysed the impact of M&As based on different industry sectors. The results first indicate that firms engaged in M&As show a significantly negative effect on share price, in comparison to non-merging firms which show a significantly positive effect on the share price. When analysing the performance based on different industry sectors, most of them show a significant negative effect on the share price, with the exception of two, oil & gas and banking & financial services.

A significant body of research is on the measurement of the success of M&A. This is done through share price studies. However little has been done to analyse the impact of industry relatedness surrounding M&A announcements or on the post-acquisition performance. Some authors (Mantravadi and Reddy, 2008; Stunda, 2014) have conducted different studies that

look at the effect of industry relatedness at the announcement of M&A and they all have conflicting results on whether some industries perform better than others. This study has therefore taken this explanatory variable into account, by using a sample consisting of transactions of acquirers and targets in the same industry or sector.

The bulk of the research on M&As has mainly been based on the developed countries like the United States of America and United Kingdom. This raises the question of whether the empirical evidence exhibited in developed financial markets is applicable in the emerging markets. Limited work is available regarding M&As events in South Africa and other countries in the emerging markets. This study bridges this gap by examining the impact of M&A announcements on the stock price performance of listed companies in South Africa.

Acquiring companies typically offer cash or shares to the shareholders of the target companies, or in some instances a combination of both. The effects of payment methods is a subject area that has also been debated and widely researched, with scores of empirical evidence indicating that the payment method used in a M&A transactions has an effect on the returns for either the acquiring or target shareholders. Mushidzhi and Ward (2004) found that for target shareholders there were significant differences in returns between cash and share M&As transactions. However, for the acquiring firms, no significant differences were found. Contrary to this, a study by Linn et al. (2000) found that a change in performance is significantly larger for cash offers and ultimately concluding that the method of payment does have an impact on M&A transactions.

Research on performance of mergers and acquisitions continues to grow, however Zollo and Singh (2004) indicate that there exists much heterogeneity both on the definition of the performance of M&As and on its measurement. This paper therefore seeks to add to existing body of knowledge that addresses the question of performance around the announcement of M&As.

1.4 Research objective

This research study is aimed at analysing whether the announcement of mergers and acquisitions creates value for the shareholders of the acquiring companies listed on the JSE.

- 1.4.1 The study analyses the reaction of the stock prices of acquiring firms during M&A announcements period, to establish whether there are wealth creating to the shareholders of the acquiring companies.
- 1.4.2 The study also analyses if there is a difference between the abnormal returns (if any) generated pre-announcement and post-announcement.
- 1.4.3 The study then investigates whether the method of payment for the acquisition has an influence on the abnormal returns generated.

1.5 Research Questions

The specific research questions to be addressed by this research are as follows;

1. Do mergers and acquisition announcements create value for acquiring companies listed on the JSE, during and around the announcement periods?
2. Are there significant differences between the pre and post announcement returns?
3. Are there significant differences in the returns brought about by the different payment methods by acquirers?

1.6 Significance of the study

This study analyses the wealth creation of M&A announcements to the shareholders of acquiring firms and in addition it seeks to address some of the explanatory variables of the stock price reactions. Firstly the sample drawn is of acquirers and targets that are in the same industry and sector. This is quite unique and there is no study in South Africa that has done a study on similar sample. By so doing this study dissects and narrows the M&A sample, eliminating the need to reclassify our sample and test the effect of industry relatedness. In most cases many studies have used small samples to test for industry relatedness and therefore not providing reliable results to infer on the bigger population.

The findings of this study will add to the existing literature within the South African context. Currently limited literature exists, as most studies are conducted on the countries abroad. Adding deal specific variables, which are payment methods, relative size of target and target shares acquired to the analysis, will provide a plausible basis for explaining some of the contradictory results often reported in the mergers and acquisitions literature. Smit and Ward (2007) conducted a study based on South Africa, analysing the share price performance

around the announcement date and the post-acquisition operating performance over two years, and in conclusion they highlighted the need for further research to be done on acquirers and targets that are both listed prior to the acquisition.

Shareholders and managers of companies turn to mergers and acquisitions with the hope of improving financial performance in their companies, but studies on this subject have produced a set of conflicting results (Dodd, 1980; Asquith, 1983; Malatesta, 1983; Jarrell & Poulsen, 1989). Although mergers and acquisitions enjoy importance as strategies for achieving growth, their success in creating shareholder value still remains contested.

1.7 Outline of the study

This research paper comprises five chapters including this introduction section and is organised as follows. Chapter 2 provides literature review of the earlier work undertaken on mergers and acquisitions, and further explains key concepts and terms used in this paper. Chapter 3 describes the methodological approach that will be followed to address research questions put forward under section 1.5 above. Chapter 4 presents and analyses results of the study. It is followed by chapter 5 which discusses the results in comparison to findings from previous studies and then concludes and provides recommendations for further work to be done on mergers and acquisitions.

2 LITERATURE REVIEW

2.1 Defining mergers and acquisitions

A merger is the process whereby the assets of two companies are placed under the control of one (usually new) company and an acquisition is the absorption of one firm by another, where the acquiring firm retains the identity (Firer, 2012). However for the purposes of this study we shall not make a distinction, but rather use the two terms interchangeable.

2.2 Types of mergers and acquisitions

From the perspective of value chain, mergers can be classified as horizontal, vertical and conglomerate (Gaughan, 2002; Chen and Findlay, 2003). Horizontal mergers are defined as business consolidation occurring between entities that operate in the same industry, often as competitors who offer the same goods and services. This form is a combination of acquiring and the target companies who are competing firms in the same industry and with the same target market.

Vertical mergers involve businesses operating in different industries. Such mergers usually happen when two merging entities each operating at different stages in the production of the same good or service, come together and combine their activities. This is typically between a company and its supplier or customer, further classified as a backward integration where a company acquires the suppliers of its raw materials, and forward integration where a company acquires the distribution channels of its products. The firms involved seek to reduce uncertainty, transaction costs and to benefit from economies of scope by merging upstream and downstream linkages in the value chain (Chen & Findlay, 2003).

There is a third type of merger which is known as the Conglomerate merger. It involves the merging of two different types of entities operating in different markets or companies that do not have common business interests. Conglomerate merger is made up of three categories of mergers, which are Product extension and Geographic market extension. Benefits from this type of deal include sharing of assets and reducing business risk. An example of conglomerate M&A is Phillip Morris, a tobacco company which acquired General Foods in 1985 for US\$5.6 billion (Gaughan, 2002).

2.3 Merger motives

Despite the amount of research that has been done to date on mergers and acquisitions, the motive for mergers and acquisitions is still not fully understood. Haleblan, Devers, McNamara, Carpenter and Davison (2009) break the merger motives into four broad categories, with value creation and managerial self-interest (value destruction) being two of them.

2.4 Value Creation

Haleblan et al. (2009) explain that value can be created through market power and efficiency. Market power means that the merged firms have more control over the market and can detect the pricing of products. When the two companies come together, best practices are normally shared, which lead to cost savings. This cost saving can be brought about by employing better systems or processes, better tax saving methods, or through economies of scale. Ultimately the best way to explain value creation would be through synergy creation, which encompasses both aspects of gains, financial and operational (Houston, James & Ryngaert, 2001; Delong, 2003).

2.5 Managerial self-interest

Findings from early studies suggest that M&As did not create value for firms either in the short term or long term (Asquith, 1983; Malatesta, 1983; Agrawal, Jaffe, & Mandelker, 1992). With M&As not creating any shareholder value, a substantial amount of studies make the opposing assumption—that acquisitions destroy shareholder value as managers attempt to maximize their own self-interest (Haleblan et al., 2009). Studies have found that there is a strong positive relationship between CEO compensations and M&A acquisition behaviour. Companies that have high CEO compensations normally have acquisition activities (Agrawal & Walkling, 1994). This is explained by the fact that CEOs compensations and share options will generally increase irrespective of the acquisition performance. With the company sizes increasing due to M&As, CEOs end up with more discretion and power.

The hubris hypothesis by Roll (1986) can also explain the managerial effect, which states that there can be a problem of acquiring CEOs being overly confident. Under this hypothesis, the management could embark on an M&A where they have incorrectly assessed the value of the target due to overconfidence and overestimation of their returns from the transaction. This

could be detrimental to shareholders of the acquiring company and considered to be value destroying.

2.6 The method of payment

A significant number of empirical studies show that cash as a method of payment in an acquisition, yields higher returns for acquiring company shareholders than the share acquisitions for example Agrawal et al. (1992) and Franks et al. (1988). Empirical evidence further shows that at announcement of M&As, both target and acquirer share prices consistently respond more positively to cash offers than they do with share offers. This evidence is supported by two hypotheses that offer a theoretical rationale behind this. Firstly there is the 'information content' hypothesis by Myers and Majluf (1984). Under this hypothesis, when acquirers make an offer using shares, they send a signal to the market that their shares are overvalued i.e. the market perceives the market value of the shares to be above their intrinsic value. Secondly the 'free cash flow' hypothesis by Jensen (1986), states that the cash offers by acquirers reduces the agency costs of free cash flow, which is the risk of managers embarking on projects or investments that favour their personal interests more.

Alternative to the hypotheses above, there are some other hypotheses that challenge the notion that share offers are an indication of overvaluation or that they are not taken as good news by the market. The Investment opportunity hypothesis and the risk sharing hypothesis are the two alternative hypotheses.

The Investment opportunity hypothesis was by Myers (1977) and it highlights the fact that share offers are not always a negative signal of their overvaluation. He explains that companies with great future investment opportunities are less likely to use up their cash reserves or resort to debt to explore these opportunities. He also argues that managers with growth perspectives prefer to raise capital through equity, because it gives them more on the future use of the company's cash flows.

The risk sharing hypothesis by Hansen (1987), states that there is a problem of information asymmetry when it comes to the true value of the target. Many at times acquirers face challenges when it comes to assessing the true value of the target firms, especially taking into account the value of the synergies that will be created. As such the hypothesis favours the

share offer as it forces the target companies to share the risk of post-acquisition revaluation effects if any.

2.7 Market efficiency hypothesis

The event study methodology is centred on the Efficient Market Hypothesis (EMH), which was developed by Fama et al. (1969) and Fama (1970). According to the EMH, a market is efficient if stock prices fully reflect all available information. One important assumption on EMH is that the markets are sufficiently efficient to react to any new information or events that have an impact on the future profits of the affected companies. Three forms of efficiency are noted by Fama et al. (1969), which are the weak, semi-strong and strong form. The 'weak form' asserts that stock prices are reflective of information already contained in the historic prices. The 'semi-strong form' is reflective of all publicly available information, which includes past prices, financial statements, merger announcements and any other information that may affect the future profits of the company. Lastly the 'strong form' is reflective of all publicly and privately available information. The difference between the 'semi-strong form' and the 'strong form' is that the latter assumes that no one should be able to beat the market, even when they're trading on private information.

In an efficient market, actual prices of individual securities already reflect the effects of information. This is based both on events that have already occurred and on events which, as of now, the market expects to take place in the future (Fama et al., 1969). In an efficient financial market, the M&A announcement is immediately incorporated into the stock prices. It is therefore assumed that the JSE is an efficient market and that the announcement of M&As will quickly be absorbed into the company stock prices, therefore yielding no abnormal returns around the announcement period.

2.8 M&A announcement studies

Kariuki et al. (2016) examined the stock market reaction to merger and acquisition announcements. The study used data of 30 M&A transactions of listed firms in Eastern Africa securities market. It involved transactions from 1996 - 2015. It was carried out over a 41 day event window measuring Cumulative Abnormal Returns (CAR), 20 days before and 20 days after. Their findings were that acquiring firms earned positive returns immediately after the acquisition announcement (-1, 1) and over the event window periods (-20, 20) and (-10, 10).

However the immediate positive performance was found to be short lived and four days after M&A announcement returns declined sharply, indicating insignificant returns over the event window periods (-2, 2) and (-5, 5). Finally they tested for cumulative average abnormal returns and their findings were negative, leading to a conclusion that on average M&A activities do not generate wealth to the acquiring firm shareholders. The findings of this study are consistent with the efficient market hypotheses by Fama et al. (1969) and Fama (1970). The market was quick to correct and there were no significant gains experienced during the entire event window.

Smit and Ward (2007) base their research mainly on findings from Healy et al. (1992), but they however examine the share price performance over a 21-day window around the announcement date. They also analyse the impact of operating financial performance in the two years following the acquisition for acquiring companies listed on the JSE. However their study focuses on all large acquisitions involving target firms that are either publicly traded or unlisted. As with most international studies, findings by Smit and Ward (2007) indicate that shareholders of acquiring companies do not earn statistically significant positive or negative abnormal returns, or average cumulative abnormal returns and nor are there any significant changes in industry adjusted-operating financial performance. As such they conclude that mergers and acquisitions have a zero present value investment for acquiring companies and their shareholders.

Mushidzhi and Ward (2004) investigates whether the post-acquisition returns on shares around the announcement is associated with the method of payment. The study only involved JSE listed companies for both the acquirer and the target. The findings of the study were that target shareholders of cash acquisitions earned significantly higher returns than those of share funded acquisitions. These results were inconsistent with the findings of Seghal et al. (2012), who conducted a study on 6 BRICKS countries. Their findings show that share financed mergers are value creating, while cash financed acquisitions do not create any value. This is consistent with the Investment Opportunity Hypothesis by Myers (1977) and the Risk Sharing Hypothesis by Hansen (1987). However Mushidzhi and Ward (2004) go on to highlight the inconsistency of their study with the signalling hypothesis, which states that a share offer by the bidder or the acquirer indicates that the shares of the acquirer are overvalued and that a cash offer on the other hand indicates the acquirers' shares are

undervalued. This therefore leaves a question on the financing methods being an explanatory variable, as these are conflicting theories.

A study by Stevens (2008) compares the post acquisitions performance of listed JSE companies across different market segments. The research finds that there are significantly different abnormal returns in the short run around an announcement date. The overall conclusion of this study is that different economic sectors do in fact experience different degrees of success or failure in the conclusion of merger and acquisition transactions in the short run.

Another prevalent question from the literature available on M&As, is how value is generated and distributed around the world? Yilmaz and Tanyeri (2016) conducted a study on a global sample consisting of 263 461 deals across 47 countries, from 1992 - 2011. The analysis is carried out using the event study methodology, over a three day event window. Their results indicate that both target and bidder shareholders earn significantly higher cumulative abnormal returns. However it is interesting to note, their findings show that bidder shareholders in developed market countries earn significantly higher cumulative abnormal returns than in emerging market countries. The study also finds that in emerging market countries there is a drift in both the target and the bidder cumulative abnormal returns prior to the announcement. This may indicate that there is more leakage of information in developing countries than there is in developed countries, and this is a result of differences in corporate governance practices. Developed counties have better corporate governance practices.

2.9 Formulation of Hypotheses

Hypothesis 1:

The null hypothesis states that the announcements of mergers and acquisitions do not affect shareholder value of the acquirer firms involved in the M&A transactions. This value is measured by cumulative average abnormal returns, therefore implying that M&A announcements yield zero abnormal returns ($CAAR = 0$). If they do yield abnormal returns higher than zero, the abnormal returns are not significant.

The alternative hypothesis states that announcements affect shareholder value of the acquirer firms involved in the M&A transactions and the abnormal returns are significant)

$$H_0: CAAR = 0$$

$$H_A: CAAR \neq 0$$

H_0 denotes the null hypothesis and H_A the alternative hypothesis.

The hypotheses were tested by using a one sided t-test 5% level of significance.

Hypothesis 2:

Hypothesis testing has also been conducted to establish if there are any significant differences between pre-announcement CAAR and post-announcement CAAR. The tests have been done over different window periods; ± 2 days, ± 5 days, ± 7 days and ± 10 days. A paired two sample t-test analysis was conducted to test for the hypotheses stated below:

The null hypothesis states that for the pre-merger announcement period, the cumulative average abnormal return for acquiring companies before announcement should be higher than the cumulative average abnormal return for acquiring companies post announcement.

The alternative hypothesis states that for the pre-merger announcement period, the cumulative average abnormal return for acquiring companies before announcement should not be higher than the cumulative average abnormal returns for acquiring companies after the announcement.

$$H_0: CAAR_1 - CAAR_2 > 0$$

$$H_A: CAAR_1 - CAAR_2 \leq 0$$

Where $CAAR_1$ denotes the pre-announcement date cumulative average abnormal returns for acquiring companies and;

Where $CAAR_2$ denotes the post-announcement date cumulative average abnormal returns for acquiring companies.

If the null hypothesis is accepted, the hypothesis indicates leakage of insider information in the market leading to shareholders acting on the stocks before the official public announcements and earning higher CAAR prior to the announcement. Rejection of null

hypothesis indicates that the investors act upon the information after it is officially available to the public.

Hypothesis 3:

The null hypothesis states that the cumulative average abnormal return of acquirer companies is not higher in share payments than in cash payments.

The alternative hypothesis states that the cumulative average abnormal return of acquirer companies is higher in share payments than in cash payments.

$$H_0: CAAR_S - CAAR_C \leq 0$$

$$H_A: CAAR_S - CAAR_C > 0$$

Where $CAAR_S$ denotes the cumulative average abnormal returns for acquirer companies that used share payments to acquire their targets and;

Where $CAAR_C$ denotes the cumulative average abnormal returns for acquirer companies that used cash payment to acquire their targets.

2.10 Conclusion of Literature Review

The conclusion of the literature review is that while scores of empirical studies have been conducted surrounding merger and acquisition announcements, there are too many conflicting results. There is no clear and concise conclusion as to whether M&A announcements create value for acquiring shareholders. One other important factor to note is that there is a lot of ambiguity regarding the explanatory variables for the results found. Geography also seems to be another factor, essentially meaning that we cannot infer the results of studies from different geographic locations for example the US and South Africa. The Efficient Market Hypothesis supports this notion, as the efficiency of markets tend to differ geographically, therefore the reaction of the markets and results found thereof may differ as a result of this factor.

3 RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology that will be used in order to address the research questions formulated in section 1.4. Section 3.2 discusses the data, data selection and sources. Section 3.3 outlines the research design and how variables used in the study are measured. Section 3.4 presents the tests run in the study and the formulation of the hypotheses that will address the research questions.

3.2 Data and data sources

The study focuses on any M&A announced by a company listed on the JSE, where the purchase value was greater than 20% of the total market capitalization of the acquiring entity. The requirement for the transaction value is in line with the JSE categorization of large deals. This was also to limit the volume of data to be processed and to ensure that the transactions are sufficiently large enough to increase the probability that any economic gains are detectable. The announcement of the deals was between and inclusive of the years 2003 to 2013.

The study consists of all M&As by related targets and acquirer companies, operating in the same industry or sector. Only domestic transactions were included and for acquirers and targets that are domiciled in South Africa. Only successful and completed deals were used in the study.

The data on the announcement dates, deal value of M&A, acquirer and target names, market capitalization (size), payment method, deal attributes and origins were all extracted from Bloomberg. A total of 7 422 deals were initially pulled for that period, before narrowing the number down to 34 based on the selection criteria. The daily stock prices were then drawn from INET-Bridge. For each company, share prices were collected 170 days before and 170 days after the announcement date.

3.3 Research design

The event study methodology was used in this study. Landmarked by the papers by Ball & Brown (1968) and Fama, Fisher, Jensen and Roll (1969), an event study is an empirical procedure that measures the stock market's reaction to a major announcement by a publicly traded company. It examines the abnormal returns to shareholders and therefore directly measures the value created for investors. However, weakness of these studies is that they are vulnerable to confounding events and require significant assumptions about the functioning of stock markets (efficiency, rationality and absence of restrictions on arbitrage).

Parametric t-tests statistics were used to test the significance of the results, with a cross sectional t-test being is used to measure the significance of the cumulative average abnormal returns and the paired two paired two sample t-test is used over the different event window periods.

The objective of this study is to determine whether these announcements will create excess or abnormal returns for acquiring firm shareholders. First calculation is of the “normal returns” that would be expected in the absence of the event. The idea is to isolate the effect of the event from the effect of the general market movements. In this paper we have worked with time series data. Daily stock prices were used, and these stock prices were collected a year before the announcement period and a year after.

Firstly normal returns were calculated as per the formula below. The benefits of using returns are the fact that they are unit-free:

$$R_{it} = \frac{P_{it} - P_{i(t-1)}}{P_{i(t-1)}} \quad (1)$$

Where:

R_{it} Is the return over the period t for asset i , P_{it} and $P_{i(t-1)}$ represent the prices for asset i over period t and $t - 1$ respectively.

The study then seeks to analyze if stock prices display abnormal returns around the event window, which are returns in excess of their expected return after compensating for risk. The event is the announcement of an acquisition by South African companies listed on the JSE. The event window period for this study is 21 days (-10, 0, +10), 0 denoting the announcement date. Similar to previous studies like Selcuk (2015), the announcement date is the considered the event date or day 0.

According to Fama, Fisher, Jensen and Rall (1969), daily ARs can be calculated using various benchmarks:

- (1) Market model;
- (2) Net-of-market return;
- (3) Net-of-characteristic matched portfolio (or matched firm) return; or
- (4) An equilibrium asset pricing model, such as the CAPM.

For the purposes of this study the statistical market model was used to estimate the expected returns. It is a Single factor model, using just the market return. To find daily abnormal returns, the expected market returns are subtracted from the actual returns. The market model posits that the only factor determining the return on stock i , at time t , is the return on the market at time t . Therefore to calculate the abnormal return we first have to estimate the $E(R_{it})$ expected return. The estimation window was 160 days using a single factor market model. This model is very similar to CAPM, except that the intercept is taken to be a constant rather than the risk-free rate. The market model parameters α_i and β_i were estimated via ordinary least squares regression. The regressions were run for each company returns and the corresponding market returns. Our estimation window is run on daily returns from -160 days to -10 days before the announcement. The assumption for this model is that the returns for days more than -10 are normal returns and are not influenced by the event. An event window represents possible leakages of information prior to announcement and also captures all the effects of the announcement on the stock prices. The decision to make the estimation window 160 days was influenced by the availability of data and this period is sufficient enough to formulate a benchmark for normal returns. Additionally, during this period no other corporate events, such as earnings announcements and stock splits took place, as they may cause abnormal returns. After estimating the values of α_i and β_i , the market returns were also plugged into the equation to calculate the expected returns within the 160-day-event window.

This relation is modeled linearly, as in equation (2) below:

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

Where, α_i and β_i are the parameters and were estimated using the OLS regression in excel. R_{mt} is the market return and ε_{it} the error term, assumed to be zero for the market model.

The abnormal return AR_{it} takes the difference between the actual and the predicted returns for each security at each point in time, as in equation (3) below;

$$AR_{it} = R_{it} - E(R_{it}) \quad (3)$$

Where, R_{it} is the actual return and $E(R_{it})$ is the expected or normal return (Duso, Gugler, & Yurtoglu, 2010).

To calculate the average abnormal return (“AAR”) for each day in the event window, the abnormal returns for all N stocks are aggregated at each time t as in equation (4) below;

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it} \quad (4)$$

Finally we sum up the average abnormal returns over the T days in the event window, over all times t, to form the cumulative average abnormal return (CAAR) as in equation (5) below;

$$CAAR_t = CAAR_{t-1} + AAR_t \quad (5)$$

The traditional event study methodology of Fama, Fisher, Jensen, and Roll (1969) involves calculating cumulative average abnormal returns (“CAARs”). The CAAR is a useful statistical analysis tool in addition to the AAR as it provides clarity on the aggregate effect of the abnormal returns. Particularly if the influence of the event during the event window is not exclusively on the event date itself, the CAAR can prove very useful. The study examines the results for AAR and CAAR for each company and use statistical analysis to test the significance of our data.

3.4 Test Statistics under the Null Hypothesis

T-tests were used to measure the statistical significance of the abnormal returns, which were calculated using the formulae above. A t-test is a hypothesis test of the mean of one or two normally distributed populations. Several types of t-tests exist for different situations, but they all use a test statistic that follows a t-distribution under the null hypothesis. In this study parametric t-tests were used. T-tests require the standardization of the excess returns to reflect statistical error in the estimation of expected returns. The test statistics is given by the ratio of the day '0' average excess return to the estimated standard deviation. The standard deviation is estimated from the time-series of mean excess returns.

The t-test makes four assumptions about the population parameters i.e. measures computed from all the observations in the population that cannot be violated in order to rely on the outcome of the test: the observations must be drawn from a normally distributed population, the observations must be independent, the populations must have a constant variances (homoscedasticity), and an expected value of the abnormal return of zero. Especially, the assumption of the underlying population being normally distributed is seen as incontrovertible for the robustness of the parametric test in event studies (Dutta; 2014).

The main objective of this study is to analyze whether merger and acquisition announcements create any value for the acquirer company shareholders, which is also the first hypotheses that we test for.

$$H_0: AAR \neq 0 \text{ and } H_A: AAR = 0$$

$$H_0: CAAR \neq 0 \text{ and } H_A: CAAR = 0$$

The null hypothesis H_0 tests if the share prices of the acquiring companies will not experience Average Abnormal Returns or Cumulative Average Abnormal Returns following the announcement and H_A tests that the event will lead to negative or positive AAR and CAAR. We therefore conduct cross sectional tests, to test the significance of the average abnormal returns and the cumulative average abnormal returns.

$$t_{AAR} = \frac{AAR_t}{S(AAR)_t}$$

Where $S(AAR)_t$ is the standard and it is calculated as per the formula below:

$$S(AAR)_t = \sqrt{\sum_{t=1}^{T_0} \frac{\sum AAR_t^2}{T_0 - 1}}$$

The t-test assumes that the individual abnormal returns are cross-sectionally independent and identically distributed. We then estimate the t-statistic for the $CAAR_s$ by dividing $CAAR_s$ with the standard deviation as per the formula below:

$$t_{CAAR} = \frac{CAAR_t}{\sqrt{T * S(AAR)_t}}$$

The paired t-test was the used to compare the pre-announcement and post announcement sample returns, and also the share and cash transactions. A paired t-test is uses the sample means and standard deviations to compare if they're significantly different from each other. The formula for the paired t-test is as below:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

$\overline{X}_1$ = Mean of first set of values

$\overline{X}_2$ = Mean of second set of values

S_1 = Standard deviation of first set of values

S_2 = Standard deviation of second set of values

n_1 = Total number of values in first set

n_2 = Total number of values in second set

Most event studies rely on parametric test statistics Dutta (2014), because they are easy to calculate and the results are also simple to interpret. However it is crucial that the share prices be normally distributed (assumption of normality), because if that assumption is violated, they yield misspecified test statistics.

3.5 Summary

This chapter described the methodological approach used to analyze the effect of merger and acquisitions announcements to the shareholders of acquiring firms. The first section of the chapter outlines how it was collected, the sources used and the filters applied to remain with the final sample. The research design is then explained into detail, which is the event study methodology. Abnormal returns were therefore used as the measure of the effect of the event. The market model was used to estimate the expected returns, therefore ordinary least square regressions were run to estimate the parameter estimates used in the market model. The average abnormal returns and cumulative abnormal returns calculations were presented. The chapter then closes off by presenting methods used to test the hypotheses in the study. T-tests and paired t-tests were used and the section also gives a breakdown of formulae and assumptions for t-tests.

4 PRESENTATION OF RESULTS

4.1 Introduction

This chapter presents results and findings of the study. These were obtained through different models mentioned in Chapter 3 and are further detailed in this chapter. An event study approach was adopted; therefore the abnormal returns (AR), average abnormal returns (AAR) and cumulative average abnormal returns (CAAR) results are presented. The study consisted of 34 acquisitions, which were all between acquirer and target companies in the same industry or sector.

Firstly in Section 4.2 we present the AAR descriptive statistics, which show brief descriptive coefficients that summarize our given data set. The AARs are then graphically represented in order to better understand the results. Section 4.3 addresses the first null hypothesis which states that the announcements of M&As do not affect shareholder value of the acquirer firms, therefore $CAAR = 0$ around announcement dates. To test for significance, t values were calculated and at 5% and 10% significance levels. Section 4.4 then addresses the second hypothesis which states that the difference between pre-announcement CAAR post announcements CAAR is greater than zero. Paired t-tests are computed over different event windows of; ± 2 days, ± 5 days, ± 7 days and ± 10 days. The event windows have been kept this short in order to reduce the risk of the returns being influenced by other factors outside of the event. Section 4.4 then presents test results for the null hypothesis stating that the cumulative average abnormal returns of acquirer companies is not higher in share payments than in cash payments.

This chapter will be concluded with a summary of the key findings.

4.2 Average abnormal returns

The sample of the study consisted of 34 large M&As of JSE listed acquirers and was of deals announced and concluded from 2003 to 2013. This sample was derived after applying the selection criterion explained in Chapter 3. An event study was carried out using a single factor Market Model to estimate the expected returns. The expected returns were then used to calculate the ARs, which are computed by subtracting expected returns from actual returns. The AARs for each day were then calculated by averaging the ARs for entire sample on that

specific day. AARs are analyzed in this section to establish if they were significantly different from zero. Descriptive statistics were calculated over the event window and the sample mean AAR is -0.091%, maximum AAR 1.3083% and the minimum AAR -0.9167%. The sample mean is a small negative mean close to zero, implying that most companies have average abnormal returns close to zero. The maximum and the minimum do not differ much, with a small range of 0.3916%, which shows that the share shares followed a normal trading pattern. The standard deviation for the sample is very small at 0.61%, indicating minimal volatility of the share prices in the sample.

Table 1: Sample Statistics

<i>Full Sample – AAR</i>	
Mean	-0.091%
Median	-0.2413%
Standard Deviation	0.61%
Sample Variance	0.0038%
Minimum	-0.9167%
Maximum	1.3083%
Count	21

Note: the table shows the descriptive statistics, which is a summary of the basic features of our data sample.

Figure.1 below, is plotted for the AAR over the event window that runs over 21 days (-10, 0, -10) with T= 0 being the announcement date. The announcement date has been included in the event window when calculating the sample statistics, consistent with other studies (Selcuk, 2015). The graph shows the movement of the share prices, with any movement above the (x-axis) indicating positive average abnormal returns and anything below indicating negative average abnormal returns over the event window period. The graph confirms the sample statistics which indicates that all the AARs ranged from -1% and 2%. Prior to the M&A announcement, more positive average abnormal returns are exhibited, and on day (-5) the returns spiked to the highest level over the event window. The fact that they were positive returns prior to the announcement opens up a possibility that there could have been leakage of information on the M&A before the announcement date. Post the

announcement date, the graph shows that negative average abnormal returns were experienced for most of the days. This generally indicates the investor reactions to the announcements. Overall the returns depicted on the graph were mostly negative, which is consistent with the sample mean of -0.091%.

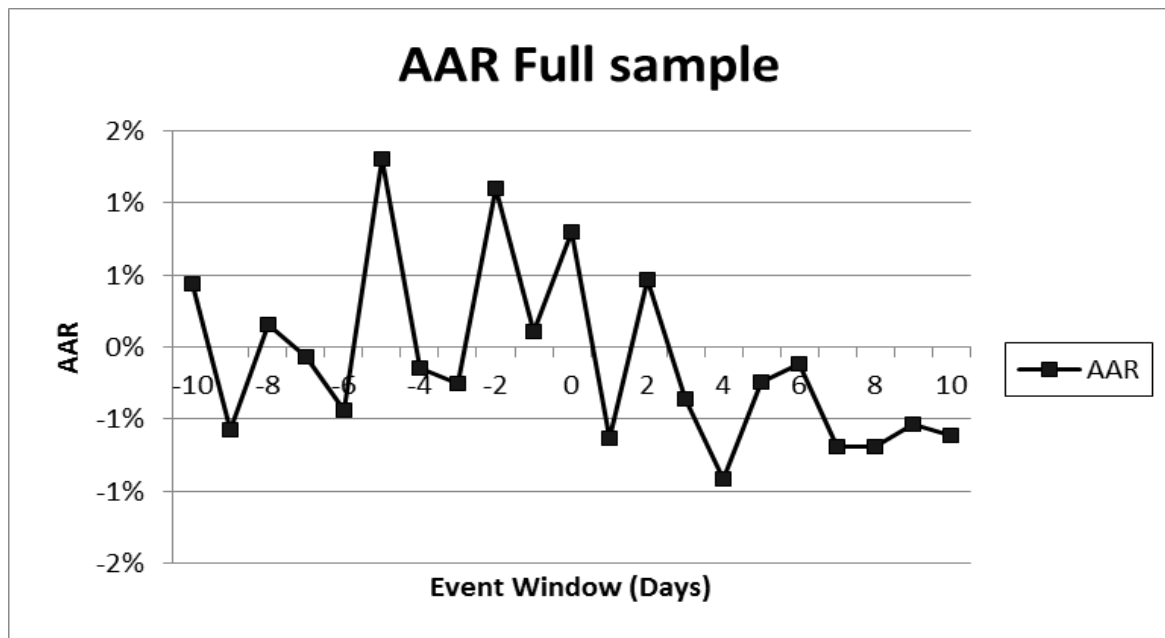


Figure 1: Average Abnormal Returns for acquirer firms listed on the Johannesburg Stock Exchange, involved in Merger and acquisition announcements for an event window period (-10, 10) days, for the period 2003 -2013

4.3 Cumulative average abnormal returns

Cumulative average abnormal returns were computed using the AARs, which were calculated using the Market Model. In this section we analyze the results showing the CAARs over the event window period and these results are presented on table 2 and graphically as shown in figure 2 below. The significance of AARs over the event window period is also tested and results are presented in table 2.

Table 2: AARs of total sample over the event window period

Day	AAR	t-stat	Statistically Significant?	CAAR
-10	0.44%	0.7172	No	0.43%
-9	-0.57%	-0.9317	No	-0.13%
-8	0.15%	0.2483	No	0.02%
-7	-0.06%	-0.1035	No	-0.04%
-6	-0.44%	-0.7215	No	-0.48%
-5	1.31%	2.1355*	Yes	0.82%
-4	-0.15%	-0.2399	No	0.67%
-3	-0.25%	-0.4062	No	0.42%
-2	1.09%	1.7947	No	1.52%
-1	0.11%	0.1830	No	1.63%
Average	0.16%			0.49%
0	0.79%	1.297547	No	2.43%
1	-0.64%	-1.0371	No	1.80%
2	0.47%	0.764727	No	2.27%
3	-0.36%	-0.5947	No	1.90%
4	-0.92%	-1.49632	No	0.99%
5	-0.24%	-0.39383	No	0.75%
6	-0.12%	-0.19696	No	0.62%
7	-0.69%	-1.12331	No	-0.06%
8	-0.69%	-1.12703	No	-0.75%
9	-0.54%	-0.87919	No	-1.29%
10	-0.62%	-1.00702	No	-1.91%
Average	-0.43%			0.43%

*at 5% level of significance

Note: Table 2 shows the AARS over the 21 day event window. T- Stats results, significance test results and CAARs are also shown in the table. The AARs were tested for significance at 95% confidence level.

The first null hypothesis is H_0 : Merger and acquisition announcements do not affect shareholder value for acquirer firms involved in the M&A announcements, ($CAAR = 0$, i.e. abnormal returns are not significant).

The results show average abnormal returns of acquiring firms over the period prior to the announcement (-1, -10), averaged 0.16%. This indicates that most of the returns were positive and could therefore imply that there was a price run up or information leakage prior to the announcement. The post announcement returns averaged -0.43% over the post event period (1, 10), which implies that there was a negative reaction to the M&A announcement. Over the 21-day event window, the AARs are tested for significance and only have one significantly positive return of 1.31%, noted on day (-5). For the remainder of the other 20 days, including the event day, the AARs are not significant. The probability of this positive result being linked to the M&A announcement is very small. This could be explained by other external factors other than the announcement.

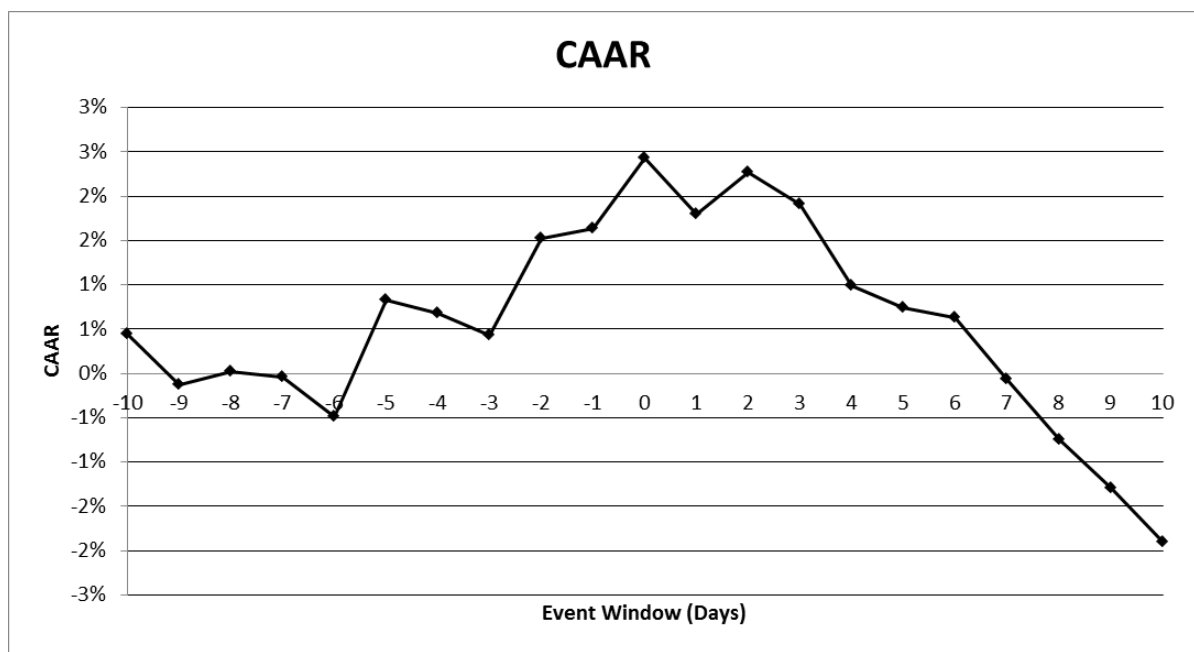


Figure 2: Cumulative Average Abnormal Returns for acquirer firms listed on the Johannesburg Stock Exchange, involved in Merger and acquisition announcements for an event window period (-10, 10) days, for the period 2003 -2013

The distribution of the CAARs in figure 2, indicate that CAARs had an upward trend prior to the announcement date. Particularly the CAARs start moving up from day (-6), spiking all the

way up to their highest (2.43%) on the announcement date, then thereafter they start to decline before and after the event day. The CAAR over the event window period is -1.91% and not significant. Therefore the conclusion is that M&A announcements are not value creating for acquiring firm shareholders in South Africa and we do not reject the null hypothesis.

These findings are consistent with the Efficient Market Hypothesis (EMH), which was developed by Fama et al. (1969) and Fama (1970). The hypothesis states that when markets are efficient, there is no opportunity to beat them as prices reflect all the information available. Therefore these results support the notion that the JSE is a semi-strong market.

4.4 Pre-announcement vs post-announcement CAARs

The second null hypothesis is tested in this section, and it states that cumulative average abnormal returns for acquiring companies should be higher pre announcement than post announcement. The pre announcement cumulative average abnormal returns averaged 0.49% over the period (-1, -10), and the post announcement cumulative average abnormal returns averaged 0.43% over the period (1, 10). This also indicates that the returns increased then fell after the announcement. A study by Yilmaz & Tanyeri (2016) found that cumulative abnormal returns for emerging market countries increased prior to the announcement date in comparison to that of developed market countries. They concluded that developed market countries do not react the same way because they generally have better corporate governance practices than emerging market countries.

Below is a calculation of the difference between pre and post announcement cumulative average abnormal returns:

$$H_0: CAAR_1 - CAAR_2 > 0$$

$$CAAR_1 = 0.49\%$$

$$CAAR_2 = 0.43\%$$

$$0.49\% - 0.43\% = 0.06\%$$

$$0.06\% > 0$$

The results show that there is a difference of 0.06%, which is greater than zero. However it is too small a figure to draw a conclusion on the hypothesis. Therefore T-tests were computed to test

the significance of the difference in the means of pre and post announcement CAARs. The tests were run on different event windows, ± 2 days, ± 5 days, ± 7 days and ± 10 days and the results are presented in Table 3 below.

Table 3: T-test results for the Acquirer firms

Event window	Cumulative Average		P-value	Is the CAAR statistically Significant?*
	Abnormal Returns (CAAR)	t-stat		
± 10 days	-0.0190	0.3154	0.7605	No
± 7 days	-0.0008	-0.4867	0.6471	No
± 5 days	0.0122	-0.6234	0.5772	No
± 2 days	0.0183	-2.5248	0.2401	No

*at 5% significance level

Note: Table 3 presents the results for the paired t-tests for CAARS over different event windows. The t-stats are presented together with the corresponding p-values. Significance tests were done at 95% confidence level.

The table shows p-values generated for different time windows. The p-values indicate the level of significance at which the null hypothesis starts to get rejected. Higher the p-values increase the probability of accepting the null hypothesis. The results show that p-values get higher the longer the window period, which implies that for longer periods CAARs are insignificant than for shorter periods. Statistics were run at 5% significance level and we find that CAAR are not significant at any of the event windows. These results are consistent with the findings by Mushidzhi & Ward (2004), Moeller et al. (2004), who did studies based on South Africa, and Kariuki et al. (2016) who did a similar study based on Eastern Africa. They examined acquirer share prices around M&A announcements and also found that the returns were statistically insignificant for acquiring firms. Shah and Arora 2014 state that these insignificant and negative returns are normally brought about by the acquirer shareholders being sceptical of high risk of losses posed by these transactions.

Therefore, we reject the null hypothesis that the difference between pre and post announcement returns is greater than zero.

4.5 Share funded deals vs cash deals

Table 4: AARs of cash vs share funded acquisitions over the event window period

Day	AARs	t-stat	CAARs	AARc	t-stat	CAARc
-10	-0.05%	-0.3913	-0.05%	1.34%*	5.007735	1.34%
-9	0.05%	0.3889	-0.0003%	-1.71%*	-6.39982	-0.37%
-8	0.29%	2.3079	0.29%	-0.11%	-0.4193	-0.48%
-7	0.23%	1.8664	0.53%	-0.62%	-2.3178	-1.10%
-6	0.004%	0.0287	0.54%	-1.26%	-4.7160	-2.36%
-5	0.95%*	7.4192	1.49%	1.96%*	7.3453	-0.40%
-4	0.01%	0.1025	1.50%	-0.44%	-1.6499	-0.84%
-3	-0.68%	-5.3197	0.82%	0.55%	2.0468	-0.29%
-2	1.38%*	10.79307	2.20%	0.58%	2.1568	0.28%
-1	0.05%	0.455187	1.63%	0.21%	0.7887	0.49%
Average	0.0023		0.96%	0.49%		-0.37%
0	2.08%	-1.4304	2.1%	2.58%*	9.6959	3.08%
1	-0.65%	-5.03845	1.44%	-0.61%	-2.3023	2.46%
2	0.59%	4.6204	2.03%	0.24%	0.9000	2.71%
3	-0.78%	-6.0848	1.25%	0.39%	1.4957	3.11%
4	-0.99%*	-7.6844	0.26%	-0.78%	-2.9561	2.31%
5	-0.86%*	-6.6925	-0.60%	0.89%	3.3372	3.20%
6	0.20%	1.5219	-0.40%	-0.70%	-2.6216	2.50%
7	0.05%	0.3535	-0.36%	-2.03%*	-7.6143	0.47%
8	-0.59%	-4.6108	-0.94%	-0.87%	-3.2638	-0.39%
9	0.02%	0.1843	-0.92%	-1.56%*	-5.8781	-1.96%
10	-0.08%	-0.59397	-1.00%	-1.60%*	-6.0233	-3.57%
Average	-0.31%		0.07%	-0.67%		1.10%

*at 5% significance level

Note: Table 4 presents the results for the sample t-tests for pre-announcement and posts announcement CAARS over the event window. The t-stats are presented together with the corresponding p-values. Significance tests were done at 95% confidence level.

In Table 4, the AAR and CAAR for both Cash and Share acquisitions are presented. The AARs were tested for significance at a 5% significance level and the results show that they are some AARs that were statistically significant at different days in the event window. These results are consistent with what is depicted in the graph, for example the AARc (Cash) are positively and negatively significant for days -10 and -9 respectively, which is also seen in the graph. However, looking at the AARS and the graph to evaluate the significant AARs, it is quite evident that most of AARs are negatively significant.

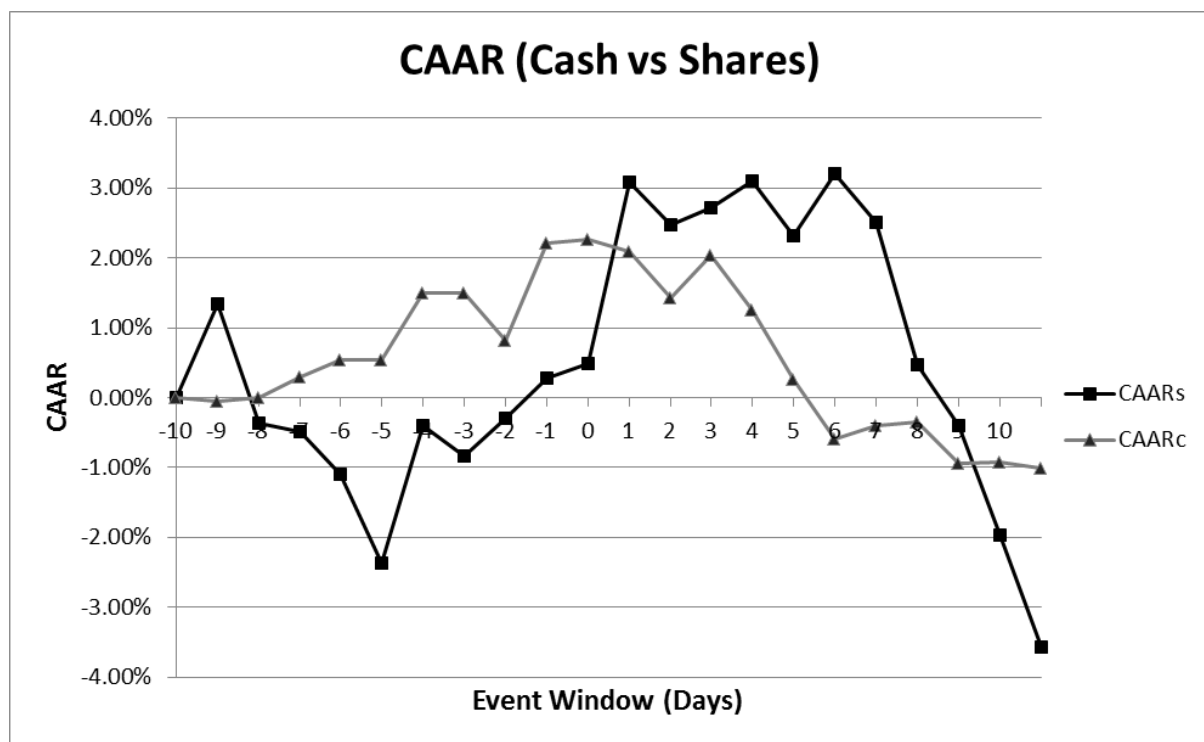


Figure 3: Share deals CAARs plotted against Cash deals CAARs, for acquirer firms listed on the Johannesburg Stock Exchange, involved in Merger and acquisition announcements for an event window period (-10, 10) days, for the period 2003 -2013

Figure 3 above compares the CAARs of share transactions against those of cash and the graph depicts differences in the patterns between the two. The CAARs seem to follow a different pattern prior to the announcement, with the stocks for share funded acquisition

companies dipping on day -9, while the cash funded stocks gained. Both CAARs then seem to follow a similar trend post the announcement date and with the share CAARs performing better than the cash CAARs.

Table 5: Summary statistics and T-test results for Share vs Cash deals

	Mean	Standard deviation	Min	Max
Shares	0.48%	1.9596%	-3.57%	3.21%
Cash	0.59%	1.0957%	-1%	2.27%

T-Stat = - 0.2574

P. value = 0.7994

T-critical = 2.0859

*at 5% significance level

Note: Table 5 presents the sample statistics the returns from share deals and cash deals. Paired t-tests results for the differences between the cash and share deals are also presented.

Sample statistics and a paired two sample were then computed in order to do the comparison for whether there are any significant differences in the CAAR, led to by the differences in payment methods. The test was run across the entire event window of 21 days at a 5% significance level and the results are presented in table 4.

The average CAARs and standard deviations calculated over the event window period (-10, 10), for both Share and Cash acquisitions differ slightly; illustrating that the volatility of both samples is relatively the same. Shares have a higher minimum and maximum CAAR in comparison to the cash acquisitions.

A paired two sample t-test was computed to analyse if there are any significant differences in the CAARs, brought about by the fact that the two samples used different payment options. The test was carried out at a 5% significance level and the t-stat was - 0.2574, P. value = 0.7994 and T-critical = 2.0859. The absolute value of the t-stat $-0.2574 < t\text{-critical } 2.0859$ and the p – value $0.7994 > 0.05$ (5% significance), therefore there is no significant difference between the two.

No significant differences were found between cash and share offers, which is consistent with the findings by Mushidzhi and Ward (2004) who also carried an event study on South African listed companies and found no significant differences for bidding firms. However this is inconsistent with the initial evidence by Agrawal et al. (1992) and Franks et al. (1988), who in their studies found significant differences between cash and share offers. They concluded that cash offers yielded significantly higher returns than share offers. These results are also inconsistent with the information content hypothesis by Myers and Majluf (1984), stating that a share financed deal sends a signal that the shares of the acquirer are overvalued. Therefore the notion that cash offers have better returns would hold, as share offers are expected to yield low or negative returns.

Therefore, we do not reject the second null hypothesis because there are no significant differences between the CAARs for cash and share funded transactions.

4.6 Chapter Summary

The chapter presents the results of the study. The AAR does not deviate much from zero and no significant CAARs are found, meaning that M&A announcements are not value creating for acquirer shareholders. There appears to be a share price run up days leading to the announcement; however the gains are not significant enough to conclude that there was a leakage of information. The pre and post announcement returns are not significantly different. Lastly share and cash acquisitions are compared and no significant differences are found. These results are consistent with previous studies done in the context of South Africa (Mushidzhi & Ward, 2004; Smit & Ward, 2007; Seghal et al., 2012).

5 CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter concludes the thesis by presenting a discussion on the hypotheses and provides the conclusions derived from the study and suggests further work to be done in congruence with this study.

5.2 Conclusions and Recommendations

This study sought to provide an empirical understanding of the market reaction to merger announcements, over a 21-day event window, using 34 companies listed on the Johannesburg Stock Exchange. The merger announcements were made during the period of 2003 – 2013. Using different event windows, an event study is conducted to determine if there is any value created for the shareholders of the acquiring companies. The findings show that the announcements of mergers and acquisitions are not value creating for the shareholders of the acquiring companies. The cumulative average abnormal returns for the acquirer companies were not significantly different from zero over the event window, signifying that the announcements do not create any abnormal returns.

The pre-announcement and post-announcement cumulative average abnormal returns were also compared. The null hypothesis states that the difference between pre and post announcement returns are greater than zero. The results showed that there is a positive difference which is very small and close to zero. Therefore there is a possibility that this difference may have been a result of other factors influencing the pre-announcement returns. However taking into account the findings from other studies and challenges of weak corporate governance in emerging market countries, we conclude that the risk of a leakage of information exists.

Lastly, a comparison was also done between the share and cash offers, to see if there are any positive significant differences between the two. The test was done over the 21-day event window using the paired sample test. The results show that there were no significant differences between the two payment methods. Overall, the results suggest that there is no value created from the choice of payment, which means that the acquiring firm shareholders

in South Africa do not benefit from mentioning the method of payment when they announce the M&As.

The study was carried out using 34 listed companies, which might be considered to be small and not a representative of the wider population. The sample consisted of M&As between companies in the same industry or sector. Increasing the sample and M&As across different industries can be considered. This study has only examined short term effects and future studies may incorporate long term share price measures. Synergistic gains are said to be realised in the long run, so it might be interesting to combine the two (short and long term measures) to see if the acquiring companies have long term gains.

Mergers and acquisitions are still thought to be beneficial for both the acquirer and target companies, for as long as they are done for the right reasons. Appropriate research and foresight should be employed to ensure maximum benefit to the shareholders of the companies involved.

REFERENCES

- Agrawal, A., Jaffe, J. and Mandelker, G. (1992). The Post-Merger Performance of Acquiring Firms: A Re-examination of an Anomaly. *The Journal of Finance*, 47(4), pp.1605-1621.
- Agrawal, A. and Walking, R. (1994). Executive careers and compensation surrounding takeover bids. *Journal of Finance*, 49, pp. 985-1014.
- Akben-Selcuk, E. (2015). Do Mergers and Acquisitions Create Value for Turkish Target Firms? An Event Study Analysis. *Procedia Economics and Finance*, 30, pp.15-21.
- Asquith, P. (1983). Merger bids, uncertainty, and stockholder returns. *Journal of Financial Economics*, 11(1-4), pp.51-83.
- Ball, R. and Brown, P. (1968). An Empirical Evaluation of Accounting Income Numbers. *Journal of Accounting Research*, 6(2), pp.159-178.
- Campa, J. and Hernando, I. (2006). M&A Performance in the European Financial Industry. *SSRN Electronic Journal*.
- Chen, C. and Findlay, C. (2003). A Review of Cross-border Mergers and Acquisitions in APEC. *Asian-Pacific Economic Literature*, 17(2), pp.14-38.
- DeLong, G. (2003). Does Long-Term Performance of Mergers Match Market Expectations? Evidence from the US Banking Industry. *Financial Management*, 32(2), pp.5-26.
- Dodd, P. (1980). Merger proposals, management discretion and stockholder wealth. *Journal of Financial Economics*, 8(2), pp.105-137.
- Duso, T., Gugler, K. and Yurtoglu, B. (2010). Is the event study methodology useful for merger analysis? A comparison of stock market and accounting data. *International Review of Law and Economics*, 30(2), pp.186-192.
- Dutta, A. (2014). Parametric and Nonparametric Event Study Tests: A Review. *International Business Research*, 7(12), pp.136-142.
- Dutta, S. and Jog, V. (2009). The long-term performance of acquiring firms: A re-examination of an anomaly. *Journal of Banking & Finance*, 33(8), pp.1400-1412.
- Fama, E., Fisher, L., Jensen, M. and Roll, R. (1969). The Adjustment of Stock Prices to New Information. *International Economic Review*, 10(1), pp.1-21.
- Fama, E. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *The Journal of Finance*, 25(2), pp.383-417.
- Firer, C. (2012). *Fundamentals of corporate finance*. 1st ed. London: McGraw-Hill Higher Education.
- Franks, J., Harris, R. and Titman, S. (1988). The post-merger share-price performance of acquiring firms. *Journal of Financial Economics*, 29(1), pp.81-96.
- Gaughan, P. (2002). What's the Outlook for M&A in an Uncertain Market?. *Journal of Corporate Accounting & Finance*, 13(5), pp.51-53.
- Ghosh, A. (2001). Does operating performance really improve following corporate acquisitions?. *Journal of Corporate Finance*, 7(2), pp.151-178.

- Haleblian, J., Devers, C., McNamara, G., Carpenter, M. and Davison, R. (2009). Taking Stock of What We Know About Mergers and Acquisitions: A Review and Research Agenda. *Journal of Management*, 35(3), pp.469-502.
- Hansen, R. (1987). A Theory for the Choice of Exchange Medium in Mergers and acquisitions. *The Journal of Business*, 60(1), pp.75-95.
- Harford, J. (2004). What drives merger waves?. *Journal of Financial Economics*, 77(3), pp.529-560.
- Healy, P., Palepu, K. and Ruback, R. (1992). Does corporate performance improve after mergers?. *Journal of Financial Economics*, 31(2), pp.135-175.
- Houston, J., James, C. and Ryngaert, M. (2001). Where do merger gains come from? Bank mergers from the perspective of insiders and outsiders. *Journal of Financial Economics*, 60(2-3), pp.285-331.
- Jarrell, G. and Poulsen, A. (1989). Stock Trading before the Announcement of Tender Offers: Insider Trading or Market Anticipation?. *Journal of Law, Economics and Organization*, 5(2), pp.225-48.
- Jensen, M. (1986). Agency cost of free cash flow, corporate finance, and takeovers. *The American Economic Review*, 76(2), pp.323-329.
- Kariuki, B., Muturi, W. and Kiragu, D. (2016). Stock market reaction to mergers and acquisitions announcements in Emerging Markets. Evidence from mergers and acquisitions firms listed in Eastern Africa Securities Markets. *Research Journal of Finance and Accounting*, 7(22), pp.130-141.
- Khanal, A., Mishra, A. and Mottaleb, K. (2014). Impact of mergers and acquisitions on stock prices: The U.S. ethanol-based biofuel industry. *Biomass and Bioenergy*, 61, pp.138-145.
- Linn, S. and Switzer, J. (2000). Are cash acquisitions associated with better post combination operating performance than stock acquisitions?. *Journal of Banking & Finance*, 25(6), pp.1113-1138.
- Lusyana, D. and Sherif, M. (2016). Do mergers create value for high-tech firms? The hounds of dotcom bubble. *The Journal of High Technology Management Research*, 27(2), pp.196-213.
- Ma, Q., Whidbee, D. and Zhang, A. (2008). Value, Valuation, and the Long-Run Performance of Merged Firms. *Journal of Corporate Finance*, 17(1), pp.1-17.
- Malatesta, P. (1983). The wealth effect of merger activity and the objective functions of merging firms. *Journal of Financial Economics*, 11(1-4), pp.155-181.
- Mantravadi, P. and Reddy, V. (2008). Post-Merger Performance of Acquiring Firms from Different Industries in India. *International Research Journal of Finance and Economics*, [online] 22(2008). Available at: <https://ssrn.com/abstract=1317757> [Accessed 23 Mar. 2017].
- Moeller, S., Schlingemann, F. and Stulz, R. (2004). Firm size and the gains from acquisitions. *Journal of Financial Economics*, 73(2), pp.201-228.
- Mushidzhi, T. and Ward, M. (2004). Abnormal returns for cash vs share funded acquisitions. *Investment Analysts Journal*, (60), pp.17-31.

- Myers, S. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5(2), pp.147-175.
- Myers, S. and Majluf, N. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), pp.187-221.
- Roll, R. (1986). The hubris hypothesis of corporate takeovers. *Journal of Business*, 59, pp. 197-216.
- Stunda, R. (2014). The market impact of mergers and acquisitions on acquiring firms in the U.S. *Journal of Accounting and Taxation*, 6(2), pp.30-37.
- Sehgal, S., Banerjee, S. and Deisting, F. (2012). The impact of M&A announcement and financing strategy on stock returns: Evidence from BRICKS markets. *International Journal of Economics and Finance*, 4(11), pp. 76-90.
- Shah, P. and Arora, P. (2014). M&A announcements and their effect on return to shareholders: An event study. *Accounting and Finance Research*, 3(2), pp.170-190.
- Smit, C. and Ward, M. (2007). The impact of large acquisitions on the share price and operating financial performance of acquiring companies listed on the JSE. *Investment Analysts Journal*, (65), pp.5-14.
- UNCTAD. (2014). World investment report. Geneva: United Nations Conference on Trade and Development. Retrieved from www.unctad.org/fdistatistics. Accessed on 24th February 2017.
- Yılmaz, I. and Tanyeri, B. (2016). Global merger and acquisition (M&A) activity: 1992–2011. *Finance Research Letters*, 17, pp.110-117.
- Zollo, M. and Singh, H. (2004). Deliberate learning in corporate acquisitions: post-acquisition strategies and integration capability in U.S. bank mergers. *Strategic Management Journal*, 25(13), pp.1233-1256.