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Share Price Reaction to Public Announcements Emerging Markets: a Case of the Zimbabwe Stock Exchange Listed Companies

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Abstract
On any Stock Exchange, share prices rise and fall depending, largely, on market forces. These market forces are determined by information dissemination to the market. There have been periods when the Zimbabwe Stock Exchange (ZSE) move drastically up and down, but without any apparent economic news or stimulus, therefore it has become hard to predict share prices or to explain changes in stock prices using fundamental news. This research examines movement of returns to a portfolio of stocks after public news about them is released. It also examines why other stocks move to high returns without identifiable public news. The intention of the methodology in this research was to measure the extent to which individuals and corporates regard the operations and reaction of the Zimbabwe Stock Exchange prices. Considering that there is limited comprehension of the stock exchange by the general masses, a sample was drawn from only a few knowledgeable individuals. Also, two portfolios of stocks with and without public news were analyzed for a period. Results show that there is a major difference between return patterns for the two portfolios. There is evidence of post-news movement, which supports the idea that investors react to information. This is strongest after good or bad news. There is also some evidence of reversal after extreme price movements that are unaccompanied by public news. The patterns are seen even after excluding earnings announcements, controlling for potential risk exposure, and other adjustments. There is also evidence that trading frictions, such as short-sale constraints, may play a role in the post news reaction pattern. It is therefore justified to conclude that share premium is not purely determined by the stock's intrinsic value and that share prices are not always driven by market fundamentals.
Keywords: public, fundamentals, portfolio, risk

1. Introduction

The first stock exchange in Zimbabwe opened its doors shortly after the arrival of the Pioneer Column in Bulawayo in 1896. It was however only operative for about 6 years. Other stock exchanges were established in Gwelo (Gweru) and Umtali (Mutare). The Mutare Exchange, also opened in 1896, thrived on the success of local mining, but with the realization that deposits in the area were not extensive, activity declined and it closed in 1924. After World War II a new exchange was founded in Bulawayo by Alfred Mulock Bentley and dealing started in January 1946.

A second floor was opened in Salisbury (Harare) in December 1951 and trading between the two centres was done by telephone. Traders continued working by telephone until it was decided that legislation should be enacted to govern the rights and obligations of the members of the Exchange and the general investing public.

The Zimbabwe Stock Exchange Act reached the statute book in January 1974. The members of the Exchange continued to trade as before and it became necessary for legal reasons to bring into being a new Exchange coincidental with the passing of the legislation. The Exchange dates from the passing of the Act in 1974, and is operated and regulated in accordance with it and its amendments, including 1996's Zimbabwe Stock Exchange Act : Chapter 24:18.(Mponda, 2003)

On any Stock Exchange, share prices rise and fall depending, largely, on market forces. Share prices tend to rise or remain stable when companies and the economy in general show signs of stability and growth. This hasn't been the case in Zimbabwe. In 2008, Zimbabwe had the fastest shrinking economy in the world (outside war zones) yet its stock market were performing wonders both in US$ and in Z$ terms. This implies Zimbabwe market has a unique situation because the stock market firmed when the economy was declining (Coronation Advisory, 2011).

Past researches claim that there is a large amount of evidence that stock prices are predictable. Some research shows that stock prices appear to move after important corporate events for up to several months. This suggests that some of the movement is driven by under reaction to information. However, there are also numerous days when financial markets move dramatically, but without any apparent economic news or stimulus. In other words, there appears to be "excess volatility" in asset prices. This suggests that investors may react (or overreact) to unobserved stimuli. These two phenomena raise an interesting question. Is there a predictable

difference between stock returns after public news announcements and returns after large price movements, but no public news? (Chinyama, 2007)

Share prices on the ZSE are so volatile that it has exceeded simple models with rational expectations; therefore it has become hard to predict share prices or to explain changes in the ZSE using only fundamental news. Present theories and models explain spikes in trading returns as a result of a combination of fundamental news about the company. There is no explanation why the ZSE prices sometimes move without fundamental news and also not move when fundamental news is announced.

Research Questions

To fully assess and examine this problem, there is a need to break down the research topic into questions that the research must address;

- Is there a particular relationship between ZSE stock price change and fundamental news?
- Do some punters have the capacity to influence the fare price of any counter on the ZSE outweighing the general market forces of demand and supply?
- Is the ZSE efficient? Does it rely on fundamental news when determining stock prices?
- Is there one specific model that can be used to fully explain the ZSE price movements?

2. LITERATURE REVIEW

2.1. Market reaction to News

A Stock Exchange is a formal organization, approved and regulated by the Securities and Exchange Commission (SEC), which is made up of members that use the facilities to exchange certain common stocks. A classic documentation of a mismatch between fundamental news and stock prices by Shiller (1981) concludes that stock prices are too volatile to be explained by changes in one fundamental such as dividends announcement. But, according to the efficient market hypothesis (EMH), only changes in fundamental factors, such as profits or dividends, ought to affect share prices (Seyhun, 1997).

Psychological factors may result in exaggerated stock price movements. Psychological research has demonstrated that people are predisposed to 'seeing' patterns, and often will perceive a pattern in what is, in fact, just noise. In the present context, this means that a succession of good news and bad news items about a company may lead investors to overreact positively and negatively (unjustifiably driving the price up and down). A period of good returns also boosts the investor's self-confidence, reducing his (psychological) risk threshold (Mitchell et al, 1994). Mitchell et al (1994) also postulated that another phenomenon, also from psychology, that works against an objective assessment is group thinking. As social animals, it is not easy to stick to an opinion that differs markedly from that of a majority of the group. For example; people generally prefer to have their opinion validated by those of others in the group.

2.2. Changing Fundamentals

Most direct influence on a stock's price is a change in the economic fundamentals of the business. If revenues and profits are on a steep upward trend with no indication of leveling off, you can expect to see the stock price rise as investors bid up this attractive company (Shiller, 1981). On the other hand, Goldberg and Tenorio (2001) postulate that if the profit picture is flat or, worse; declining with no change in sight, look for investors to abandon the stock and the price to fall.

However, these are simple examples of changes in fundamentals. Other, more complex and subtle changes can occur that may not dramatically affect the stock price immediately (increased debt, a poor acquisition and so on can also trigger price changes). This means changes in the underlying business have a direct impact on the stock's price.

2.3. Trading Friction

Goldberg and Tenorio (2001) believed that some investors are slow to react to information, and transaction costs prevent arbitrageurs from eliminating the lag between public announcement and investors' reaction. This implies that it takes some time to see the full impact of a single news item on a stock, due to frictions. Investors are slow to respond to valid information, which causes movement and they overreact to price shocks, causing "excess" trading volume and volatility and leading to reversal.

These arguments are also consistent with a richer set of theories that try to explain short-run under reaction and long-run overreaction in terms of investor behavior. Fama (1998) suspects that the abnormal reaction literature focuses only on events that show interesting results.

Other events that are similar but have no unusual patterns are not reported, which gives the impression that reaction is prevalent when it is not. Analysts claim that investment fundamentals on the Zimbabwe Stock Exchange are easy to understand. As always the case, ordinary shares offer good protection against inflation (Mponda, 2007).

Despite forty years of research by financial economists, the debate continues over how fast information about a security's value is incorporated into prices. Most of the results of stock returns after specific news items seem to fall on the side of under-reaction, which is defined as average post-event abnormal returns of the same sign as event date returns (abnormal or raw). The main examples include signaling events such as dividend initiations and omissions, which are covered by Michaely and Womack (1995) and others document reaction after earnings surprises for up to 12 months after the initial surprise. Michaely and Womack (1995) found a lag in response to changes in analyst recommendations.

2.4. Changes in Capital Structure

Investors also seem to be slow to react to capital structure changes (Ikenberry and Vermaelen, 1995). They found reaction after tender offers, but Loughran and Ritter (1995) found it after seasoned equity offerings. Gompers and Lerner (1998) also documented reaction after venture capital share distributions. Seyhun (1997) found profits to mimicking the large trades of insiders and La Porta et al (1997) explicitly link earnings surprise and valuation levels, showing that high book-to-market stocks experience more positive surprises than low book-to-market stocks. Important evidence that contradicts the view that investors under-react include results for acquiring firms in mergers and proxy fights, apparent reversal for new exchange listings and a host of different observed return patterns for Initial Public Offers (IPOs), depending on the horizon (Ritter, 1991). Warner (1997) cast doubt on the conclusions of event studies by explaining ways in which the statistical tests used in these researches are biased.

Fama (1998) vigorously challenges the conclusion that investors have abnormal reactions to events. He observes that the above patterns present no consensus on investor reactions, and some disappear entirely after accounting for size and book-to-market effects. Also, apparent post-event movements need not be inconsistent with market efficiency, as various shifts in risk-factor returns and changing statistics can explain some return patterns. Brown and Tinic (1993) examine risk changes in response to large price swings for a group of large stocks, and find evidence that stocks' risk exposure can explain post-event return differences.

2.5. Analysts Recommendation

Lee and Swaminathan (2000) argue that one cannot truly know the response of stock prices to IPO announcements since the stock does not trade when an IPO is announced. Loughran and Ritter (2000) have an opposite interpretation based on the same fact; bulls are linked to bears, conditional on trading volume, and look at it in the context of earnings movement, as do Jegadeesh, and Lakonishok (1996). One view is that stock momentum arises because investors ignore news, just as they appear to do in the case of the some event studies. Hong, Lim, and Stein (2000) show evidence to support this assumption. They find that constant declining is strongest in stocks that have no analyst coverage. They interpret this to mean that research analysts play an important role in disseminating information, such as when they recommend some specific counters to form the nucleus of any portfolio construction for investors.

However, Lewellen (2000) has challenged the interpretation that under-reaction drives momentum. He finds no autocorrelation for portfolios, but instead a strong cross-relation across groups of winners and losers.

2.6. Market Volatility

There is some evidence that investors overreact to price movements and trade more than they should. French and Roll (1986) find that the variance of stock returns is larger when the market is open than when it is closed, even when similar amounts of information are released. This implies that the act of trading increases volatility. Cutler and Summers (1989) look at the relations between extreme market-wide returns and major business stories from the Financial News papers. They conclude that neither economic variables nor news stories can fully explain aggregate price movements.

Roll (1988) looks at the R_2 for regressions of daily and monthly stock returns on Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Trade (APT) factors and finds that much of the variance in returns is unexplained. Mitchell and Mulherin (1994) document that while news moves aggregate market returns, the relationship is not very strong. Also, Brad Barber and Terrance Odean (1994) find that individual investors trade too much and perform poorly relative to buy and hold strategies. They tend to sell bulls and avoid selling bears, which might slow the incorporation of information into prices. In contrast, institutional investors seem to herd, although it is unclear whether or not this affects prices. The literature indicates that they suffer no future losses from herding. As a result, the researcher describes reaction to news as a “pervasive regularity”.

2.7. Modeling Investors Behaviour

Hirshleifer (1998) used two well-documented psychological characteristics, overconfidence and biased self-attribution, to model investor behavior. This results in investors holding too strongly to their own information, and discounting public signals. Shleifer and Vishny (1998) rely on two other patterns, conservatism and the

representativeness heuristic. They hypothesize that investors change sentiment about future company earnings based on the past stream of realizations, and discount recent information. Hong and Stein (1999) present a model, not tied to specific psychological biases, with two classes of traders. One group ignores the news, but reacts to prices. This causes under-reaction initially and subsequent overreaction. The other group always respond to news, but does not react to prices, this causes over-reaction initially and subsequent under-reaction.

Naturally, all these three theories generate the observed patterns. However, they differ in their specific assumptions. The first one states that there will be under-reaction to public information, and overreaction to private information. The second one assume that investors will overreact or under-react to news depending on the stream of past news. The third one assume that investors will under-react to news and overreact to pure (that is, non-information based) price movements.

Since it is difficult to find price movements that have no component, their models split signals into two groups: personal (used by informed investors only) and external (available to all). Public information is not strictly defined; for instance, informed investors could read the newspaper and interpret the information in a headline as a "personal" signal. However, it seems reasonable to equate public news with external signals. Of private signals ex-ante, the assumptions of these models will be hard to separate empirically. This research will look at these assumptions by separating stocks by news incidence using these headline news.

To fill in the gap of modeling future share prices and trading quantities, this research proposed a model that establishes the relationship between these two variables.

2.8. Proposed Model on how to Forecast share price

This research combines some variables to propose a model for share price movements.

2.8.1. Assumptions

- The researcher contend that there is poor "fundamental" value of a security($\mathbf{V_S}$), and that accurately forecasting the value of a company beyond a short period is extremely difficult if not impossible.
- The Multiple Regression Model (MRM) forms the basis of this model
- The modeled value of a security is simply the net product of all the expectations of all the analysts and money managers about each of the variables that they believe affect the intrinsic value of the security; all of this is subject to great uncertainties.

Note: These values are purely subjective

The following are major variables on which the share price of a company depends:

- Future revenues(**X**)
- The future costs to produce these goods or services(**Y**)
- The appropriate discount rate/cost of capital($\mathbf{K_C}$)

Each of these variables themselves is created by several other fluctuating variables, in the case of revenue forecasting, future demand for the company's product or services and the level of competition for these dollars are just two variables that combine to create the overall revenue forecast

$$\mathbf{X = Future\ Demand\ (p) \times Competition\ (q)^{-1} = pq^{-1}}$$

Future Demand (p)

Demand is determined by other secondary variables like time and price

Let $\mathbf{p = a_1x_1 + e_1}$

where $\mathbf{a_1}$ = constant

$\mathbf{e_1}$ = error term

$\mathbf{x_1}$ = price variable

$\mathbf{x_1 = c_1 + d_1t}$

where $\mathbf{d_1}$ = constants

$\mathbf{t}$ = time

$\mathbf{c_1}$= error term

Competition (q): on competition, it is quantified through the number of competitors available in the market. There is difficulty in accurately forecasting any fundamental value because one cannot quantify the competitive dynamics of an industry, even though most financial modelers create simple linear flow models, which are not as representative of a dynamic entity like a company.

$\mathbf{q = a_2\sum(y_1 + y_2\text{……..}y_n) + e_2 = a_2\sum(y_n) + e_2}$

where $\mathbf{a_2}$ = constants

$\mathbf{y_2}$ = variable (number of competitors from 1……n)

$\mathbf{e_2}$ = error term

Related modeling

Advances in the field of physics, particularly that from the field now known as complex adaptive systems, show that dynamic systems (this is, those in which the variables within the overall system interact with each other as well as upon the overall system) with as few as three variables can produce essentially random results. In short, chaos and chaotic outcomes exist within some of the simplest systems – yet a company's economic future has dynamics far more complicated than 3 or 4 variables. Of equal importance to the number of variables is the fact that all of them are expectations-based. The only basis, outside of the skill of the forecaster and analyst, on which to believe that these future expectations will be realized, is historical precedent, forcing the analyst to drive forward by looking mostly behind. Net, human forecasting abilities are not very good beyond a few months at most.

Fig 1 Cost of production(Y)

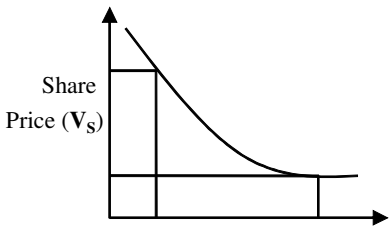
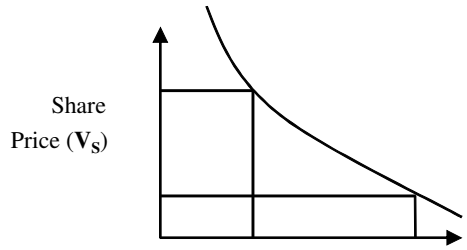


Fig 2 Cost of Capital (K_C)



Source: Primary Data

From this we can conclude that;

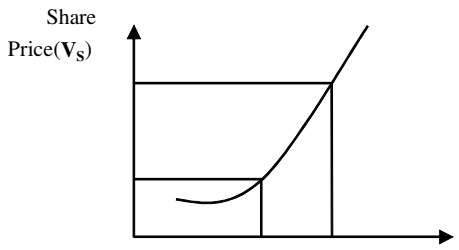
$\mathbf{V_S = h/Y + e_3}$ **(1)** $\mathbf{V_S = l/K_C + e_4}$ **(2)**

Where $\boldsymbol{h}$ = constant and $\mathbf{e_3}$= error term where $\boldsymbol{l}$ = constant and $\mathbf{e_4}$= error term

Fig 1.1 represents that there is an inverse relationship between current share price (V) and expected production cost (Y). This theoretically because increased cost of production means reduced profit margins.

Fig 1.2 represents that there is an inverse relationship between current share price (V) and expected cost of capital (K). Therefore, increased cost of capital discourages future capitalization of the business.

Fig 3 Future Revenues(X)



Source: Primary Data

From this relationship,

$\mathbf{V_S = kX = k\ (pq^{-1}) + e_5}$ **(3)**

Fig 1.3 represents the positive relationship between current share price (V) and expected revenues (X)

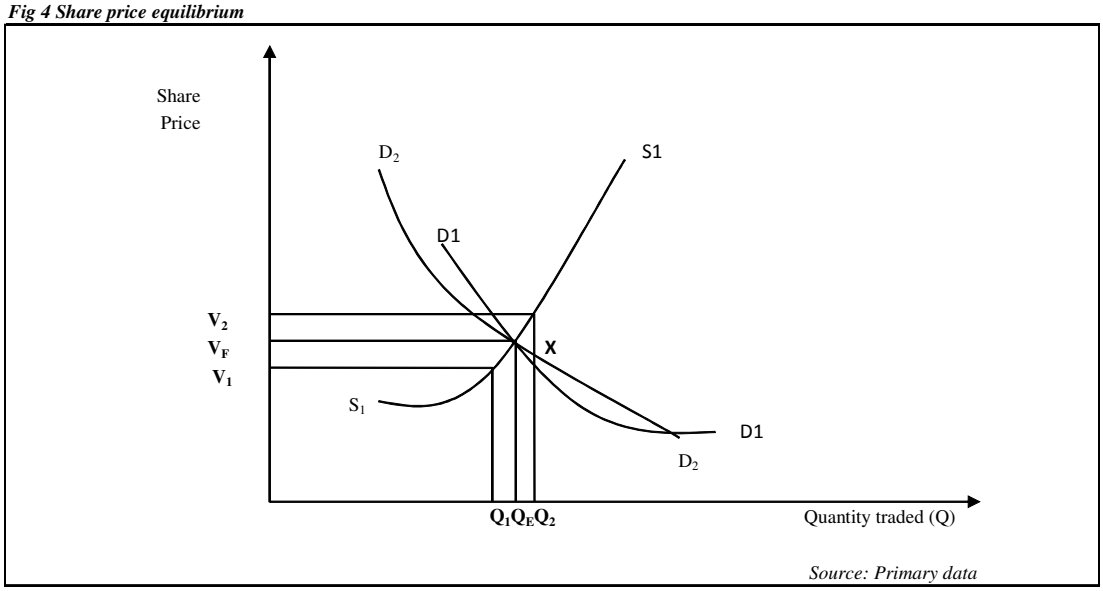
Therefore;

$\mathbf{V_S = h/Y + e_3}$ **(1)**

$\mathbf{V_S = l/K_C + e_4}$ **(2)**

$\mathbf{V_S = k\ (pq^{-1}) + e_5}$**(3)**

Fig 4 Share price equilibrium



Source: Primary data

X=where the 3 graphs meet

2.9. The Model

Fig 1.4 shows the combination of the graphs for expected cost of production, expected cost of capital and expected revenue. The relationship among the three core variables determines the equilibrium share price (V) and the equilibrium quantity to be traded (Q_E).

$\mathbf{V_F = h/Y + e_3 = \mathit{l}/K_C + e_4 = k\,(pq^{-1}) + e_5}$

Where $\mathbf{V_F}$= fair share price

$\mathbf{Y}$= production cost

$\mathbf{X = pq^{-1}}$= future revenues= future demand x future competition^{-1}

$\mathbf{K_C}$=cost of capital

h, l and **m**=constants

$\mathbf{e_3}$,$\mathbf{e_4}$ and $\mathbf{e_5}$= r = error term

2.10. Arguments against Fundamentals

Those who do not use fundamental analysis have two major arguments against it. The first is that they believe that this type of investing is based on exactly the kind of information that all major participants in publicly traded markets already know, so therefore it can provide no real advantage.

The second is that much of the fundamental information is often up to the person looking at it to interpret its significance. Although gifted individuals can succeed, some researchers argue that, an average person would be better served by not paying attention to this kind of information (Barber and Lyon, 1997).

2.11. Stock Market Forces

At the stock exchange, share prices rise and fall depending, largely, on market forces. Share prices tend to rise or remain stable when companies and the economy in general show signs of stability and growth (Barber and Lyon, 1997).Therefore, the movement of share prices and in general of the stock indexes can be an indicator of the general trend in the economy.

This hasn't been the case in Zimbabwe. This implies Zimbabwe has a unique situation because the stock market has firmed when the economy was collapsing. This has happened because all excess funds have been forced into the stock market due to lack of any meaningful and legal options (Mambondiani, 2007).

2.12. What Causes Extreme Returns?

Sometimes the market tends to react irrationally to economic news, even if that news has no real effect on the technical value of securities. Therefore, the stock market can be swayed tremendously in either direction by press releases, rumours, euphoria, institutional investors and mass panic. Over the short-term, stocks and other securities can be battered or buoyed by any number of fast market-changing events, making the stock market difficult to predict (Ogbulie, 1998).

2.13. Institutional Investors

Statistics show that approximately 90 percent of shares on the ZSE are held by large corporates. (Dominguez,

1999). A few heavily capitalized top tier counters are at the vortex of any upswing. The prices of these shares are mostly prohibitive for ordinary investor, the shares in circulation are also tightly held by a few institutional investors. A bull run can be easy to manufacture, induced demand on a few counters can cause a rally or a tailspin.

3. RESEARCH METHODOLOGY

This researcher explores some estimation techniques which were adopted in this study in investigating the relationships among the fundamentals of concern. This researcher adopted descriptive research method, surveys, as the major way of gathering information. This is because the researcher wants to collect data on a phenomenon that cannot be directly observed, this is opinions on stock price reaction. In this survey, the researcher took representative samples from each sample population.

3.1. Research Design

This served as the overall guide upon which the research was being carried out and therefore directs the flow of the whole project. Since the research was centered on evaluating the share price reaction to public news, the research had, as its scope, statistical analysis of the Zimbabwe Stock Exchange results. It focused on share market participants and market analysts' views on its reaction, and to a greater extent, the daily operations of the local bourse itself. The researcher adopted interviews and questionnaires as research designs. Greater analysis was given to the daily, weekly and monthly market results because these results explicitly show the supply and demand patterns for share market.

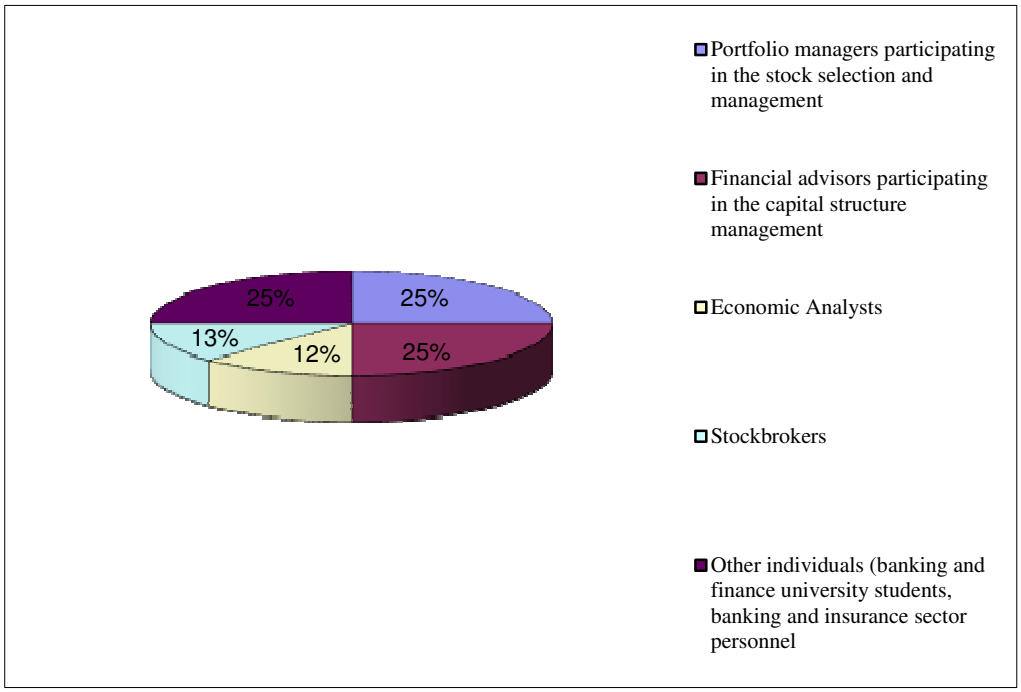
3.2. Target Population

The research targeted stock market participants such as portfolio managers, financial advisors, stockbrokers, and other stock market punters since they are directly affected by outcomes of the each trading on the bourse. Hence they are in a position to comprehend and appreciate the level of the market movement. Economic consultants and analysts were also targeted because they have knowledge about the system and are likely to provide informed decisions when giving their views. A number of finance scholars were also consulted since many of them can comprehend how the stock exchange system of a country should operate.

3.3. Sampling

Considering that there is limited comprehension of the stock exchange by the general masses, the sample was drawn from knowledgeable individuals including economic analysts, financial personnel, brokers and other knowledgeable University students .The distribution of research questionnaires is shown in the chart below.

Questionnaire distribution



Source: Primary Data

Primary Data collection

In primary data collection, the intention was to measure the extent to which individuals and corporates regarded the operations and reaction of the ZSE prices thus questionnaires were used. Qualitative and quantitative questioning was used to obtain this information. Qualitative questioning sought in-depth, open-ended responses. This method was employed because it was intended for respondents to share their thoughts on the topic without giving them many directions or guidelines about what to say. The effect was that the views of the respondents were clearly understood.

Structured questioning was also used with the aim of achieving more objective results. Use was made of identical questions and response alternatives in order to summarize the data quantitatively. The structured responses were summarized in numbers (percentages and averages). Calculations and conclusions on the reaction of the stock exchange prices to fundamentals were made. The average figure was then calculated and respondents' views summarized.

Survey questionnaires were used in the research to provide responses to questions. The aim was to simplify analysis of the responses. The multiple-choice approach also made it easier and faster for respondents to reply. The fixed responses were also more convenient for computer analysis, compared to open-ended questions. The attitudes and opinions of respondents were also measured by making the respondents indicate how much they agreed or disagreed with a questionnaire statement through using different levels of attitudes. Respondents were made to rate the Exchange through rating 'excellent', 'good', 'fair' and 'poor'.

Questionnaires were specifically designed for bourse's participants, economic analysts and consultants as well as knowledgeable individuals informed about the Exchange such as bankers, insurers and university commerce students. The structure of the questionnaire was such that information regarding the project could be easily obtained. To reduce chances of a low response rate, the questionnaires were personally delivered.

3.4. Secondary Data collection

The researcher also used desk research to gather data from academic journals, documents over the internet, newspapers and textbooks on the research area. These sources were preferred because more information was obtained without consuming much time. Extensive use of desk research in this research was particularly useful as such information would facilitate an objective assessment of the effectiveness of the system through recorded and observable results. Given the sensitivity of the research to the political environment, the researcher's conclusions were mainly based on information provided by secondary data sources compared to primary data which captured a lot of emotional rather than objective assessments. Secondary data was comparatively easy to obtain since the stock exchange results were available on the ZSE website. This was relatively cheaper and less time consuming.

3.5. Validity and reliability of data collection

The instruments used in this research were effective in gathering quality data that enabled them to measure what they were supposed to measure. In other words, validity is concerned with the soundness and effectiveness of measuring instrument. This required the instruments to be used in gathering data to be tested and tried before used. It was therefore necessary to pilot test the questionnaire and interviews on respondents similar to intended sample of the study so that the weaknesses could be identified and corrected. This brought up many issues that needed to be resolved in advance such as pacing, how long to wait for responses, what to do when the respondents says l don't know and so on. The pilot test helped the study to reduce the unwanted differences between the interviews and increased ultimate reliability of questionnaires and interviews. Feedback from the pilot sample resulted in rephrasing and modification of ambiguous questions.

4. DATA PRESENTATION AND ANALYSIS

Since the data collected was both qualitative and quantitative in nature, the data was presented using pie charts, tables, line and bar graphs as well as through narrations. Presentation of quantitative data using charts and graphs help to give meaning to the raw figures obtained during the research.

Data presentation concerns the way the research findings are put forward for reporting. Tables, graphs and pie charts, such presentations enabled the researcher to report findings through illustrations and thus enabling the researcher to relay the findings to those concerned easily.

Data was collected through questionnaires which were distributed as follows;

Group of respondents	Number of questionnaires
Portfolio managers participating in the stock selection and management	10
Financial advisors participating in the capital structure management	10
Economic Analysts	5
Stockbrokers	5
Other individuals (banking and finance university students, banking and insurance sector personnel	10
TOTAL	40

These questionnaires had a 95% response rate

4.1. Stock analysis

A sample of 40 stocks was randomly selected from the ZSE listed counters. The counters were then put into 2 groups: News and No News stocks, 18 stocks had no news and 22 stocks had significant news for 90 days. The published news and the percentage return are recorded on charts below. This is done to see if there are any trends in the movement of returns after news publications.

Portfolio of "News" summary for 90 days

Counter	% Return	Stock News
Medtech	-4.90	Medtech in $US2 million dispute
Medtech	-6.25	Medtech ups stake in Raymond International
Delta	-8.57	in a 1$US million Loss; omits dividend
Powerspeed	-5.00	Chairman resigns
Powerspeed	3.33	Powerspeed new Chairman proposes management buyout
Powerspeed	-6.25	Powerspeed new Chairman withdraws buyout proposal
CBZ	-8.70	ABSA relinquishes its 34% stake in CBZ
Africasun	7.69	Africasun on a regional expansion drive
Barclays	-6.67	foreign owned banks to be affected by indigenization bill
BAT	-8.00	low tobacco volumes, drought sited
Bindura	17.39	new markets in the EAST
Celsys	13.33	net profit declines, plans cost cuts; starts new membership club
Nicoz Diamond	11.33	MD wins award
Dairyboard	7.69	Chairman win award
CBZ	16.67	Buys Beverley facility
Edgars	-5.88	Clothing retail shops hard-hit by economic challenges
Econet	21.95	Reveals capital spending/expansion plans; names new directors
FBC-H	7.89	Reports year-end net
Renaissance	-6.82	on FML takeover bid
Gulliver	1.56	opens another regional office
Hwange	-21.21	on the troubled companies list
Pearl properties	-7.69	IPO caught the flu with the IPO results indicating an under subscription
Pearl properties	9.38	Medtech Financial Chief resigns
Lafarge	47.06	circle cement change name to Lafarge Cement
Dawn	9.76	diversifying portfolios of properties Industrial, Retail and Office sectors
ABC	13.33	Beats earnings expectations
KMAL	34.62	Nigel Chanakira head the KMAL conglomerate
KMAL	5.00	KMAL to be by far the biggest conglomerate on the ZSE since its establishment
KMAL	20.00	KMAL announced it is immediately seeking to raise US$100 million most likely to facilitate regional expansions
ABC	30.43	ABC Holdings successfully raised US$20 million from IFC for its own regional expansion

Portfolio of " No News" summary for 90 days

Counter	% Return
Afdis	-0.90
Apex	-2.5
Ariston	7.7
Border Timber	2.00
AICO	2.3
CAFCA	-1.25
Cairns	6.70
CAPS	6.9
CFI	-6.7
Falcon Gold	-3.00
Hippo Valley	7.29
Hunyani	4.3
Interfresh	-1.33
M & R	5.9
NTS	7
OK Zimbabwe	0.78
Old Mutual	1.95
PPC	3.89

4.2. Model validation

This research also adopted trend analysis on 2 randomly selected counters from a portfolio of both news and no news stocks. This is done to determine the extent to which cost of capital, future revenue and production costs affects current share prices. Data is quantified as follows:

- To determine future demand, the researcher analyzed current prices using Regression analysis.
- Competition is quantified from the number of current recognizable competitors selling the same goods or services.

The following tables shows the Equilibrium prices of stocks over 21 days derived from the model which is assumed to be actual prices of stocks at that particular time.

Kingdom share price for the month of April 2011

Days	V_F $ Actual share price	$X Future revenue	KC^{-1} Cost of Capital	Y^{-1} Production costs	$X(E) Equilibrium price
1	9.11	8.5	7.4	7.3	8.3
2	10.5	8.0	8.3	9.3	10.3
3	11.2	11.8	12.2	11.0	11.0
4	11.5	17.6	12.1	11.0	11.0
5	11.7	16.0	12.0	11.3	11.3
6	12	15.0	11.9	11.0	12.0
7	13.1	14.8	14.8	11.8	12.8
8	13.4	14.2	13.8	12.0	13.0
9	13.7	14.0	13.6	13.8	13.8
10	14.1	14.0	14.4	13.8	13.8
11	14.4	13.8	14.3	14.6	14.6
12	14.6	13.0	14.2	14.0	14.0
13	14.5	12.3	14.2	14.5	14.5
14	15.7	12.3	14.5	15.8	15.8
15	15.99	12.0	12.5	11.8	15.8
16	16.89	11.8	16.2	11.5	16.5
17	17.5	11.6	17.1	16.0	17.0
18	17.88	11.4	16.1	16.1	17.1
19	17.9	11.1	17.1	17.0	17.0
20	18	11.1	17.1	18.0	18.0
21	18.01	19	18.6	18.0	18.0

Econet share price for the month of April 2011

Days	V_F $ Actual share price	$X Future revenue	KC^{-1} Cost of Capital	Y^{-1} Production costs	$X(E) Equilibrium price
1	16.1	17.5	17.4	17.3	16.3
2	16	17.0	18.3	19.3	16.3
3	16.1	16.8	16.2	17.0	16.0
4	16.5	17.6	15.1	17.0	16.0
5	16.7	16.0	15.0	17.3	16.3
6	17.2	15.0	16.9	17.0	17.0
7	17.1	17.8	16.8	17.8	17.8
8	17.4	17.2	16.8	18.0	17.0
9	17.7	18.0	16.6	18.8	17.8
10	17.1	18.0	16.4	18.8	17.8
11	17.4	18.8	17.3	17.6	17.6
12	17.6	18.0	18.2	17.0	17.0
13	17.5	18.3	18.2	18.5	18.5
14	17.7	18.3	18.5	18.8	17.8
15	17.9	18.0	18.5	17.8	17.8
16	19.9	19.8	19.2	18.5	19.5
17	21.5	19.6	19.1	18.0	21.0
18	23.5	20.4	26.1	19.1	23.1
19	25	21.1	27.1	20.0	27.0
20	28	21.1	27.1	21.0	28.0
21	28	21	28.6	22.0	28.0

Results

The response rate for questionnaires

Group of respondents	**Number of questionnaires**	**Returned**	Response rate (%)
Portfolio managers participating in the stock selection and management	10	8	80
Financial advisors participating in the capital structure management	10	7	70
Economic Analysts	5	4	80
Stockbrokers	5	4	80
Other individuals (banking and finance university students, banking and insurance sector personnel	10	7	70
TOTAL	40	32	80

Source: Primary data

4.3. Views on the performance

From the respondents, eighty percent recommended the ZSE as a high commendable investment option regardless of it being the only available legitimate investment option hedging against inflation. In rating on the reaction of the ZSE prices to news announcement, seventy percent of the respondents rated it as high, fifteen percent thought it was average and twenty percent rated it as low.

4.4. Views on the ZSE control

The majority of respondents rated success of the ZSE Act in promoting fair trade through prices determination by market force as satisfactory. The mainly sited explanation was the procedural acquisitions and mergers of such giant listed companies as KMAL and Renaissance. The other explanation was fair protection of minority shareholders through penalizing market manipulating companies and not authorizing unfair shareholding transactions. Eighty percent of the respondents strongly agree that the ZSE must continue to be controlled or managed, and that the forces of demand and supply must apply to avoid market biases

4.5. Views on the share price movement not accompanied by news

Seventy percent of respondents believed that it is mainly a product of speculation and the result is overvaluation and pricing bubbles. They gave the reason that every stock market punter takes a risk calculated move, which is

why share prices sometimes remain constant even if when corporate events or fundamental news about them is published to the market. They added that risk associated with the buying in the counter also results in share price declining even when positive news about it has been announced.

4.6. Respondents' views on the insider traders

Results from questionnaires and interviews shows that insider traders have been a major frictional force on the ZSE that has created an uneven playing field for ordinary stock punters. This view has been supported by 59% of the respondents. They said there are also unmentioned figures in some companies that make noises portraying a non-existing positive image that results in the share always being way above its market price. This most cited example was ZECO Holdings head by Mr. P.Chiyangwa.

4.7 Respondents' views on the trend of the ZSE share price

Eighty percent of the respondents believed that the ZSE shares follow the inflation trend. They expressed skepticism on the likelihood of coming up with an all inclusive model that can be used by any simple punters.

Fig 4 shows the number of observations in the randomly selected sample of ZSE stocks for the year 2007. This subset covers approximately one third of all the ZSE stocks.

News observations in Analysis

Month	Total stocks	Stocks with no-news	Stocks with news: 5days or less	6 days or less
Jan	30	16	4	10
Feb	27	14	8	5
Mar	43	19	5	19
Apr	45	19	6	20
May	54	18	6	30
Jun	33	14	9	10
Jul	44	18	20	6
Aug	40	15	17	8
Sep	38	9	15	14
Oct	39	17	16	6
Nov	40	5	16	19
Dec	45	3	23	19
average	39.83333333	13.91666667	12.08333333	13.83333333

Source: Primary data

From the stock news analysis, the proportion of news stocks rises rapidly from about 40% in the beginning of the year to about 60% in December. The total stock and news stock breakpoints are roughly equal.

Summary statistics of positive and negative stocks for the year 2007
Average market value (billions)

	Negative stocks			Positive stocks		
Month	all stock recordings	news recordings	no-news recordings	all stock recordings	news recordings	no-news recordings
Jan	322	232	90	235	116	119
Feb	238	178	60	608	389	219
Mar	531	455	76	428	89	339
Apr	316	260	56	892	302	590
May	482	444	38	620	225	395
Jun	779	700	79	614	290	324
Jul	855	834	21	581	420	161
Aug	1557	1479	78	872	630	242
Sep	1393	1321	72	533	232	301
Oct	1427	1318	109	1923	1228	695
Nov	1779	1713	66	2116	1430	686
Dec	1979	1912	67	2298	1179	1119
time series average	972	904	67.67	976.7	544.17	432.5

Source: Zimbabwe Stock Exchange, 2007

Average monthly returns

	Negative stocks			Positive stocks		
Month	all stock recordings	news recordings	no-news recordings	all stock recordings	news recordings	no-news recordings
Jan	-0.15	-0.13	-0.14	0.09	0.14	0.08
Feb	-0.14	-0.13	-0.13	0.1	0.1	0.1
Mar	-0.13	-0.12	-0.13	0.18	0.17	0.17
Apr	-0.15	-0.14	-0.15	0.1	0.1	0.12
May	-0.13	-0.11	-0.12	0.14	0.1	0.16
Jun	-0.12	-0.09	-0.09	0.19	0.22	0.21
Jul	-0.17	-0.16	-0.17	0.11	0.12	0.1
Aug	-0.17	-0.12	-0.12	0.22	0.24	0.27
Sep	-0.11	-0.11	-0.11	0.17	0.17	0.22
Oct	-0.15	-0.15	-0.14	0.28	0.17	0.15
Nov	-0.2	-0.2	-0.18	0.17	0.18	0.17
Dec	-0.14	-0.17	-0.11	0.25	0.29	0.25
Time series average	-0.147	-0.136	-0.133	0.1667	0.1667	0.1667

Source: Zimbabwe Stock Exchange, 2007

Figures above shows average month-end market values and returns for positive and negative stocks, subdivided as all, news and no-news. News stocks are selected from among those with at least one headline in the given month and no-news stocks are drawn from those with no headline. The stocks are divided by news and no-news incidence first, then by performance, to form portfolios. News and no-news breakpoints are the same, based on the performance of the news set, while "all" breakpoints use the entire sample. The time series are for the entire set of months

News, no-news and all portfolios have similar event month (time, **t**) returns no-news returns are more extreme in the tails. Finally, none of the winner or loser portfolios are extremely concentrated by industry. Portfolio stocks are by the 10 industries used by Grinblatt and Markowitz (1999), and calculate the cross sectional stock price index for each month. The monthly stock price averages are remarkably uniform across news/no-news and positive/negative stock categories, at about 8%. Given an average of 7 industries per portfolio each month, this implies that a single industry could account for at most about a third of the portfolio. Even this

is unlikely given the numerous stocks with headlines in the month, especially in later months.
Stock price index is
I= W (P_{it})
Where
I = index
W= weight
P_{it} =is the percentage of stocks in industry *i* in month *t.*
This is a measure of the industry concentration of the portfolio each month.

Cumulative returns (%) after portfolio formation

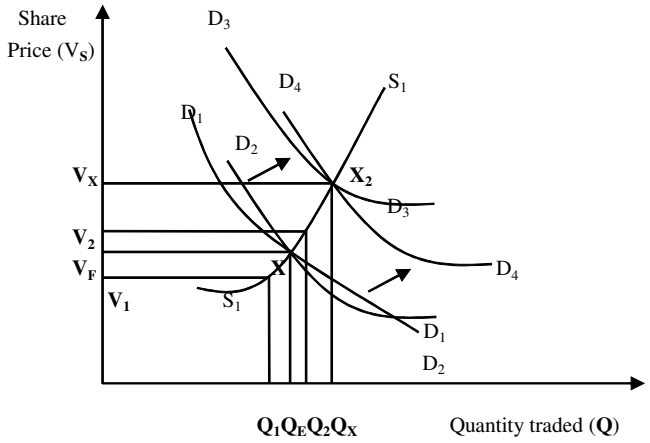
	all stocks		news stocks		no news stocks	
months	average	t-statistic	average	t-statistic	average	t-statistic
1	-0.15	-0.73	0.35	1.71	-0.8	-3.71
2	0.44	1	1.49	3.32	-0.8	-1.67
4	1.21	1.72	2.76	3.92	-0.74	-0.95
6	2.44	2.5	4.36	4.38	0.18	0.18
8	3.18	2.99	5.39	4.96	0.58	0.51
10	2.06	1.07	4.72	2.41	-1.07	-0.54
12	0.05	0.02	2.31	0.76	2.57	-0.9

Source: Primary data
Figure above shows cumulative returns to the investment strategy, out to12 months after the event month. Separating stocks on news incidence causes dramatic differences even in first month returns. While there are no statistically significant signs that the portfolio strategy is profitable for all and no-news sets, it is for the news set, which returns nearly 6% in the first twelve months. For the first month, returns are negative, especially for the no-news strategy, which loses almost 2%. This is in line with the results of Lo and MacKinlay (1990), who document positive returns to a short-term contrarian strategy up to one month. It takes the all strategy almost half a year to recover from the effects of the t + 1 surge. In contrast, not only do the news stocks experience less surge in month t + 1, they also have more decline than all stocks for most of the following year. The difference between news and all returns is statistically significant in the first 12 months.

4.8 Model Diagnosis and Validation

- Expected Future fair value of a share (V_F) and Expected future trading volume of a share(Q_E) is where all the three curves D_1D_I, D_2D_2 and S_1S_1 meet
- V_F can be deflected up or down between V_1 and V_2 due to the difficulty in accurately forecasting fundamental values because one cannot quantify such variables like the competitive dynamics of an industry.
- Q_E can be deflected between Q_1 and Q_2 because each of the variables themselves are created by several other fluctuating variables and quantification is by mere expectations therefore all of this modeling is subject to great uncertainties.

Share price equilibrium movement (Production and capital)

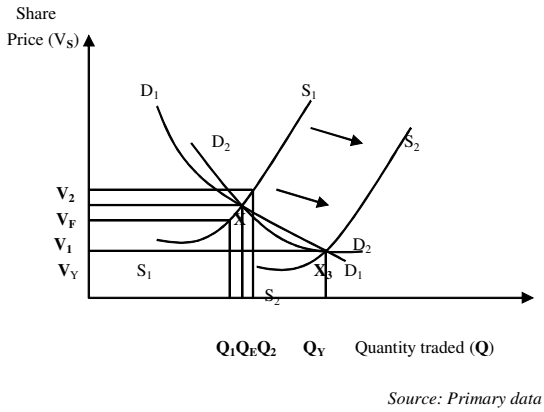


Source: Primary data

X and X_2=where the 3 graphs meet

In fig 5 above, if the graph for cost of capital (D_1D_1) shifts to the right (D_3D_3) cost of production (D_2D_2) also shifts to the right (D_4D_4) because capital (K_C) is a variable factor of production (Y). This shift results in the equilibrium share price moving from X to X_2 giving a new fair share price as V_X and equilibrium quantity traded as Q_X . Share price above V_X resembles overvaluation and recommended for a "sell", share price below V_X resembles an undervaluation and a "buy" is recommended. If quantity traded on the market is over Q_X means overtrading which mostly results in bubble pricing and overvaluation.

Share price equilibrium movement (Revenue)



Source: Primary data

X and **X_3=**where the 3 graphs meet

In fig 6 above, if the graph for future revenues (S_1S_1) shifts down to the right (S_2S_2), the new equilibrium price decreases to V_Y and equilibrium quantity traded increases to Q_Y because price of shares would have been reduced. X_1 moves toX_3

5 DISCUSSION OF RESULTS

Efficient Market Hypothesis (EMH) states that it is impossible to "beat the market" because stock market efficiency causes existing share prices to always incorporate and reflect all relevant information. But while academics point to a large body of evidence in support of EMH, an equal amount of dissension also exists. For example, investors such as Brains Muchemwa and Witness Chinyama have consistently beaten the market over long periods of time, which by definition is impossible according to the EMH. Detractors of the EMH also point to events such as the 2006 stock market downturn (reacting to the price control blitz by the government) as evidence that stock prices can seriously deviate from their fair values.

5.1 So what really drive share prices?

As more ordinary people directly invest on the Zimbabwe Stock market, as the amount of media has exploded (and media typically sensationalizes stories for maximal impact), and as professional investors increasingly resort to non economically derived factors of valuation while boosting their disposition to sell quickly, stock prices are increasingly driven by the sentiment, emotion, and psychology, all of which are driven by the various flows of information, such as news, media, and financial information channels. Managers of public companies are responsible for doing everything in their power to maximize shareholder value.

5.2 So what is the Intrinsic Value of a Security?

Despite the above, it seems reasonable to believe that there should be an intrinsic value of a security based on its delivery of a certain level of profit for a particular period in time. It is reasonable also to believe the stock price would trade in a range around this intrinsic value. This means, EMT theorists assume that the intrinsic value of a security should be pretty close to its present stock price.

In other words, the price of a stock in the market today impounds all known information, the rational thinking and expertise of the market participants set the fundamental value of a security, and the two are approximately the same. The trouble with this assumption is that the stock market price often does not converge to what the "fundamental" price should be – particularly if the marginal investor pays little attention to the concept of intrinsic value.

Given the difficulty of accurately forecasting the future beyond any short period of time, and that the fundamental value of a company is a constantly moving target as information arrives in the market, and that active money managers constitute the bulk of the market, it is difficult to conclude that the EMT test of examining active money management performance against overall market returns, particularly net of costs, is of any real use in proving market efficiency. But rather that stock prices depend on the expectations-setting processes of the market participants about many factors, not just the economic outlook for a company.

6 RECOMMENDATIONS

6.1 Summary of the research Findings

6.1.1 ZSE investors' reaction

The research has examined various views of investor reaction to news in an integrated framework. It has used a comprehensive sample of headlines for a large, randomly selected group of counters to test the hypothesis that the there is a positive relationship between share price and fundamentals. Results show that this is not always the case. Instead stocks that experienced negative returns concurrent with the incidence of a news story continued to underperform their size and event return matched peers. Stocks that experienced good news show fewer losses.

6.1.2 Causes of volatility

The actions of the stock market participants whose activity sets share prices are dependent on their expectations of what is likely to happen to the price of any given stock or that company's fortunes and these expectations are based on the flow of information in financial and media channels. Expectations are developed by people, and people have emotions – retail investors and professionals alike – so they can be volatile

6.1.3 Extreme returns

From the research findings, extreme return stocks that had no news headlines for a given month experienced losses in the subsequent month and little abnormal performance after that. The post-event loss is mainly after bad news. The conclusion of overreaction is somewhat weaker, since liquidity effects may drive the gains in returns. However, the gains continue to appear for a week pursuing a no-news strategy.

6.1.4 Earnings surprise

Earnings movement analysis on the research's news strategy shows that about 20% of the post-news movement comes from earnings surprise. Again, most loss movements come during months without earnings announcements, and most gain movements come from months with earnings announcements.

Another finding is that investors do not underreact to good news, except for positive earnings surprises. But this does not resolve the question of why investors would be "serially surprised" by good (earnings) news, and sell stocks with good news in later months that had no headlines.

6.1.5 Equilibrium prices

There is also a time for prices to return to equilibrium after a large, non-news motivated trade. Any pattern after that is more likely to be caused by something else. Ranking by idiosyncratic risk does not eliminate these results. Neither does weighting by number of news stories or excluding earnings announcements (which had previously shown losses). Buy-and-hold abnormal returns display the same pattern of news drift and first month no-news gain. Loss patterns do become less evident when weighting by market valuation, implying that under-reaction is mostly confined to small stocks. They also seem stronger for low-priced stocks, although the results hold for higher-priced stocks.

6.1.6 ZSE versus fundamentals

There is also evidence that the relations are less strong, but still economically significant, in more recent years. These results seem to confirm some assumptions of the DHS model of investor behavior or the HS model of two classes of investors (Coronation Advisory, 2008). Investors appear to underreact to public signals and overreact to perceived private signals. The stronger finding is for the news stocks. Very negative returns coupled with headlines seem to predict continued underperformance for up to twelve months. This result is more understandable if one considers the existence of different classes of investors. Most of the movement is on the downside among smaller, probably illiquid stocks. More sophisticated investors may not be able to arbitrage away the pattern, since shorting is more expensive than buying. This is supported by the fact that most negative movement happens over many months without new information in the press. Perhaps individual investors are more likely to own more illiquid stocks.

6.1.7 Unrevealing news reading

There are some months when a reading of the headline does not reveal if the news was good or bad. For example, acquisitions and ratings changes are accompanied by positive or negative returns. This suggests that it may be wise to rely on the market reaction to filter "good" and "bad" news. Some stocks display zero or slightly positive returns in some months, but may be classified as "negative", based on relative performance. Again, news does not appear auto-correlated, since a single stock can switch from being news positive to news negative several times in a year. This implies that any post news patterns are due to reactions to single news events, and not the accumulated reaction to multiple news events over an extended period.

6.1.8 Trading friction

The researcher found some signs that frictions play a role in bad news movement by slowing the incorporation of information into prices. The pattern of returns on headline and no-headline months for news positives implies a more complicated story, however. Stocks tend to go up when there is news, and go down when there is none. This seems logical given that uncertainty causes prices to be discounted, and the resolution of uncertainty would reduce this. Given the biases and errors that occur in modeling the fundamental value of a security it is difficult to conclude that fundamental forecasting is the only useful endeavor or that there is such a thing as an intrinsic price of a security, outside of providing a general rule of thumb to use as one consideration in an investment decision at a particular time. Economic activity occurs in the context of constant flux, and with it the value of any company. But rather, that stock prices depend on the expectations-setting processes of the market participants about many factors, not just the economic outlook for a company.

6.1.9 Expectations and stock price evaluation link to the model

Prices are therefore based on the expectations of the buyers and sellers of a stock. Expectations are driven by forecasts, which are extremely difficult to do accurately beyond a few days or months, and also by emotions, the hopes and fears of the individual. In each case the process starts and finishes within the human brain and is based on the expectations of the individual of the importance of the various factors, economic and psychological, driving a stock's price as well as their goals and their emotions.

7 CONCLUSION

The ZSE should remain an 'efficient' market (where current share prices factor in all publicly available information), so that it is not possible to consistently beat the market unless you are beneficiary of insider trading or had invested in a mutual fund. The advantage of the ZSE is exactly what surrounds it. The stock market is probably the only remaining 'free market' operating within a controlled economic environment. Price distortions and misallocations are bound to be obvious.

The most common and more accurate estimate of a stock's fundamental value is the average of the forecasts issued by financial analysts. However, some notable problems exist with using analysts' estimates of fundamental value. These include:

- The glaring problems of analyst bias and self-interest in the production of these forecasts. However, this is a problem only to sell-side research, which is likely the least used research for the purpose of fundamental analysis. Forecasting the future outcome for a company's stock price – that is dependent on up to hundreds of factors, each of which interacts with each other as well as on the stock price - is exceedingly difficult to do accurately.
- Analysts suffer from irrational thinking during the setting of the assumptions that underlie their models. Stocks they like - for whatever reason - will receive, say, a higher revenue growth forecast than stocks they don't like. Emotion has now dictated part of the "fundamental value" they ascribe to a stock (Jegadeesh and Titman, 1993)

The researcher suggests paying extremely close attention to the flow of information about a stock, such as the amount of information made available, the type of information that is being produced, how that information is being received and interpreted by the market participants. Investors should pay extremely close attention to how psychology and confidence levels generally, and that of market participants specifically,

impacts how information is received, processed, and expectations are formed or altered under differing environmental conditions. Regardless of whether a money manager uses fundamental analysis or technical analysis or even gut feel –a range broad enough to encompass probably all investment styles – all decisions ultimately proceed from the expectations and beliefs created by and constantly evolving as a result of information processed within the human brain.

Active money managers should stay ahead others with better understanding of information flows, how these impact people's expectations, and ultimately with quantitative insight into psychological drivers as well as economic drivers; finance professionals can stay ahead by understanding what are the different information flows about their company in the media and how to optimize their dissemination of information – their communications strategy – in order to minimize the impacts of bad news or maximize the impacts of good news.

REFERENCES

Agrawal, D. and Gershon, M. (1992) The post-merger performance of acquiring firms in acquisitions, 47(2): 217-236.

Barber, B. and Terrance, O. (2000) Trading is hazardous to your wealth: The common stock investment performance of individual investors, 55:456-469.

Barberis, M. and Robert, V. (1998) A model of investor sentiment, London: Longman.

Bernard, A. and Jacob, K. (1990) Evidence that stock prices do not fully reflect the implications of current earnings for future earnings (2nd Edition), London: Pitman.

Coronation Advisory (2007) An anatomy of trading strategies: Review of Financial Studies. 16(8): 953-63.

Cutler, M. and Lawrence, H. (1989) What moves stock prices? Journal of Portfolio Management, 17(1): 6.

Daniel, D. and Avanidhar, S. (1998) Investor psychology and security market under- and over-reactions: Journal of Finance, 4(4): 92-95.

Fama, M. and Eugene, F. (1998) Market efficiency, long-term returns and behavioral finance, Colombo: Heinemann Publishers.

French, R. and Richard, W. (1986) Stock return variance: The arrival of information and the reaction of traders: Journal of Financial Economics, 8(1): 16-17.

Grinblatt, M. and Russ, W. (1995) Momentum investment strategies, portfolio performance, and herding: A study of mutual fund behavior, New Dehli: Prentice hall.

Hong, H. (2000) Bad news travels slowly: Size, analyst coverage, and the profitability of momentum strategies: Journal of Finance, 67(5): 23.

Ikenberry, D. and Josef, L. (1993) Corporate governance through the proxy contest: Evidence and implications, New York: MacMillan Publishing Company.

Jegadeesh, N. and Titman, S. (1993) Returns to buying winners and selling losers: Implications for stock market efficiency, London: Prentice Hall.

Shleifer, K. (1998) International momentum strategies: Journal of Finance, 5(2):55-60.

Shiller, J. (1981) Do stock prices move too much to be justified by subsequent changes in dividends? American Economic Review, 17(1): 6.

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