



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



GORDON INSTITUTE
OF BUSINESS SCIENCE

University of Pretoria

MBA 2009/2010

The Cover Story Effect:

**Investors' reactions to cover stories and the impact
on share price**

Dian de la Port

Student Number 29640319

**A research project submitted to the Gordon Institute of Business Science,
University of Pretoria, in partial fulfilment of the requirements for the degree
of Master of Business Administration.**

10 November 2010

ABSTRACT

The objective of this study was to analyse the impact of business magazine cover stories, albeit positive, neutral or negative, on the share price of the featured company. Two of the aspects of investment finance are rational behaviour and efficient markets. Both of these concepts were explored to understand why a cover story would have an impact on a company share price.

Causal research was conducted to analyse the correlation between a magazine cover story and the featured company's share price. The cover stories were collected from the *Financial Mail* and *Finance Week* archives. The holding period returns were calculated and compared to zero to analyse whether there was any momentum or contrarian signals. The holding period returns were also adjusted for that of the average of the resources index (J258) to ascertain whether the returns were abnormal or not.

The results have shown that in some instances, such as with neutral cover stories, the markets show strong signs of efficiency. The results of positive cover stories showed these to be momentum indicators, however when the results were adjusted for the resource index, many the positive returns dissipated. Negative cover stories had the strongest results, where after the cover story there were clear contrarian signals. Most of the companies stopped showing negative returns.

Keywords: Share price, Contrarian, Momentum, Behavioural finance, Efficient Market Hypothesis (EMH)

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.

Dian de la Port

10 November 2010

ACKNOWLEDGEMENTS

I would like to make the following acknowledgements to people who have been a key part of my MBA and research journey:

- To my partner Cara, who has only known me during my MBA journey: Thank you for all the support and understanding that you have given me, especially when I was stressed. And thank you, also, for giving me the biggest gift in life, our daughter Mila.
- My mom, dad and brother: Thank you for all their support and understanding during the two years of my MBA.
- Adrian Saville, my supervisor: Thank you for all the support, belief and guidance you have given me during the whole research process.
- To the Core Group, especially Rodney Ichikowitz: Thank you for believing in me to be able to embark on this journey and giving me all the support necessary to follow it through.
- My fellow MBA students: I am really going to miss you all.

TABLE OF CONTENTS

CHAPTER 1 - INTRODUCTION TO THE RESEARCH PROBLEM	1
1.1 RESEARCH TITLE	1
1.2 RESEARCH PROBLEM	1
1.3 RESEARCH OBJECTIVES	5
1.4 RESEARCH AIM.....	6
CHAPTER 2 - LITERATURE REVIEW	7
2.1 INTRODUCTION.....	7
2.2 EFFICIENT MARKET HYPOTHESIS	8
2.3 INEFFICIENT MARKET	10
2.3.1 PERFORMANCE OF SHARES RELATED TO THEIR P/E RATIOS	11
2.3.2 FINANCIAL INDICATORS OF SHARE PRICE PERFORMANCE	12
2.3.3 FORECASTING TOOLS FOR FINANCIAL DECISION MAKING	13
2.4 BEHAVIOURAL FINANCE	16
2.4.1 FACTORS INFLUENCING STOCK PRICE MOVEMENTS.....	18
2.4.2 CONTRARIAN AND MOMENTUM INDICATORS OF SHARE PRICE PERFORMANCE.....	20
2.4.3 THE IMPACT OF ANALYST’S RECOMMENDATIONS	21
2.4.4 MARKET REACTION TO PUBLICATIONS	22
2.4.5 INFORMATIONAL CONTENT	23
2.5 CONCLUSION	24
CHAPTER 3 - RESEARCH HYPOTHESES	25

3.1	INTRODUCTION.....	25
3.2	OBJECTIVE 1.....	25
3.3	OBJECTIVE 2.....	27
3.4	OBJECTIVE 3.....	28
CHAPTER 4 - RESEARCH METHOD		31
4.1	INTRODUCTION.....	31
4.2	RESEARCH DESIGN.....	31
4.3	UNIT OF ANALYSIS	36
4.4	POPULATION	36
4.5	SAMPLING METHOD AND SIZE	36
4.6	DATA GATHERING.....	37
4.7	DATA ANALYSIS	38
4.8	RESEARCH LIMITATIONS	38
CHAPTER 5 - RESULTS		40
5.1	INTRODUCTION.....	40
5.2	DISCUSSION OF THE SECONDARY DATA	40
5.3	HYPOTHESIS 1	53
5.4	HYPOTHESIS 2	54
5.5	HYPOTHESIS 3	55
5.6	HYPOTHESIS 4	57
5.7	HYPOTHESIS 5	58
5.8	HYPOTHESIS 6	59
5.9	CONCLUSION	60

CHAPTER 6 - DISCUSSION OF RESULTS	63
6.1 INTRODUCTION.....	63
6.2 OBJECTIVE 1: POSTIVE COVER STORIES AS MOMENTUM INDICATORS.....	64
6.2.1 HYPOTHESIS 1	64
6.2.2 HYPOTHESIS 2	67
6.3 OBJECTIVE 2: NEUTRAL COVER STORIES ARE ZERO IMPACT INDICATORS.....	68
6.3.1 HYPOTHESIS 3	68
6.3.2 HYPOTHESIS 4	69
6.4 OBJECTIVE 3: NEGATIVE COVER STORIES ARE CONTRARIAN INDICATORS	70
6.4.1 HYPOTHESIS 5	71
6.4.2 HYPOTHESIS 6	72
6.5 CONCLUSION	74
CHAPTER 7 - CONCLUSION	76
7.1 INTRODUCTION.....	76
7.2 FINDINGS	76
7.3 RECOMMENDATIONS	79
7.4 RECOMMENDATIONS FOR FUTURE RESEARCH	80

LIST OF TABLES

Table 1 Company Distribution And Weighting By Cover Stories	41
Table 2 Feature Story Frequency, 2000 - 2009.....	45
Table 3 Average Holding Period Return For Each Category Of Cover	48
Table 4 Holding Period Returns for Three Categories, Data 2000 – 2009 (measured in percentages).....	51
Table 5 Summary Of The Hypothesis Testing Results.....	62

CHAPTER 1 - INTRODUCTION TO THE RESEARCH PROBLEM

1.1 Research title

The Cover Story Effect: Investors' reactions to cover stories and the impact on share price

1.2 Research problem

The scope of this research is to determine whether cover stories are momentum or contrarian indicators of company share price movements. The forecasting of stock returns has been an important subject that has attracted researcher's attention for many years (Enke & Thawornwong, 2005). Fundamentally, the forecasting of stock returns is based on the assumptions that publicly available information from the past has some predictive relationship to future stock returns (Enke & Thawornwong, 2005). Boswijk, Hommes and Manzan (2007) explain that there are, however, at least two schools of thought with regard to the factors influencing stock price movements, namely those that believe in the market efficiency theory and

those that explore the behavioural models to explain share price fluctuations and purported market inefficiency.

Private and institutional investors aim to identify leading indicators that can influence a company's future performance. O'Hara, Lazdowski, Maldovean and Samuelson (2000) state that there are three financial indicators that can be used to predict companies long-term performance. These indicators are dividends per share, cash flow per share and earnings per share. There are other non-financial indicators that can also help to forecast the share price performance of companies. Forsyth (1996) and Queenan (1991) argue that the cover stories of business magazines have been considered as potential contrarian indicators. The impact of business analysts and television programmes have also been studied (Desai & Jain 2004, Ferreira & Smith 2003), but these studies demonstrated a limited effect on share prices.

In this vein Arnold, Earl and North (2007) state that most anecdotal evidence supports the idea that cover stories are not informational because of the time needed to gather information for an article and then to take it to print. Therefore the authors state that cover stories mostly report past information.

Arnold et al's (2007) study was conducted in America and was based on companies that were featured in *Business Week*, *Fortune* and *Forbes* for a twenty-year period. The authors concluded that negative cover stories were not effective contrarian indicators.

To examine this argument in the South African context, Arnold *et al's* (2007) study will be replicated in this research paper. The research focuses on companies that feature in the cover stories of the *Financial Mail* and *Finance Week* (magazines) business publications. Due to the constraint on time and resources the study only focused on certain sectors of the Johannesburg Securities Exchange South Africa (“the JSE”).

Van Rensburg and Slaney (1997) motivate that a two-factor arbitrage pricing theory (APT) model, employing the JSE Industrial and All-Gold indices as priced sources of risk, provides a superior account of the way assets are priced on the JSE when compared to the traditional Capital Asset Pricing Model (CAPM). In analysing the merits of the APT model over the CAPM model, Van Rensburg and Slaney (1997), draw attention to the influence of foreign investors on the JSE. This is particularly relevant to the mining sector; and thus the all-share index is not an appropriate market proxy according to Van Rensburg and Slaney (1997).

Extending this result, Van Rensburg (2002) finds that because of the reclassification of the JSE indices that occurred in March 2000, the financial-industrial (C121) and resources (CI11) indices may be used as observable proxies for the first two components extracted from the covariance matrix of JSE returns. It is suggested that these indices replace the industrial and all-gold index in future applications of the APT model (Van Rensburg, 2002).

Van Rensburg (2002) also demonstrates that the all-share index is not mean-variance efficient when the possibility of investing offshore is included in the analysis. The authors conclude that this point alone is evidence enough to imply that the CAPM, using the all-share index as the market proxy (as specified by South African academics), is not appropriately specified on the JSE. Thus Van Rensburg (2002) concludes that this further strengthens the claim that the two factor APT model should take preference to the CAPM in the South African financial environment.

It is therefore important to understand that the drivers of shares are different across different market clusters. Therefore this research only focused on companies that would be classified as resource companies, whether these companies are classified within the resources index or not on the JSE. The performance of the individual company's share prices were compared to that of the resource index (J258) average. The motivation for this is that almost 50% of the companies on the JSE are resource companies and these make up a big part of the JSE when looked at their market capitalisation. Resource companies are also the companies on the JSE that attract some of the most foreign direct investment. South Africa is also largely a resource driven economy and thus understanding the impact of cover stories on the resource companies' share price performance would be valuable.

1.3 Research objectives

The fundamental question that this research aims to answer is: “Are cover stories effective momentum, neutral or contrarian indicators of a company’s share price performance?”

The main objectives of the research are:

- **Objective 1:** to determine whether positive cover stories are momentum indicators of company share price performance over the short, medium and long term.
- **Objective 2:** to determine whether neutral cover stories are zero impact indicators of company share price performance over the short, medium and long term.
- **Objective 3:** to determine whether negative cover stories are contrarian, indicators of company share price performance over the short, medium and long term.

1.4 Research aim

The aim of this research is to ascertain whether there exists a correlation between a cover story, albeit positive, neutral or negative, and the performance of a company's share price. This could assist investors in making decisions with regard to buying or selling shares in their investment portfolio.

CHAPTER 2 - LITERATURE REVIEW

2.1 Introduction

The theory reviewed in this section can be broken into three distinct sections: the efficient market hypothesis (EMH), the inefficient market, and behavioural finance. Lo (2005) stated that most of modern investment theory was based on the EMH, thus understanding this theory is applicable in understanding how shares are priced. However in recent years many economists have started investigating the inefficiencies of the market. These inefficiencies are discussed in more detail, but stem from factors such as valuation metrics and behavioural factors. Most of the valuation metrics are also backward looking and therefore the forecasting tools that are more forward looking were also examined. Behavioural finance was examined in detail, as this is the underlying theory that has been explored to understand how investors make decisions. Sources that influence investor's decisions, such as publications and analyst forecasts and recommendations were also explored in more detail.

2.2 Efficient market hypothesis

Since the middle 1900's there has been great support for the efficient market hypothesis (EMH). The EMH reached its height of dominance in academic circles around the 1970's (Shiller, 2003). At that time, the rational expectations revolution in economic theory was in its first blush of enthusiasm, and EMH was the fresh new idea that occupied the centre of attention (Shiller, 2003). The impact of EMH has been such that Lo (2005) stated that most of modern investment theory was based on the efficient market hypothesis (EMH).

It is therefore important to understand the definition of EMH and how it works. Fama (1970) explains that the primary role of capital markets is to allocate ownership of the economy's stock. In general terms, the ideal market is one that provides accurate signals for resource allocation; thus a market in which firms can make production-investment decisions and investors can choose among the securities that represent ownership of firms' activities under the assumption that security prices at any time fully reflect all available information (Fama 1970). Fama (1970) defines a market in which prices always fully reflect available information as "efficient". A more basic definition for EMH is given by Lo (2005) as the notion that "markets fully, accurately and instantaneously incorporate all available information into market prices." The underlying idea is that investors are rational economic beings.

Fama (1991) further argued in favour of EMH by stating that the efficient-markets literature was a prime example of where academic research had affected real-world practice. Fama (1991) stated that before the work on efficiency came about, the presumption was that private information was plentiful among investment managers. The efficiency research, however, put forth the challenge that private information was rare and thus one result thereof was passive investment strategies (Fama, 1991). According to Fama (1991) professional managers who followed passive strategies were unheard of in the 1960's, and today they are an important part of the investment-management industry. The market efficiency literature also produced a demand for performance evaluation. Today performance measurement relative to passive benchmarks is the rule and there are firms that specialise in evaluating professional managers (Fama, 1991).

Malkiel (2003) concluded that neither technical analysis nor fundamental analysis would enable an investor to achieve greater returns than those that could be obtained by holding a randomly selected portfolio of individual stocks. Malkiel (2003) defined technical analysis as the study of past stock prices in an attempt to predict future prices and fundamental analysis as the analysis of financial information such as company earnings and asset values.

The EMH is however not without its critics, and there are academics that have tried to prove the inefficiencies of the market. Even Fama (1991) acknowledged that there was a substantial amount of research on the predictability of stock returns

from past returns and other variables and that the controversy about EMH largely centred on this work.

2.3 Inefficient market

In recent years many economists have come to question the EMH, as there seem to be several instances where market prices failed to reflect all available information (Malkiel, 2005). One such instance was the technology-internet bubble of the late 1990's and the early 2000's that convinced many analysts that the EMH should be rejected (Malkiel, 2005).

There are many economists that believe that stock prices are at least partially predictable. This view is from a "new breed" of economists that have emphasised psychological and behavioural elements of stock price determination, and have come to believe that future stock prices are somewhat predictable on the basis of past stock price patterns as well as certain fundamental valuation metrics, such as dividend yields and price-earning (P/E) ratios (Malkiel, 2003). Shiller (2003) pointed out that even Eugene Fama's 1970 article "Efficient Capital Markets: A Review of Empirical Work", while highly enthusiastic in its conclusions for market efficiency, reported some anomalies like slight serial dependencies in stock market returns.

Therefore the evidence shows that the market has some sources of inefficiencies, mostly stemming from psychological and behavioural elements as well as valuation metrics such as dividend yields and P/E ratios. Because of these inefficiencies a good deal of time and energy has been devoted to identifying and explaining the factors that influence share price performance.

2.3.1 Performance of shares related to their P/E ratios

Basu is a proponent of the theory that markets are inefficient. Basu (1977) completed a study to determine whether the investment performance of common stocks was related to their P/E ratios. Proponents of the price ratio hypothesis claimed that low P/E stocks would tend to outperform high P/E stocks (Basu, 1977). The principle was that stock prices were biased and that the P/E ratio was an indicator of that bias (Basu, 1977). Basu (1977) found that low P/E portfolios earned superior returns on a risk-adjusted basis. Basu (1977) stated that contrary to the belief that publically available information was instantaneously impounded in security prices, there seemed to be a lag and friction in the adjustment process. Therefore publically available P/E ratios seemed to possess informational content (Basu, 1977).

2.3.2 Financial indicators of share price performance

According to O'Hara *et al.* (2000) the three financial indicators that have been successful to predict long-term success have been dividends per share, cash flow per share and earnings per share. O'Hara *et al.* (2000) found in their research that companies who increased their earnings per share on a consistent basis saw a strong positive correlation between the change in earnings per share and the share price of the company. A similar correlation was observed with companies that increased their cash flow per share. The increase in dividend per share was not as predictive of the companies' share price performance.

The frustration is that the valuation metrics such as P/E ratios and dividend yields mentioned above are all backward looking, while investors are forward looking. There is, however, some evidence supporting the ability to forecast share-price performance, but the results are mixed, as will be discussed in the following section.

2.3.3 Forecasting tools for financial decision making

Forecasting stock returns has been an important subject that has attracted researchers' attention for many years (Enke & Thawornwong, 2005). Fundamentally, the forecasting of stock returns is based on the assumption that publicly available information in the past has some predictive relationship to the future stock returns (Enke & Thawornwong, 2005). What makes forecasting stock returns even more difficult is the efficient market hypothesis (EMH). EMH states that the market constitutes all available information affecting current stock values before the general public can make trades based on it (Jensen, 1978). According to EMH, beating the market is impossible as all information is taken into account (Enke & Thawornwong, 2005). Enke and Thawornwong (2005) concluded that financial forecasting would always remain difficult because the data was greatly influenced by economic, political, international and even natural events.

There are also other, more technical, methods of trying to forecast financial performance. Lam (2003) investigated the ability of neural networks to integrate fundamental and technical analysis for financial performance. Lam (2003) found that a "trained" neural network was more efficient, but that macroeconomic variables also still had to be taken into account. Huang, Nakamori and Wang (2004) studied whether a support vector machine (SVM) could accurately forecast stock market movements. Huang *et al.* (2004) concluded that by combining the

SVM with other classification methods the forecasting become more accurate. They also acknowledged that each forecasting tool had its strengths and weaknesses, and therefore a combined model was proposed. However, Kim (2003) concluded that SVM provided a promising alternative for financial time series forecasting.

Tsang, Butler and Li (1998) proposed a genetic programming based system called EDDIE (Evolutionary Dynamic Data Investment Evaluator) as a forecasting tool. Tsang *et al.* (1998) argued that this forecasting tool was suitable, as it not only utilised the power of genetic programming to efficiently search the space of decision trees, but also allowed expert knowledge to be used in forecasting. The EDDIE tool basically generated a set of rules that investment decisions could be based on. However, Tsang *et al.* (1998) acknowledged that the system had shortcomings and that it warranted additional research.

Nutt, Easterwood and Easterwood (1999) addressed the forecasting errors that financial analysts made. The traditional view was that financial analysts were rational experts who forecasted earnings, evaluated risk, identified mispriced securities and provided statistically optimum forecasts (Nutt *et al.*, 1991). Nutt *et al.* (1991) further explained that several studies had shown that analysts' forecast earnings were biased and that analysts either under reacted or over reacted to new information which caused forecast errors. Nutt *et al.* (1991) also stated that most of these forecast errors showed a positive serial correlation. According to Nutt *et al.* (1991), this was often interpreted as evidence that analysts failed to incorporate

new information into their earnings forecasts immediately and accurately. Such forecast inefficiencies could have serious implications for securities markets where analyst's forecasts were believed to be both rational and optimal (Nutt *et al.*, 1991). Nutt *et al.* (1991) found that while the analysts' forecasts might not have been statistically optimal, they were not that economically irrational and that the reason for optimistic forecasts were largely due to the analysts' economic incentive.

When investigating the relationship between EMH and forecasting, Timmermann and Granger (2004) stated that EMH was special because investors' current and future forecasts of payoffs affected their current and future trades which in turn affected returns. Therefore, investors' learning's gave rise to the likely demise of stable forecasting models and this posed a unique challenge both to establishing successful forecasting procedures and to forecast evaluation (Timmermann & Granger, 2004).

Forecasting share price performance of any kind is a difficult task, and the results are mixed. Even with technology changing and developing stronger and faster tools to recognise patterns and evaluate different kinds of variables, the human factor will always play a big part in the making of these financial and investment decisions.

2.4 Behavioural finance

Behavioural finance challenges the assumptions of the efficient market hypothesis based on certain behavioural biases that are ubiquitous to human decision-making.

Ricciardi and Simon (2000) defined behavioural finance as “the attempt to explain and increase the understanding of the reasoning patterns of investors, including the emotional process involved and the degree to which they influence the decision making process”. Ricciardi and Simon (2000) argued that to fully comprehend the theory of behavioural finance it was important to understand the foundations of this field. The underlying foundation of behavioural finance is grounded in the concepts of finance, psychology and sociology. Bloomfield (2006) further explained that behavioural finance began as an attempt to understand why financial markets reacted inefficiently to public information.

In a study done by Baker, Ruback and Wurgler (2005), it was concluded that behavioural approaches to investment finance offered a useful complement to other paradigms in the field. Baker *et al.* (2005) stated that these approaches delivered intuitive and sometimes quite compelling explanations for important financing and investing patterns.

Shefrin (1999) stated that behavioural finance held important implications for the practice of investment finance. Shefrin (1999) argued that the traditional approach

to corporate finance was based on three concepts. These concepts were rational behaviour, the capital asset pricing model (“CAPM”) and efficient markets. The proponents of behavioural finance argued that psychological forces had an impact on all three of these concepts (Shefrin, 1999). Shefrin (1999) recognised that there were two behavioural impediments to the process of value maximisation, one being internal to the firm and the other external to the firm. The internal impediment was defined as behavioural costs, which was defined as costs that stemmed from psychologically induced errors made by managers and employees. The external impediment stemmed from psychologically induced errors made by analysts and investors (Shefrin, 1999).

Another aspect of behavioural finance is attention-buying behaviour. Barber and Odean (2006) stated that human beings had bounded rationality, which meant there were cognitive limits to how much information an individual could process. Therefore individuals were not able to easily make a decision based on thousands or even hundreds of alternatives. Barber and Odean (2006) argued that individuals resolved this search problem by limiting their choice set. Once this had been done, Barber and Odean (2006) argued that investors were more likely to purchase attention-grabbing stocks. They defined these attention grabbing events as news, unusual trading volume and extreme events. An example of this kind of behaviour was where contrarian investors tended to buy out-of-favour stocks, while momentum investors would tend to buy stocks that had recently performed well. Barber and Odean (2006) concluded that individual investors displayed attention

buying behaviour. There were, however, other factors that also influenced stock price movements.

2.4.1 Factors influencing stock price movements

One of the fundamental questions that has been asked regarding stock price movements, is “why do stock prices fluctuate so much compared to economic fundamentals?” This referred to the volatility of a market and basically addressed the issue that stock price fluctuations were significantly larger than movements in the underlying economic fundamentals (Boswijk *et al.*, 2007). Boswijk *et al.* (2007) explained that there were two schools of thought on this subject, namely those that believed in the market efficiency theory and those that explored the behavioural models to explain the fluctuations. Boswijk *et al.* (2007) found that their model was consistent with the view of the fundamentalists in that mean-reverting expectations had limited capital to arbitrage the mispricing and this forced stock prices back to their fundamental values. Boswijk *et al.*'s (2007) behavioural model suggested that in the mid-1990's optimistic investors, motivated by short-run profitability, reinforced the rise in stock prices triggered by higher expected cash flows from the internet sector.

Vega (2006) referred to the phenomenon of post-earnings announcement drift (“PEAD”) or earnings momentum. Vega (2006) explained that rather than stock prices adjusting immediately to news surprises, stock prices tended to drift over time in the same direction as the initial surprise. Vega (2006) gave three explanations for the existence of PEAD. Firstly, announcements with unexpectedly high (low) earnings made investing in these firms more (less) risky. Secondly, this anomaly might have been linked to high transaction costs. Thirdly, the drift could have been a function of the type of information that agents received (Vega, 2006).

Vega (2006) focused the research on the third possible explanation. Vega (2006) concluded that whether information was public or private was irrelevant, and stated that what mattered more was that information was associated with the arrival rate of informed or uninformed traders.

Beaudry and Portier (2006) proposed in their study that stock price movements in conjunction with movements in total factor productivity, could be used to identify the forces driving business cycle fluctuations. The authors found that changes in technological opportunities could be central to business cycle fluctuations.

Thus the phenomenon of PEAD and certain behavioural models seem to indicate why share prices move, but there are also indicators in the market that can guide investors to what direction a share might move next.

2.4.2 Contrarian and momentum indicators of share price performance

For the purpose of this research it was important to understand what constituted a contrarian and momentum investor. Goetzmann and Massa (2000) were able to categorise investors in terms of momentum and contrarian investment patterns. Goetzmann and Massa (2000) used individual account activity to classify investors according to their conditional pattern of share purchases and redemptions. Goetzmann and Massa (2000) stated that momentum investors reacted on a daily, rather than on a weekly, monthly or annual basis. Momentum investors purchased when the market rose and sold when the market fell. According to Goetzmann and Massa (2000), contrarian investors were characterised in exactly the opposite fashion. Thus, contrarian investors bought after a drop in the market and sold after a rise in the market.

Drehmann, Oechssler and Roider (2005) concluded that the contrarian behaviour of investors could sometimes have a stabilising effect on the market, as these investors tended to differentiate their investments from those of the rest of the market.

Arnold *et al.* (2007) carried out tests to determine whether cover stories were indicators of future performance, momentum or contrarian. Arnold *et al.* (2007) stated that companies in their study that were subject to negative feature stories tended to have positive returns after the publication date, but that these returns

were not significant when the results were adjusted for index, size or industry. Thus, negative cover stories were found not to be good momentum or contrarian indicators.

As discussed above, behavioural finance explains why forecasting share price returns are so difficult as there are certain human factors that influence share prices that cannot be incorporated into a forecasting model, such as overreaction and under reaction to publications or analyst reports. In looking forward, investors turn to a number of sources for information, including publications and analyst reports. When looking at publications investors are generally looking for informational content to help make investment decisions. Analyst reports however look to identify sources of inefficiencies. Both these sources of information are now discussed in more detail.

2.4.3 The impact of analyst's recommendations

Barber, Lehavy, McNichols and Trueman (2001) found that over a period of 10 years a portfolio of shares with the most favourable consensus analyst recommendations provided an annual higher return of 4.13 %, compared to annual lower return of -4.91% on those portfolios that were made up out of the least favourable recommendations. Thus, Barber *et al.* (2001) concluded that investors

would be better off buying shares in the companies that had favourable recommendations and selling the shares in the companies that had negative recommendations. Davies and Canes (1978) also found clear evidence that share prices adjusted, and thus were impacted by analysts' recommendations.

2.4.4 Market reaction to publications

There is some research concerning market reaction based on publications. Most of the research concludes with similar findings, although different kinds of publications have been examined. Palmonon, Sun and Tang (1994) concluded that the biggest impact on the share price of a positive (buy) publication was the day prior to the publication day, the publication day and the day after publication day. For a negative (sell) publication the biggest impact was on the day after publication. The biggest impact of publications in the Wall Street Journal column "Heard on the Street" was also found to be two days preceding the publication of the article (Beneish, 1991). Desai and Jain (2004) investigated the long-term impact (three years after publication) of Abraham Briloff's articles published between 1968 and 1998. Desai and Jain (2004) concluded that the companies that were criticised by him in his articles performed negatively after publication and that in some cases the company's common shares still performed negatively up to two years later.

2.4.5 Informational content

The informational content of a publication or a television show is an important concept. Understanding whether the information is informative or merely entertainment is crucial in evaluating the real impact on share prices. Ferreira and Smith (2003) found that when they evaluated the impact of recommendations made on the show “Wall Street Week”, it proved to be informational rather than entertainment. This conclusion was made based on the fact there was a positive correlation, in the short term and in the long term, between the recommendations made on the show and the relevant share price.

However Arnold *et al.* (2007) stated that most anecdotal evidence supported the idea that cover stories were not informational because of the time needed to gather information for the article and to then take it to print. They argued that the availability of instantaneous business news put news magazines at a great disadvantage in providing new information about a company.

2.5 Conclusion

This study focussed on the impact publications had on the share price of a company. Such a study had not been completed in South Africa before. Specifically the goal was to measure something more predictive of the future, in allowing a specific trading strategy to succeed, rather than just a quick adjustment by the market. That means that this study attempted to identify more inefficiencies in the market that could be exploited by investors.

CHAPTER 3 - RESEARCH HYPOTHESES

3.1 Introduction

In order to explore whether cover stories were momentum, neutral or contrarian indicators of company's future performance, the research objectives were combined with the literature reviewed and the following hypotheses were proposed.

3.2 Objective 1

Hypothesis 1

Positive cover stories are momentum indicators of a company's holding period return. Formally this is stated as:

Null hypothesis: $HPR_p > 0$

Alternative hypothesis: $HPR_p = 0$

Where HPR_p is the Holding Period Return before and after the positive cover story.

Hypothesis 2

Positive cover stories are momentum indicators of a company's adjusted return. The adjusted return is the company's average holding period return minus the equivalent holding period return for the index. This determines whether there were any abnormal returns over and above the industry average. Formally this is stated as:

Null hypothesis: $AR_p > 0$

Alternative hypothesis: $AR_p = 0$

Where AR_p is the Adjusted Return before and after the positive cover story.

3.3 Objective 2

Hypothesis 3

Neutral cover stories have no impact on a company's holding period return.

Formally this is stated as:

Null hypothesis: $HPR_n = 0$

Alternative hypothesis: $HPR_n \neq 0$

Where HPR_n is the Holding Period Return before and after the neutral cover story.

Hypothesis 4

Neutral cover stories have no impact on the industry-adjusted return of a company. The adjusted return is the company's average holding period return minus the equivalent holding period return for the index. This determines whether there were any abnormal returns over and above the industry average. Formally this is stated as:

Null hypothesis: $AR_n = 0$

Alternative hypothesis: $AR_n \neq 0$

Where AR_n is the Adjusted Return before and after the neutral cover story.

3.4 Objective 3

Hypothesis 5

Negative cover stories are contrarian indicators of a company's holding period return. Formally this is stated as:

Null hypothesis: $HPR_n > 0$

Alternative hypothesis: $HPR_n = 0$

Where HPR_n is the Holding Period Return before and after the negative cover story.

Hypothesis 6

Negative cover stories are contrarian indicators of a company's industry-adjusted return. The adjusted return is the company's average holding period return minus the equivalent holding period return for the index. This determines whether there were any abnormal returns over and above the industry average. Formally this is stated as:

Null hypothesis: $AR_n > 0$

Alternative hypothesis: $AR_n = 0$

Where AR_n is the Adjusted Return before and after the negative cover story.

The above-mentioned hypotheses were tested over different time horizons that were defined under the research design section. These time horizons covered the short, medium and long-term impact that positive, negative and neutral cover stories had on a company's share price performance.

CHAPTER 4 - RESEARCH METHOD

4.1 Introduction

Investment decisions are made every day based on assumed causal relationships. Zikmund (2003) defined casual research as research conducted to identify the cause-and-effect relationships among variables. The impact of cover stories on share prices cannot be assumed or justified, thus formal causal research was needed to examine the causal relationship between these variables.

4.2 Research design

Zikmund (2003) defined a research design as “a master plan specifying the methods and procedures for collecting and analysing the needed information.” The objective of this research was to determine whether positive, neutral and negative cover stories were indicators of companies’ share price performance (momentum, neutral or contrarian).

According to Zikmund (2003) secondary data is defined as “data that has been previously collected for some project other than the one at hand.” Therefore this research was based on secondary data. The secondary data needed to conduct this research consisted of companies’ share prices as well as business magazines cover stories over a certain historical period.

The study was therefore quantitative in nature and not qualitative as there was no exploratory research needed. The quantitative research design was of a causal nature and not descriptive. Within causal research types, a time-series design was chosen. Zikmund (2003) explains that a time-series design is an experimental design utilised when experiments are conducted over long periods of time. It allows researchers to distinguish between temporary and permanent changes in dependent variables.

For the purpose of this research a cover story was defined as any feature or cover story in the *Financial Mail* and *Finance Week* magazines. These two publications were selected to analyse their effect on company share prices as they are the two premier business magazine publications in South Africa and have the largest readership following. Both these magazines are weekly publications and are publically available. All companies that constituted being classified as a resource company on the JSE were examined for the purposes of this study. The performance of these companies’ share prices was also benchmarked against the resources (J258) index on the JSE. This assisted in identifying any abnormal returns that may have been caused by the cover stories. The reason for not

selecting companies from all the sectors of the JSE was purely because of the constraint on time and resources. South Africa is also a resource lead economy and some of the largest listed companies on the JSE fall within this industry.

As per the study done by Arnold *et al.* (2007), this study analysed the companies that were the subject or feature of cover stories in the *Financial Mail* and *Finance Week* publications between 2000 and 2009. The stock price performance was measured for 24 months prior to and 24 months after the date the feature or cover story was published. The impact of these cover stories on the stock prices of a company was tested over a 1,000-day horizon. This constituted 500 days prior to and 500 days after the publication.

The determination of whether a cover story is positive, neutral or negative is quite subjective, therefore Arnold *et al.* (2007) proposed that a five point scale could be used to identify the patterns in the cover stories. For the purposes of this research the cover stories were categorised according to the same five categories. The categories were defined as follows:

- **Category 1:** Company A “is” or “has done” something profitable or innovative. (Very positive)
- **Category 2:** Company A “plans to do” or “is in the process of doing” something innovative for the future, but will it work? (Optimistic cover).

- **Category 3:** The cover gives no particular opinion as to whether Company A is good or bad (Companies are identified on the cover, but the cover gives no indication of a positive or negative slant to the feature - Neutral).
- **Category 4:** Company A has experienced “poor performance”, but the end of the poor performance may be near (pessimistic past but a turnaround is predicted).
- **Category 5:** Company A is doing very poorly, or a scandal has occurred (pessimistic cover, sometimes implying a future management change and / or litigation)

The misinterpretation of a cover story could have had an impact on the statistical testing. However a large sample was able to smooth individual misinterpretations that may have occurred in categorising the feature stories.

The effect of a cover story on a company share price was analysed based on the calculation of the holding period return (“HPR”) over different timeframes pre- and post-publication. HPR is the percentage by which the value of a share has grown or decreased for a particular period. Thus HPR is calculated by taking the share price at the beginning of the period, then adding any returns, i.e. dividends, received during the period, and then subtracting that from the share price at the

end of the period. This value is then divided by the share price value at the beginning of the period to provide the HPR percentage of the specific share.

As per the study done by Arnold *et al.* (2007) the HPR was calculated for one month (-21 to -1 trading days), six months (-125 to -1 trading days), 12 months (-250 to -1 trading days) and 24 months (-500 to -1 trading days) prior to the publication of the cover story. The same HPR was also calculated after the publication date, as well as an additional 1 to 5 day period to examine the short-term effects. The publication date of the cover story was excluded from the calculation of the HPR to allow for testing whether the cover story was a momentum or contrarian indicator. The HPR's for all the companies within a category for various time horizons before and after the publication dates was then compared to zero. Thus, an attempt was made to analyse whether there was any statistically significant return caused by the cover story.

For the HPR calculations it was important to eliminate duplicate observations. Therefore a feature story that occurred fewer than three months after another feature story for the same company and that had the same categorisation was excluded. Thus only the effect of the first observation was calculated and the impact of the consequent observations was ignored.

The HPR of a company that was featured in a cover story was also compared to the industry average of the J258 resource industry index. The calculation of the "adjusted return" (AR) and comparing it to the zero was used to analyse whether

there were any abnormal returns. The AR is the average of the holding-period return minus the equivalent holding period return for the value-weighted industry stock index, in this case the resource index (J258).

4.3 Unit of analysis

In order to answer the hypotheses stated earlier, the unit of analysis for the research was the company that was mentioned in the cover or feature story.

4.4 Population

The population of relevance consisted of all the resource companies listed on the JSE from 2000 to 2009 and that were featured in the cover stories of the *Financial Mail* and *Finance Week* business magazines during this period.

4.5 Sampling method and size

The method of sampling that was used was a quota non-probability sample. Zikmund (2003) defined quota sampling as a non-probability sampling procedure that ensured that certain characteristics of a population sample would be represented to the exact extent that the investigator desired. As the sample was only specifically for companies that were classified as resource companies, the sampling technique fell under this categorization.

The size of the initial sample was 278 cover stories. However, after the criteria to ensure that there was no duplication was implemented, the final sample used for testing was 229 cover stories.

4.6 Data gathering

The share prices of the relevant companies were obtained from the INET Bridge database. The dividends paid by these companies were also obtained from the INET Bridge database. The cover story pages were collected from the archives of the publication houses of the *Financial Mail and Finance Week*. For the purpose of this research access was given to the researcher to access the archives of the AVUSA limited and Media24 libraries.

4.7 Data analysis

The tone of the cover stories was analysed and grouped according to the five different categories as defined previously within the research design. The share prices and dividends of the companies that were featured in a cover story were used to calculate the HPR for the specific period that was tested. A *t*-test and a Wilcoxon signed rank sum test for comparing two means are two statistical tests used to evaluate the hypothesis that the mean scores on some interval-scaled variable are significantly different for two independent samples or groups (Zikmund, 2003). They can be used when the sample size is small and when the population standard deviation is unknown. The Wilcoxon signed rank sum test can accurately determine a difference of means, even when the data is not normally distributed, which might be the case with the returns data. Because of the length of time required for HPR calculations prior to the date of calculation, the study was further limited in scope to companies that have been listed for at least 500 days at the time of publication of the cover story.

4.8 Research limitations

This research had the following limitations:

- In general, magazine feature stories do not focus on specific corporations. Thus getting enough feature stories that cover the relevant companies within the selected industry was possibly challenging.
- Feature stories tend to be positive, thus analysing the impact of negative cover stories on a company's share price was a possible limitation.
- The research was only prepared for companies that were classified within the resources sector of the JSE, thus the results for other parts of the JSE could be very different.
- The research only focussed on the impact of publically available print media. This excluded the impact of any on-line sources or other sources of information that could be available to investors.
- The researcher could have misinterpreted the cover story and therefore categorised it incorrectly.
- The study only included companies that featured in cover stories and were listed on the JSE between 2000 and 2009. Thus any feature stories outside of these dates was excluded.

CHAPTER 5 - RESULTS

5.1 Introduction

This chapter is aimed at presenting the research findings from the analysis conducted in Chapter 4 that either supports or contradicts the research hypotheses. The results are presented with each hypothesis being used as a sub heading. A conclusion is drawn at the end of the chapter as to whether the evidence supports the null or the alternative hypothesis.

5.2 Discussion of the secondary data

All companies that were classified as resource companies were selected for this research. Companies that were listed under other indices were excluded from the research due to time and resource constraints. The performance of these companies was also benchmarked against the resources (J258) index on the JSE. The resources industry was selected because some of the JSE's biggest companies, such as Anglo American PLC, BHP Billiton PLC and SASOL Limited,

are listed in this index. A large part of the South African economy is also resource based and thus analysing the effect of cover stories on company share prices in this index was selected. Table 1 below contains a list of all the cover stories collected of companies, as well as their weighting according to the cover stories.

Table 1 Company Distribution And Weighting By Cover Stories

NO	COMPANY	COVER STORIES	PERCENTAGE
1	Aflease Gold Limited	4	1.44%
2	African Rainbow Minerals Limited	2	0.72%
3	Anglo American PLC	50	17.99%
4	Anglo Platinum Limited	15	5.40%
5	Anglogold Ashanti Limited	15	5.40%
6	Aquarius Platinum Holdings Limited	2	0.72%
7	Arcelor Mittal South Africa Limited	7	2.52%
8	Barplats Investments Limited	2	0.72%

9	Bhp Billiton PLC	16	5.76%
10	Central Randgold Limited	5	1.80%
11	Drd Group Limited	4	1.44%
12	Eastern Platinum Limited	1	0.36%
13	Eland Platinum Holdings Limited	1	0.36%
14	Exxaro Resources Limited	2	0.72%
15	Goldfields Limited	18	6.47%
16	Harmony Gold Mining Company Limited	23	8.27%
17	Hwange Colliery Company Limited	1	0.36%
18	Impala Platinum Holdings Limited	15	5.40%
19	Iscor Limited	8	2.88%
20	Kumba Iron Ore Limited	16	5.76%
21	Lonmin PLC	2	0.72%

22	Metorex Limited	1	0.36%
23	Mondi Limited	5	1.80%
24	Mvelaphanda Resources Limited	12	4.32%
25	Palabora Mining Company Limited	2	0.72%
26	Pamodzi Gold Limited	3	1.08%
27	Sappi Limited	9	3.24%
28	Sasol Limited	30	10.79%
29	Sentula Mining Limited	3	1.08%
30	Simmer And Jack Mines Limited	2	0.72%
31	York Timber Holdings Limited	2	0.72%
	Total	278	100.00%

One of the concerns prior to collecting the data was that only big companies such as Anglo American PLC, BHP Billiton PLC and SASOL Limited would feature in the cover stories and that very little of the smaller resource companies would feature in

a cover story. Table 1 above shows that 31 different companies featured in the cover stories over the 10-year period. Table 1 also shows that the cover stories covered a diverse spectrum of resource companies, from large companies such as Anglo American PLC to small companies such as Hwange Colliery Company Limited. The highest weighting for any company was Anglo American PLC that had 50 cover stories, which made up 17.99% of all the cover stories collected.

The cover stories were collected reviewing the archives of both *Finance Week* and *Financial Mail* business magazines. In total there were 278 cover stories that featured resource companies listed on the JSE. These cover stories spanned over a ten-year period, from 2000 to 2009, and were the combined total for both publications. A common mistake made in financial studies is survivorship bias. In a financial sense it is the tendency to exclude failed companies from the study because they no longer exist. This can result in the outcomes of a study being skewed higher as only companies that were successful enough to survive until the end of the period were included. To ensure that there wasn't any survivorship bias, any company that was delisted after the publication of the issue, which it was featured in, was still included in the sample. The return calculation was carried out through the delisting date and included in all the HPR calculations. There were three companies that delisted during the period that was reviewed, namely Afilease Gold Limited, Barplats Investment Limited and Eland Platinum Holdings Limited. Another company that formed part of the sample was Iscor limited, which unbundled its mining assets into Kumba Iron Ore Limited that was publically listed

in 2001. Iscor Limited became known as Mittal Steel South Africa Limited in 2005 and is currently known as Arcelor Mittal South Africa Limited. In 2006 Kumba Iron Ore Limited also unbundled all its other mining assets except for iron ore in an empowerment deal that resulted in the formation of Exxaro Resources Limited that was publically listed.

The types of cover stories were classified into one of three categories - positive, neutral and negative. These categories were based on the rating scale that ranged from one to five as per the Arnold *et al.* (2007) study. Ratings of one and two denoted positive categories; a rating of three was a neutral category and, ratings of four and five denoted negative categories.

The detailed classification of the cover stories investigated by type of cover story and publication is shown below.

Table 2 Feature Story Frequency, 2000 - 2009

<i>PERIODICAL</i>	<i>POSITIVE CATEGORIES</i>			<i>NEUTRAL CATEGORY</i>	<i>NEGATIVE CATEGORIES</i>		
	<i>1</i>	<i>2</i>	<i>TOTAL</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>TOTAL</i>
Finance Week	18	29	47	28	17	13	30

(105 features)	17%	28%	45%	27%	16%	12%	28%
Financial Mail	3	31	34	48	18	24	42
(124 features)	2%	25%	27%	39%	15%	19%	34%
Total	21	60	81	76	35	37	72
(229 features)	9%	27%	36%	33%	15%	16%	31%

Out of the total 278 cover stories that were collected for the study, 49 cover stories had to be excluded from the sample. This was done to eliminate duplicate cover story observations, defined as a feature story happening fewer than three months after another feature story for a given company and having the same categorisation. The first feature story was included and the subsequent observation was excluded. Table 2 above shows that most cover stories were positive, 36%, and the least amount of cover stories were negative, 31%. There were also a high percentage of neutral cover stories, 33%. Although the percentages are quite close to each other the table illustrates that the largest percentage of cover stories tended to be either positive or neutral, 69%, and only 31% of the cover stories were definitely negative.

Another aspect of cover stories that was observed during the research was the subject of the cover stories. The cover stories tended not to refer to a specific company, but in many cases the feature story would refer to the chief executive officer (CEO) of the company and how the individual had turned the company around or how the individual had achieved something positive with the company. There were also more general cover stories that referred to industries in general and not the specific companies, i.e. the gold industry. A great deal of cover stories also referred to para-statals such as SAA and Eskom, and also referred to governmental issues such as the economy, healthcare and education.

The effect of a cover story on the holding period return (HPR) of a company was investigated for nine different time horizons ranging from 24 months before the date of publication (-500), to 24 months after the date of publication (+500). Table 3 below shows the average HPR for each type of cover story at the different time horizons. The averages of the HPR at the different time horizons show a pattern that is consistent with the trend that we would believe to be correct from an intuitive point of view in the sense that before the date of publication, companies that received a positive cover story had the highest HPR. Companies that received neutral cover stories had less return and companies that received negative cover stories had the least return. In fact, from the -250 time horizon to the -12 time horizon, companies that received a negative cover story had, on average, a zero or negative HPR.

Table 3 Average Holding Period Return For Each Category Of Cover Story

TIME HORIZON	POSITIVE	NEUTRAL	NEGATIVE
-500 to -1 HPR SP	46.10%	21.17%	8.64%
-250 to -1 HPR SP	18.41%	5.91%	-3.44%
-125 to -1 HPR SP	3.23%	4.79%	-0.33%
-12 to -1 HPR SP	2.19%	-0.58%	-1.25%
1 to 5 HPR SP	0.04%	-0.39%	0.17%
1 to 21 HPR SP	-0.20%	1.74%	2.08%
1 to 125 HPR SP	6.89%	7.64%	5.01%
1 to 250 HPR SP	14.63%	10.57%	16.21%
1 to 500 HPR SP	35.62%	32.32%	33.28%

After the date of publication the trend was reversed. Companies that received a neutral cover story had on average the lowest HPR. However, the companies that received a negative cover story had the highest HPR after the date of publication.

This suggests that cover stories had a contrarian effect on the HPR of companies after the date of publication. The intuitive trend in the HPR was only restored in the long term 24 month phase after the date of publication.

In order to test the effect of the different types of cover stories at the different time periods, two statistical tests were carried out. The t-test and the Wilcoxon signed rank sum test. The t-test was used to test whether the means of two groups were significantly different from each other. If the value of the t- statistic was statistically significant this provided evidence of a real difference in mean between the two groups – as opposed to a difference which was only due to random chance. The Wilcoxon signed rank sum test is similar to the t-test, however this test does not assume that the data is normally distributed, and is a median based test. The Wilcoxon signed rank sum test has higher statistical power but requires the tested sample to be symmetrically distributed. It also tests if the median of a sample is equal to a hypothesized median. This test was used as an additional test to confirm the findings of the t-test. If the value of the sign statistic was statistically significant this also provided evidence of a real difference in median between the two groups, as opposed to a difference that was only due to random chance.

Table 4 below expresses the values of the t-statistic and the Wilcoxon signed rank sum test for a difference in mean and median returns between an assumed zero return and the returns obtained by the companies. When the statistics were significant it meant that significant returns (positive or negative) occurred for the given company. Two types of returns were tested. The HPR of the company and

the industry adjusted return of the company. The industry adjusted return was simply the return obtained by the particular company less the average return in the industry for the same period of time. It represented any abnormal returns obtained by the company over and above what was happening in the industry in general. The returns were tested for statistical significance at three levels of significance: the 10% level of significance, the 5% level of significance and the 1% level of significance.

Table 4 Holding Period Returns for Three Categories, Data 2000 – 2009 (measured in percentages)

Category/Measure	PERIOD FROM PUBLICATION (IN TRADING DAYS)								
	-500 to -1	-250 to -1	-125 to -1	-12 to -1	1 to 5	1 to 21	1 to 125	1 to 250	1 to 500
Positive Categories - 1 or 2 (n = 81)									
HPR (%)	46.10%	18.41%	3.23%	2.19%	0.04%	-0.20%	6.89%	14.63%	35.62%
t – Statistic	-4.7***	-2.83**	-1.12	-2.41**	-0.07	0.21	-2.75***	-3.31***	-4.58***
Signed Rank Sum Test Score	4.60***	1.64**	1.78**	1.49*	-1.96**	-1.19	3.57***	1.93**	3.28***
Industry Adjusted Return (%)	17.42%	9.51%	-0.38%	1.46%	0.14%	-0.83%	-2.14%	-3.64%	8.59%
t – Statistic	-1.99**	-1.62	0.22	-2.53**	-0.27	1.05	1.09	1.08	-1.38
Signed Rank Sum Test Score	0.43	1.02	-0.58	3.39***	-1.74**	-1.74**	-0.4382	-2.79 ***	-1.17
Neutral Categories - 3 (n = 76)									
HPR (%)	21.17%	5.91%	4.79%	-0.58%	-0.39%	1.74%	7.64%	10.57%	32.32%
t – Statistic	-3.23***	-1.33	-1.52	0.55	0.92	-1.36	-1.19	-1.95	-4.21***
Signed Rank Sum Test Score	1.22	1.06	2.47***	-1.869**	-0.80	0.46	0.61	0.30	2.78***
Industry Adjusted Return (%)	-1.42%	-2.46%	0.14%	-1.09%	0.41%	0.28%	4.00%	0.00%	6.50%
t – Statistic	0.27	0.86	-0.06	1.08	-0.89	-0.31	-0.65	0	-1.04
Signed Rank Sum Test Score	-0.5968	-0.9015	-1.50**	-1.22	0.64	-1.07	-1.80	-1.20	-1.22
Negative Categories - 4 or 5 (n = 72)									
HPR (%)	8.64%	-3.44%	-0.33%	-1.25%	0.17%	2.08%	5.01%	16.21%	33.28%

t – Statistic	-1.01	0.64	0.1	1.14	-0.27	-1.38	-1.66*	-3.14	-3.86***
Signed Rank Sum Test Score	-1.2526	-2.34***	-0.15	-1.60*	0.97	2.99***	2.4***	3.42***	2.89***
Industry Adjusted Return (%)	-5.21%	-6.36%	-2.89%	-1.74%	-0.25%	0.96%	-3.25%	-1.47%	4.71%
t – Statistic	0.67	1.44	1.02	1.79	0.43	-0.78	1.15	0.3	-0.62
Signed Rank Sum Test Score	-2.76***	-3.07***	-2.45***	-2.34***	0.16	1.39*	0	-2.02**	-0.63

- *** Significant at the 1% level – meaning 99% confidence in the test result**
- ** Significant at the 5% level – meaning 95% confidence in the test result**
- * Significant at the 10% level – meaning 90% confidence in the test result**

5.3 Hypothesis 1

The null hypothesis states that a positive cover story is a momentum indicator of a company's holding period return. The alternative hypothesis states that a positive cover story has no impact on a company's holding period return.

Null hypothesis: $HPR_p > 0$

Alternative hypothesis: $HPR_p = 0$

Where HPR_p is the Holding Period Return before and after the positive cover story.

Table 4 above indicates that for companies with positive cover stories, positive holding period returns existed before the publication date, and that these returns were generally statistically significant. This is proven by both the t-test and the signed rank sum test. Thus the null hypothesis cannot be rejected for the time horizons prior to the publication dates. The holding period returns five and 21 days after the date of publication were almost zero but were not statistically significant. Therefore, the null hypothesis for five and 21 days after publication is rejected.

Table 4 above also shows that statistically significant positive returns were received on positive cover stories 125 days, 250 days and 500 days after the date of publication. The mean return after 125 days was 6.89%, 14.63% after 250 days and 35.62% after 500 days. The statistical tests indicate that the null hypothesis cannot be rejected for the 125, 250 and 500 day time horizons.

5.4 Hypothesis 2

The null hypothesis states that positive cover stories are momentum indicators of a company's industry-adjusted returns. The adjusted return is the company's average holding period return minus the equivalent holding period return for the index. This determines whether there were any abnormal returns over and above the industry average. The alternative hypothesis states that a positive cover story has no impact on a company's industry adjusted return.

Null hypothesis: $AR_p > 0$

Alternative hypothesis: $AR_p = 0$

Where AR_p is the Adjusted Return before and after the positive cover story.

Table 4 above shows that when the holding period return was adjusted by that of the resources index (J258) many of the positive abnormal returns dissipated. There were, however, still some statistically significant findings. The t-test had a positive abnormal return 500 days prior to the publication date. Both the t-test and signed rank sum test showed positive abnormal returns 12 days prior to the publication date. Therefore for the 12 day time horizon the null hypothesis cannot be rejected. However for all other time horizons prior to publication date the null hypothesis is rejected. After the publication date the t-test had no abnormal positive returns. The signed rank sum test had an abnormal negative return 21 days after and 250-days after the publication date. Therefore the null hypothesis is rejected for all time horizons after the publication date.

5.5 Hypothesis 3

The null hypothesis states that a neutral cover story has no impact on a company's holding period return. The alternative hypothesis states that a neutral cover story does have an impact on a company's holding period return, positive or negative.

Null hypothesis: $HPR_n = 0$

Alternative hypothesis: $HPR_n \neq 0$

Where HPR_n is the Holding Period Return before and after the neutral cover story.

As can be seen from table 4 above, neutral cover stories had a statistical significant impact on a company's share price prior to publication date. These returns were positive and occurred at the -500 and -125 time horizons. Therefore the null hypothesis was rejected for these two time horizons. However over the shorter term, -12 days prior to the publication, there is a significant negative return and thus the null hypothesis is also rejected for this time horizon. After the publication date the null hypothesis cannot be rejected for all the time horizons except for the 500 day time horizon. Both the t-test and the signed rank sum test returned statistically significant positive returns for the 500 day time horizon and therefore the null hypothesis is rejected for this time horizon.

5.6 Hypothesis 4

The null hypothesis states that neutral cover stories have no impact on a company's industry-adjusted return. The adjusted return is the company's average holding period return minus the equivalent holding period return for the index. This determines whether there were any abnormal returns over and above the industry average. The alternative hypothesis states that a neutral cover story does have an impact on a company's industry adjusted return.

Null hypothesis: $AR_n = 0$

Alternative hypothesis: $AR_n \neq 0$

Where AR_n is the Adjusted Return before and after the neutral cover story.

When the returns for companies were adjusted for the average of the industry, the neutral cover stories had almost no impact on the returns of the companies. Only the signed rank sum test returned a statistical significant return at the 125-day time horizon prior to the publication and that was only at a 10% significance level.

Therefore the null hypothesis cannot be rejected for all time horizons prior to and after the publication date.

5.7 Hypothesis 5

The null hypothesis states that negative cover stories are contrarian indicators of a company's holding period return. The alternative hypothesis states that negative cover stories have no impact on a company's holding period return.

Null hypothesis: $HPR_n > 0$

Alternative hypothesis: $HPR_n = 0$

Where HPR_n is the Holding Period Return before and after the negative cover story.

Prior to the publication of the negative cover stories there were very little statistically significant returns. The t-test showed that none of the returns were statistically significant. The signed rank sum test had negative returns at the -250

and -12 day time horizons. However, only the -250 day return was statistically significant at the 1% level. Therefore the null hypothesis was rejected for holding period returns before the publication date. Table 4 above shows that statistically significant positive returns were obtained 21, 125, 250 and 500 days after the publication of a negative cover story. The average return after 21 days was 2.08%, 5.01% after 125 days, 16.21% after 250 days and 33.28% after 500 days. These returns were statistically significant when tested with the t-test and the signed rank sum test; therefore the null hypothesis cannot be rejected for these time horizons.

5.8 Hypothesis 6

The null hypothesis states that negative cover stories are contrarian indicators of a company's industry-adjusted return. The adjusted return is the company's average holding period return minus the equivalent holding period return for the index. This determines whether there were any abnormal returns over and above the industry average. The alternative hypothesis states that negative cover stories have no impact on a company's industry adjusted return.

Null hypothesis: $AR_n > 0$

Alternative hypothesis: $AR_n = 0$

Table 4 shows that prior to the cover story there were statistically significant abnormal negative returns. The t-test showed that none of the negative returns were statistically significant. The signed rank sum test however, showed statistically significant abnormal negative returns prior to the publication at all four time horizons. Therefore the null hypothesis is rejected for the time horizons prior to the publication date. After the publication date there was a positive abnormal return in the short term, 21 days after publication and a statistically significant negative return at the 250-day time horizon. The other time horizons after the publication date all show small positive and negative returns, but none were statistically significant. Thus the null hypothesis is rejected.

5.9 Conclusion

In general, statistically significant positive returns were observed in the holding period return of a company -500, -250, -125 and -12 days before the publication of a positive cover story. After the date of publication there were no positive returns in the short term, up until 21 days. From the 125-day time horizon onwards there were positive returns. However most of the positive returns ceased to be significant

after the adjustment for the average of the resource industry was made. Most of the returns were actually negative after the publication date.

The neutral cover stories had less of an impact on the returns of the companies. There were positive returns -500, -250 and -125 days prior to the publication date, but none were statistically significant. After the publication date there was only a statistically significant positive return 500 days later. When the returns were adjusted for the average return of the industry, again most of the abnormal returns dissipated. The only exception was at the -125 day time horizon, where there was a positive abnormal return.

Statistically significant negative holding period returns and industry-adjusted returns were observed 250, 125 and 12 days before the publication of a negative cover story. After the date of publication there were positive returns shown by the companies, which illustrates that the negative cover stories had some contrarian effect on the company's return. However when these returns were adjusted for that of the industry most of the abnormal returns dissipated and most of the time horizons had small positive or negative returns. Table 5 below shows a summary of all the hypotheses and their results.

Table 5 Summary Of The Hypothesis Testing Results

HYPOTHESIS	BEFORE PUBLICATION	AFTER PUBLICATION
Hypothesis 1 – Positive HPR	Cannot reject	Cannot reject
Hypothesis 2 – Positive AR	Cannot reject	Reject
Hypothesis 3 – Neutral HPR	Reject	Cannot reject
Hypothesis 4 – Neutral AR	Cannot reject	Cannot reject
Hypothesis 5 – Negative HPR	Reject	Cannot reject
Hypothesis 6 – Negative AR	Reject	Reject

CHAPTER 6 - DISCUSSION OF RESULTS

6.1 Introduction

This section interprets the research findings in chapter five in conjunction with the literature review in chapter two. The fundamental question that this research aims to answer is: “Are cover stories effective momentum, neutral or contrarian indicators of a company’s share price performance?” In order to answer this question chapter six is structured according to the research objectives:

- **Objective 1:** to determine whether positive cover stories are momentum indicators of company share price performance over the short, medium and long term.
- **Objective 2:** to determine whether neutral cover stories are zero impact indicators of company share price performance over the short, medium and long term.
- **Objective 3:** to determine whether negative cover stories are contrarian indicators of company share price performance over the short, medium and long term.

Each of the objectives has two hypotheses that will be discussed under a subheading to answer the research questions. This is because for each objective the hypothesis was not just tested for the individual performance of the company share price, but was also adjusted for the average of the resources index (J258) to ascertain whether there were any abnormal returns.

6.2 Objective 1: Positive cover stories as momentum indicators

The aim of objective one was to ascertain whether positive cover stories are momentum indicators of a company share price. With hypothesis one the HPR of a company was compared to a zero return to ascertain whether there was any positive return. In hypothesis two the HPR of a company was adjusted for the resources index (J258) to see if there were any abnormal returns due to the positive cover story.

6.2.1 Hypothesis 1

The results of hypothesis one showed that companies with positive cover stories had positive HPR's before and after the publication date that were generally

statistically significant. Therefore the hypothesis was not rejected. These results confirm the findings of Arnold *et al.* (2007) where it was also found that positive cover stories were momentum indicators of a company's HPR before and after the publication date. Arnold *et al.* (2007) states that positive feature stories usually follow extremely positive company performance and therefore one would expect a positive impact on the company share price.

These results were also supportive of Basu's theory that markets are inefficient. Basu (1977) stated that markets were not efficient and that there seemed to be a lag and some friction in the adjustment process of security prices. This seems to be the case as the HPR of a company does not react immediately to a positive cover story, but takes some time before impact is seen in the company share price. Alternatively the results of hypothesis one contradicts the basic theory of the EMH as presented by Fama (1970) and Lo (2005), where it was stated that the markets accurately and instantaneously incorporate all available information into market prices. This is not the case with the results as the positive cover stories proved to be momentum indicators of the company's share price performance. If the market was fully efficient there would be a minimal impact on the pricing of the company's share price after the publication date.

It was observed in the short term, one to 21 days after publication, that the HPR of the company was minimally positive and even negative. These results were however not statistically significant, but seemed to be supportive of Vega's phenomenon called PEAD. Vega (2006) explained PEAD by stating that stock

prices did not adjust immediately to news surprises, but that stock prices tended to drift over time in the same direction as the initial surprise. This is supportive of the findings that the HPR of the company only resumed their statistically significant positive returns 21 days after the publication date.

The results of the companies HPR's after the publication date also aligns with the findings of Barber and Odean (2006). Barber and Odean are proponents of the aspect of behavioural finance called attention buying behaviour. According to Barber and Odean (2006) investors are more likely to purchase attention-grabbing stock. A positive cover story falls within their definition of an attention-grabbing event. Barber and Odean (2006) found that momentum investors tended to invest in stocks that had recently performed well. This argument is confirmed by the data, because after the publication of the positive cover story the positive HPR's for the companies continued.

In the short term, after the publication date the results were different from what Palmon *et al.* (1994) concluded in their study. Palmon *et al.* (1994) found that the biggest impact on a share price, by positive publication, was measured the day prior to the publication, the day of the publication and the day after the publication. The results showed that the returns measured around the publication date were the smallest and also the least statistically significant.

6.2.2 Hypothesis 2

For hypothesis two the HPR of the company was adjusted for the equivalent HPR of the resources index (J258) to analyse whether there was any abnormal returns. The results showed that when the HPR a company was adjusted by that of the resources index, many of the abnormal positive returns dissipated. These results confirm the findings of Arnold *et al.* (2007), where the authors found that after the publication date most of the abnormal returns dissipated.

These results were however not always the case and the results showed that 12 days prior to the publication date there was an abnormal positive return. Therefore the hypothesis could not be rejected for returns prior to the publication. This also seems to indicate that there is some efficiency in the market, as the returns for the companies were positive just prior to the positive cover story getting published. The result seems to support Fama's (1970) EMH theory, that by the time the positive cover story was published the market had already priced in the abnormal return caused by the event. However, the hypothesis was rejected for the adjusted returns after publication date, which confirms the findings of Arnold *et al.* (2007) that when the HPR was adjusted for the industry index, the abnormal return dissipated after the publication of the cover story.

These results contradict the findings by Barber and Odean (2006) that investors tended to purchase attention-grabbing stocks. Barber and Odean (2006) stated

that momentum investors tended to invest in shares that had recently performed well. However, the results show that once the positive returns were adjusted for the industry index the positive returns were not abnormal, but rather due to the overall movement of the resources industry.

6.3 Objective 2: Neutral cover stories are zero impact indicators

The aim of objective two was to determine whether neutral cover stories had any impact on a company's share price. The HPR of a company was compared to zero to see whether there was any return, be it positive or negative. The HPR of the company was also adjusted for the resources index (J258) to ascertain whether any of the returns were abnormal or not.

6.3.1 Hypothesis 3

The results of hypothesis three showed that prior to the publication of a neutral cover story there were statistically significant returns. These returns were found at the -500 day, -125 day and at the -12 day time horizons. The returns at the -500 and -125 day horizons were positive, while the return at the -12 day time horizon

was negative. Therefore the hypothesis was rejected for HPR's prior to the publication date. After the publication date there were no statistically significant returns until the 500 day time horizon. At the 500 day time horizon there was a positive return. Therefore the hypothesis for returns after the publication date could not be rejected.

The results prior to the publication of a neutral cover story seem to support the theory of the EMH as defined by Fama (1970). The HPR fluctuated from positive to negative which is consistent with the peaks and valleys that any stock market experiences. The results also indicated that there are not many inefficiencies that would be able to be exploited within the selected sector as the market seems to be more efficient for the companies that fall within the neutral categories.

The long term results, where a statistically significant return was only achieved after 500 days also builds on Malkiel's argument. Malkiel (2003) concluded that neither technical analysis nor fundamental analysis would enable an investor to achieve greater returns than those that could be obtained by holding a randomly selected portfolio of individual stocks. This was however only true over the very long term.

6.3.2 Hypothesis 4

The results of hypothesis four were that the hypothesis was rejected for AR's prior to the publication date and after the publication of a neutral cover story. Once the HPR of companies were adjusted for the average of the index there was basically no impact on the returns of the specific companies.

These results strengthen the EMH argument as proposed by academics such as Fama. The neutral cover stories had no impact on the returns of the companies that were the subject of the cover story. The movement in the return was rather based on returns of the resources index (J258), and therefore there were no abnormal returns.

This supports the argument made by Fama (1991) that a passive investment strategy would be more efficient than trying to exploit the proposed inefficiencies in the market.

6.4 Objective 3: Negative cover stories are contrarian indicators

The aim of objective three was to ascertain whether negative cover stories are contrarian indicators of a company's share price performance. The HPR of a company was compared to zero to see if there was any positive return. The HPR of

the company was also adjusted for the HPR of the resources index (J258) to ascertain whether the return was abnormal or not.

6.4.1 Hypothesis 5

Prior to the publication of a negative cover story there were mostly negative returns, however most of these negative returns were not statistically significant. Therefore the hypothesis was rejected for negative cover stories prior to the publication date. The results after the publication date was however very different. After the publication of a negative cover story the HPR's of the companies turned positive. Except for five days after the publication date, all other time horizons had a statistically significant positive return. This result is in contrast with the findings of Arnold *et al.* (2007), where it was found that after the publication of a negative cover story the HPR's of the companies were not significantly different from zero.

The short term results after the publication date also differed from the literature. Palmon *et al.* (1994) concluded in their study that the biggest impact on a share price by a negative publication was the day after the publication. The results obtained in this study showed that for the time horizon one to five days after the negative publication the smallest positive return was recorded. This positive return

was also the only return after the publication date that was not statistically significant.

In the long term the above mentioned results are different from a study done by Desai and Jain. Desai and Jain (2004) investigated the long term impact of articles written by Abraham Briloff on a company's share price. The articles that Desai and Jain reviewed were those that criticised the companies and these were found to have a negative impact on the company's share price. The results have shown a contrarian effect on the share prices of the companies, due to the fact that statistically positive returns were measured over the period that was tested after the publication date, and not negative results as would be expected. This supports the view by Forsyth (1996) and Queenan (1991) who argued that the cover stories of business magazines were considered contrarian indicators. Therefore the hypothesis was not rejected for HPR's after the publication date.

6.4.2 Hypothesis 6

When the HPR's of the companies were adjusted for the resource industry average, the results showed that there were statistically significant negative returns prior to the publication of a negative cover story. This indicates that on average the companies that were affected by negative cover stories were doing worse than the

index prior to the publication of a negative cover story. The result is intuitive of what would be expected, as a negative cover story would have resulted due to a company consistently performing badly over a period of time. Therefore the hypothesis was rejected for AR's prior to the publication date.

In the short term after the publication date, the results were similar to those of Palmon *et al.* (1994). The biggest impact on the AR was observed in the period just after the publication date. However these returns were not sustained in the long term. Once the HPR had been adjusted for the index average most of the positive returns dissipated. The results therefore were similar to that of Arnold *et al.* (2007) where the authors also found that adjusted returns showed much less of a contrarian tendency than when the HPR was measured against zero.

Therefore the hypothesis was rejected for AR's after the publication date, as the returns were mostly not statistically significant; and where the results were statistically significant the AR was negative.

Although the hypothesis was rejected for positive returns, it can still be argued that the negative cover stories had a contrarian impact on the returns of the companies. This is because the expected result would be that the AR after the publication date would continue to be measured negatively as was the case prior to the publication date. Thus there has been some turnaround in the company's performance when compared to the index average. This supports the view by Forsyth (1996) and

Queenan (1991) who argued that the cover stories of business magazines were considered contrarian indicators.

6.5 Conclusion

Baker *et al.* (2005) concluded in their study that behavioural approaches to investment finance offered a useful complement to other paradigms in this field. The results above show that this is the case, and that in certain instances investors are not just driven to make decisions based on technical and fundamental analysis, but that sometimes there are behavioural aspects that drive these decisions.

The fundamental question that this research aimed to answer was whether cover stories were effective momentum, neutral or contrarian indicators of a company's share price performance. The answer is that positive cover stories are momentum indicators for a company's share price performance, however once the HPR was adjusted for that of the index average the effect dissipated. Neutral cover stories had a very minimal influence on company share prices even when these returns were adjusted for the index average. The negative cover stories had the biggest impact on a company's share price. The HPR's showed a significant positive return after publication, which indicated a contrarian effect on those companies share price performance. Even after the returns were adjusted for the average of the

resource index there was still a contrarian effect, which shows that there are inefficiencies in the market that can be exploited to the benefit of investors.

CHAPTER 7 - CONCLUSION

7.1 Introduction

This final chapter will highlight the main findings of the research, summarising them with a main set of results. Some recommendations will be provided for the relevant stakeholders as well as recommendations made for future research.

7.2 Findings

The aim of this research was to ascertain whether there exists a correlation between a cover story, albeit positive, neutral or negative, and the performance of a company's share price. This could assist investors in making strategic investment decisions.

Positive cover stories in business magazines follow extremely positive company performance and negative cover stories follow extremely negative performance. In

both cases the appearance on the cover of the *Financial Mail* or *Finance Week* signalled, to some extent, the end of the extreme performance.

The results of the study support this notion when reviewing the findings of the returns prior to the publication of both positive and negative cover stories. Prior to the publication of a positive cover story the companies displayed a positive HPR, as would be expected, but when the HPR was adjusted for the resources index average, the returns were still positive but not as statistically significant. Prior to the publication of negative cover stories the HPR of the companies was negative and once it had been adjusted for the index average the returns were found to be abnormal negative returns.

The results after the publication of both positive and negative cover stories are similar to those found by Arnold *et al.* (2007). After the publication of a positive cover story the HPR of the companies tended to be positive, indicating that these cover stories were a momentum indicator. However, once the HPR had been adjusted for the index average these positive returns were not as abnormal and the momentum effect dissipated. Similarly for the negative cover stories, after the publication date the HPR of the companies were positive, indicating a contrarian effect. Once the HPR of the companies were adjusted for the index average the returns were no longer abnormally positive, but had not reverted back to the negative trend observed prior to the publication date. Thus there was still some contrarian effect on the returns of these companies. The results build on the

argument made by Forsyth (1996) and Queenan (1991) who argued that cover stories of business magazines were considered as potential contrarian indicators.

For neutral cover stories the results were a lot less extreme. Prior to the publication of a neutral cover story there were some positive and negative returns, thus proving that these companies had had mixed results prior to the publication of a cover story. Once the HPR was adjusted for that of the index average, most of these returns were no longer significant. After the publication date there were no abnormal returns, and only the HPR after 500 days showed a statistically significant positive return. These findings supported the EMH that has been proposed by the likes of Fama and Malkiel.

There were however other subtle findings. Fama (1991) stated that before the work on efficiency came about, the presumption was that private information was plentiful among investment managers. Although it cannot be proven that this is the truth there is still some evidence that showed that prior to a publication there was abnormal movement in the market. An example of this was before the publication of a positive cover story where an abnormal positive return was measured from 12 days prior to the publication date. This gives some evidence that there was some private information in the market.

Basu (1977) argued that markets were inefficient and that publically available information was not instantaneously impounded into share prices, but that there was a lag and friction in the adjustment process. This was the case with positive

cover stories where the positive returns only returned 21 days after the publication date.

7.3 Recommendations

The recommendations will be separated into recommendations for the academia and investors. Firstly, the recommendations for academia are reviewed.

Ricciardi and Simon (2000) defined behavioural finance as the attempt to increase the understanding of the reasoning patterns of investors, to better understand the emotional process involved that influenced the decision making process. The results have shown that cover stories have an impact on the decisions made by investors and that markets are not always efficient. Therefore understanding the triggers of these behaviours of investors validates further research to attempt to better exploit the inefficiencies of the market.

The results have also added to the literature on contrarian indicators. This study has tried to build on the arguments made by Arnold *et al.* (2007), Forsyth (1996) and Queenen (1991), showing that business magazine cover stories do have a contrarian impact on a company share price, albeit the extremity thereof.

The recommendation to investors is to ensure that when creating any investment strategy it would be foolish not to take the behavioural aspects into account. Shefrin (1999) stated that behavioural finance held important implications for the practice of investment finance. Shefrin (1999) argued that the traditional approach to corporate finance was based on three concepts. These concepts were rational behaviour, the capital asset pricing model (“CAPM”) and efficient markets.

The results have shown that in some instances, such as with neutral cover stories, the markets are quite efficient. But with negative and positive cover stories the results showed that investors do not always react rationally to events in the market. Therefore any investor has to analyse these relationships to better protect their position in the market.

7.4 Recommendations for future research

Based on the outcomes of this study the following recommendations are made to gain a deeper understanding of the relationship that exists between magazine cover stories and company share prices:

- Only the main feature story on a magazine cover should be used to analyse the impact on a company’s share price; thereby excluding any other feature story that may appear on the cover of a magazine.

- Other sectors on the JSE, such as the financial and industrial sectors, could also be analysed individually.
- Companies from all the sectors on the JSE must be selected and not only companies that fall within the resources sector.
- The impact of cover stories should be examined over a longer time-horizon, i.e. 20 years and not merely 10 years as this study had done.
- International business magazines from other countries should also be analysed. This could possibly have a large impact on the mining sector as some of South Africa's largest companies are multinational.
- The impact of other media such as websites or other internet sources on company share prices can also be examined.
- Instead of using both the *Financial Mail* and the *Finance Week* publications, only one of these publications could be selected to analyse the impact.
- Analysing the impact of cover stories on a specific index, i.e. resources, industrial or financial, could be interesting, as there is a growing number of exchange traded funds that specifically track an index.

REFERENCES

Arnold, T., Earl J. H., & North, D. S. (2007). Are Cover Stories Effective Contrarian Indicators? *Financial Analysts Journal* 63 (2), pp. 70-75.

Baker, M. P., Ruback, R. S. and Wurgler, J. A. (2005, September). Behavioral Corporate Finance: A Survey. doi:10.2139/ssrn.602902.

Barber, B., Lehavy, R., McNichols, M., & Trueman, B. (2001). Can investors profit from the prophets? Security analyst recommendations and stock returns. *Journal of Finance*, 56 (2), pp. 531-563.

Barber, Brad M. & Odean, T. (1999, July). The Courage of Misguided Convictions: The Trading Behavior of Individual Investors, *Financial Analyst Journal*, 55 (6), pp. 41-55. doi: 10.2469/faj.v55.n6.2313.

Barber, Brad M. & Odean, T. (2006, November). All that Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors, *EFA 2005 Moscow Meetings Paper*. doi:10.1093/rfs/hhm079.

Beneish, M. D. (1991). Stock prices and the dissemination of analysts' recommendation. *The Journal of Business*, 64 (3), pp. 393-416.

Beaudry, P. & Portier, F. (2006, September). Stock Prices, News, and Economic Fluctuations, *The American Economic Review*, 96 (4), pp. 1293-1307.

Bloomfield, Robert J. (2006, October) Behavioral Finance, *Johnson School Research Paper* No. 38-06.

Boswijk, H. P., Hommes, Cars H. & Manzan, S. (2007, June). Behavioral heterogeneity in stock prices, *Journal of Economic Dynamics and Control*, 31 (6), pp. 1938-1970.

Basu, S. (1977, June). Investment Performance of Common Stocks in Relation to Their Price-Earnings Ratios: A Test of the Efficient Market Hypothesis, *The Journal of Finance*, 32 (3), pp.663-682.

Davies, P. L., & Canes, M. (1978). Stock prices and the publication of second-hand information. *Journal of Business*, 51 (1), pp. 43-56.

Desai, H., & Jain, P. C. (2004). Long-run stock returns following Briloff's analyses. *Financial Analysts Journal*, 60 (2), pp. 47-56.

Drehmann, Mathais, Oechssler, Jorg & Roider, A. (2005, December). Herding and Contrarian Behavior in Financial Markets: An Internet Experiment, *The American Economic Review*, 95 (5), pp. 1403-1426.

Enke, David, Thawornwong S., Jensen, M. (2005, November). The use of data mining and neural networks for forecasting stock market returns, *Expert Systems with Applications*, 29 (4), pp. 927-940.

Fama, E. F. (1970, May). Efficient Capital Markets: A Review of Theory and Empirical Work, *The Journal of Finance*, 25 (2), pp. 383-417.

Fama, E. F. (1991, December). Efficient Capital Markets: II, *The Journal of Finance*, 46 (5), pp. 1575-1617.

Ferreira, E. J., & Smith, S. D. (1999). Stock price reactions to recommendations in the wall street journal 'Small stock focus column'. *Quarterly Review of Economics & Finance*, 39 (3), p. 379.

Ferreira, E. J., & Smith, S. D. (2003). "Wall Street Week": Information or entertainment? *Financial Analysts Journal*, 59 (1), pp. 45-53.

Forsyth, R. (1996). On Borrowed Time: Why Investors Should Worry about Magazine's Cover on Fidelity. *Barron's National Business and Financial Weekly* 76, No. 40, p. 18.

Goetzmann, William N. & Massa, M. (2000, February). Daily Momentum and Contrarian Behavior of Index Fund Investors, *NBER Working Paper*, No. 7567.

Huang, W., Nakamori, Y., Wang, SY. (2005, October). Forecasting stock market movement direction with support vector machine, *Computers and Operations Research*, 32 (10), pp. 2513-2522.

Kim, K., (2003, September). Financial time series forecasting using support vector machines, *Neurocomputing*, 55 (1-2), pp. 307-319.

Lam, M., (2004, September). Neural network techniques for financial performance prediction: integrating fundamental and technical analysis, *Decision Support System*, 37 (4), pp. 567-581.

Lo, Andrew W., Reconciling Efficient Markets with Behavioral Finance: The Adaptive Markets Hypothesis, *Journal of Investment Consulting*, Forthcoming.

Malkiel, B. G. (2005). Reflections on the Efficient Market Hypothesis: 30 Years Later, *The Financial Review*, 40, pp. 1-9.

Malkiel, B. G. (2003, Winter). The Efficient Market Hypothesis and Its Critics, *The Journal of Economic Perspectives*, 17 (1), pp. 59-82.

Nutt, S. R., Easterwood, J. C. & Easterwood, C. M. (1999, Winter). New Evidence on Serial Correlation in Analyst Forecast Errors, *Financial Management*, 28 (4), pp. 106-117.

O'Hara, T. H., & Lazdowski, C. (2000). Financial indicators of stock price performance. *American Business Review*, 18 (1), pp. 90-100.

Palmonon, O., & Sun, H. (1994). The impact of publication of analysts' recommendations on returns and trading volume. *Financial Review*, 29 (3), pp. 395-417.

Queenan, J. (1991). Exotic Indicators Give Paul Macrae Montgomery a Forecasting Edge. *Barron's National Business and Financial Weekly* 71, No. 22. p.10

Ricciardi, Victor & Simon, Helen K. (2000, Fall). What is Behavioral Finance?, *Business, Education & Technology Journal*, 2 (2), pp. 1-9.

Shefrin, Hersh M. (2001, Fall). Behavioral Corporate Finance, *Journal of Applied Corporate Finance*, 14 (3).

Shiller, R. J. (2003, Winter). From Efficient Markets Theory to Behavioral Finance, *The Journal of Economic Perspectives*, 17 (1), pp. 83-104.

Stalker, K. (2005). Magazine Covers Often Signal the Top of a Great Stock's Rally. *Investor's Business Daily* 22 June:B07.

Timmermann, A. & Granger, C. W. J. (2004). Efficient market hypothesis and forecasting, *International Journal of Forecasting*, 20, pp.15-27.

Tsang, Edward P. K., Butler, James M. & Li, J. (1998, August). EDDIE Beats the Bookies, *Journal of Software: Practice and Experience*, 28 (10), pp. 1033-1043.

Van Rensburg, P. (2002). Market Segmentation on the Johannesburg Stock Exchange II. *Journal of Studies in Economics and Econometrics*, 26 (1), pp. 1-16.

Van Rensburg, P. & Stanley, K. B. E. (1997). Market Segmentation in the Johannesburg Stock Exchange. *Journal of Studies in Economics and Econometrics*, 23 (3), pp. 1-23.

Vega, C., (2006, October). Stock price reaction to public and private information, *Journal of Financial Economics*, 82 (1), pp. 103-133.

Zikmund, W. G., (2003). Theory Building, J. Calhoun (Ed.), *Business Research Methods*, 7th Edition, pp. 40-51. South-Western: Cengage Learning.

Zikmund, W. G., (2003). The Research Process: An Overview, J. Calhoun (Ed.), Business Research Methods, 7th Edition, pp. 53-75. South-Western: Cengage Learning.

Zikmund, W. G., (2003). Experimental Research, J. Calhoun (Ed.), Business Research Methods, 7th Edition, pp. 256-290. South-Western: Cengage Learning.

Zikmund, W. G., (2003). Bivariate Analyses: Tests of Differences, J. Calhoun (Ed.), Business Research Methods, 7th Edition, pp. 519-546. South-Western: Cengage Learning.