

CHAPTER THREE LITERATURE REVIEW

This chapter delves into previous research done in the area of market efficiency and the impact of bond ratings on market efficiency and share returns.

3.1 Market Efficiency

The issue of efficient market hypothesis (EMH) is a subject of intense debate in the field of finance since the 1960's, when Fama (1965) came up with his Ph. D dissertation. He argued that in an active market with well-informed and intelligent market participants all relevant information would quickly be reflected in the prices of securities.

Hence an 'efficient' market is defined as a market where there are large numbers of rational profit maximizers actively competing with each other in trying to predict future market values of individual securities, and where important current information is almost freely available to all participants (Fama, 1965). Competition will be so intense that market participants upon receiving the information would react so fast that security prices will almost quickly discount such news or information in terms of both events that have already occurred and that of market expectations that might take place in the future. Higgins (1992) has aptly termed market efficiency in the following terms:

Market efficiency is a description of how prices in competitive markets respond to new information. The arrival of new information to a competitive market can be likened to the arrival of a lamb chop to a school of flesh-eating piranhas, where the investors are –plausibly enough –the piranhas. The instant the lamb chop hits the water there is turmoil as the fish devour the meat. Very soon the meat is gone, leaving only the worthless bone behind, and the water returns to normal. Similarly, when new information reaches a competitive market there is much turmoil as investors buy and sell securities in response to the news, causing prices to change. Once the prices adjust, all that is left of the information is the

worthless bone. No amount of gnawing on the bone will yield any more meat, and no further study of old information will yield any more valuable intelligence.

This paper deals with rating announcements by rating agencies. So, the literature review will be confined basically to the semi-strong form of market efficiency.

A lot of research on EMH has been done by researches all over the world to determine whether specific markets are in fact efficient, for what events and to what degree. The implications of the findings are profound because an inefficient market will offer opportunities to the smart investor to profit from such inefficiencies. On the other hand, in a very efficient market, despite the presence of thousands of financial analysts, investors will rarely be able to make returns except by chance. Price changes would actually be a random walk.

It has been researched and found that there exists a powerful and irreversible tendency for markets to increase their efficiency over time rather than diminish (Dawson, 1984). In other words, markets learn from experience.

In comparing between developed and developing nations there exists a marked difference between them. Developed markets generally conform to expectations of EMH as they are characterized by active trading in securities, large turnover, large number of utility maximizing investors, absence of entry barriers and efficient dissemination of relevant information to the investing public. On the other hand, markets of emerging economies are characterised by low liquidity, unsophisticated investors, inadequate disclosure requirements and some non-trivial barriers to entry which many hamper the existence of efficient markets (Annur et al, 1993).

Evidence of EMH in developing countries showed mixed results. Market efficiency in a developing country is dependent on several factors, namely liquidity, thinness of market, number of active traders, institutional demand,

trading volume, strength of market reputation, availability of publication and advisor services (Neoh, 1986). For example, tests on EMH on KLSE showed mixed results. The KLSE is a small market and thinly traded compared to the developed nations. Studies on earnings and earnings announcement for frequently traded stocks showed near efficiency and semi-strong form market efficiency at KLSE. But in respect to bonus issues, semi-strong form inefficiencies were observed (Neoh, 1986).

Studies were done on the Indian capital markets and evidence from such studies was in favour of the weak form efficiency. Except for a few studies, studies by Samir, Ragunathan, Varma (1994) found evidence on semi-strong form in Indian capital markets mixed. The market was efficient in responding to political events, bonus and rights issues but not so for ambiguous and complex events.

In the case of the Singaporean market, SES was found to be inefficient in the semi-strong form (Tang, 1976) basing on studies on bonus issue announcements. Later studies by Ariff and Finn (1988) using monthly price data and a refined methodology supported the semi-strong efficiency of the Singapore market.

The Russian market provides another interesting aspect of a nation in transition from a planned economy to that of the market economy. Studies on the most liquid stocks found the market to be inefficient and it takes two and a half years for prices to fully adjust. Studies on a wider number of stocks showed a tendency towards becoming efficient (Hall and Urga, 2002).

Tests of semi-strong form of EMH involve examining security price movements around the announcement time of 'new' information. The test would involve the determination of the impact of the 'news' on the security prices for the period before and after the announcement. If abnormal returns exist, even after the

announcement, it would mean that the market is not efficient in the semi-strong form.

Ball and Brown (1990) studied on earnings announcement to market 's ability to anticipate changes in annual earnings. Evidence showed that annual reports did not rate highly as the contents were already discounted by the market on information disseminated by the prompt media (including interim reports).

Fama, Fisher, Jensen and Roll (1969) studied the speed and accuracy with which the market responds to the announcement of stock splits and anticipated dividend increases. They concluded that one could not make abnormal returns after the event month, as the market was efficient in expecting the stock split and subsequent dividend increase.

Subsequent research done in these areas in the US, UK and Australia corroborates with these evidence. A study by Grinblatt, Masulis and Titman (1984) found evidence to the contrary by using daily data. Abnormal returns were observed around the ex-date of stock dividends and stock splits.

Dann, Mayr and Reab (1977) studied the informational content of block trading and found an impact on stock prices, but only for five minutes, upon the event taking place. The market reacted very rapidly to the occurrence of the event.

Another interesting area is the changes in accounting methods like depreciation methods (Archibald, 1972), accounting principles (Pats & Boatsman, 1972), and inventory methods (Sunder, 1973). Apart from a few exceptions, the majority of all studies showed that the market was not fooled by changes in accounting techniques, implying that the market was efficient.

Top management changes provided no reaction in the market upon announcement of top management changes (Warner, Watts & Wruck, 1988)

In the case of merger announcements, the market was able to predict at least three months prior to the announcement. But, after the merger announcement the stock price performance was in line with market efficiency (Frank, Broyles & Hecht, 1977).

3.2 Bond Ratings

Numerous studies have been conducted to study the impact of bond ratings on equity or stock returns and with diverse results. It can be said that the studies generally concluded that bond downgrades provide new and relevant information to the market and hence does produce an impact whereas upgrades, reaffirmations and initial ratings do not produce new and relevant information to the market. Hence such announcements do not produce any impact. However, detailed studies have produced mixed results running contrary to these general conclusions.

Earlier studies on the impact of bond ratings on market efficiency and equity returns were conducted by Katz (1974) and followed by Hettenhouse & Sartoris (1976). They concluded that bond rating decreases were anticipated; bond rating increases were not anticipated; anticipation of bond rating changes occurred around or within a few months before the month of change; and the stock market appeared more efficient than the bond market.

Pinches and Singleton (1978) undertook a study to look into the adjustment of stock prices to bond rating changes using 207 bond rating changes and 79 months of price data. Their findings indicated that both bond rating decreases as well as increases were fully anticipated by about 15 to 18 months. However, for bond rating decreases related to firm specific reasons the anticipatory period was no more than 6 months. Hence, the implication of this study was that the informational content of bond ratings was very small as the stock market appeared to be highly efficient in digesting rating news.

Griffin and Sanvicente (1982) attempted to go further into this area of research by studying the impact of bond rating changes on common stock returns by using 3 different methodologies, namely the one-factor market model, two-factor cross-sectional model and two-factor model but explicitly controlling for non-event or extraneous factors. 732 bond rating change announcements for the period 1960 till 1975 were used to look for price changes in the 11 months preceding and the announcement month itself. The results of this study went contradictory to that of Pinches and Singleton (1978) where they found a very significant impact due to bond ratings changes. The research found that bond downgrading did convey new information to the equity market in terms of security returns as statistically significant returns were observed in the month of announcement and in the preceding 11 months to the announcement. However, for bond upgrades abnormal returns were found in the month of announcement but were insignificant despite the presence of abnormal returns in the 11 months preceding the announcement month.

A subsequent research in the same area was carried-out by Holthausen and Leftwich (1986). The results of this study were being used as a landmark by many researches subsequently in their research work. Holthausen et al used a 2-day window period to research on the stock price effects of bond rating changes, (across and within) and credit-watch placements and their resolutions. Using the market model, he sampled 1014 straight bond rating changes over the period 1977-1982. This was the first time daily price data were used to study the effects. Use of daily price data provided a more powerful test as the exact event date could be identified and the noise effect for the event study reduced or eliminated.

These results suggest that rating agencies do provide new information to the capital market and previous studies failed to find significant price response to rating change announcements because they were using monthly data.

The results of Holthausen et al can be summarized as follows:

- significant negative abnormal returns were found for downgrades across classes.
- No significant abnormal returns were detected for downgrades within rating classes
- Upgrades, across or within classes, did not produce any statistically significant abnormal returns

Hence, these findings of Holthausen et al (1986) were not in line with the findings of Pinches and Singleton (1976), who found little or no influence of rating changes on stock prices. The presence of negative abnormal returns for downgrades concurred with the findings of Griffin et al (1982).

Zaima and McCarthy (1988) undertook a study to look into the information content of bond upgrades and downgrades apart from wealth distribution. Their studies involved 41 firms with bond issuance covering the period Jan 1981 – June 1981 using weekly share prices. The results of their studies were consistent with those of Griffin et al, (1982); and Holthausen et al (1986) where bond upgrades did not provide significant abnormal returns whereas bond downgrades provided significant abnormal returns. Hence, bond downgrades appeared to provide 'new' information to the market.

Another similar study was carried out by Hand, Holthausen and Leftwich in 1992 using daily price data and 1 350 ratings, including rating changes for the period 1977 till 1982 for announcement day and one day after announcement. In the case of unexpected bond downgrades significant abnormal returns were noted but not for upgrades. These observations were in line with the findings of the Holthausen et al (1986) and Griffin et al (1982).

Motolcsy and Lianto, (1995) studied the incremental information content of bond revisions using data from Australia. Using 34 rating upgrades and 38 rating downgrades for 62 different public listed companies for the period 1982-1991, the

study concluded that abnormal returns were noted for downgrades but not for bond upgrades in line with the findings of Holthausen et al (1986); and Hand et al, (1992). The implication of this study is that rating agencies add value to the already existing information on downgrade announcements.

Studies have also been conducted in a small market with thin trading volumes. One of it is the study conducted by Elayan, Hsu and Meyer (2000). This study looked into 3 types of announcements namely rating assignments, placements on credit-watch and rating changes; and unique results were obtained. The New Zealand market is a small market with relatively little research done on it unlike the larger market of the US and UK. Investors may be looking upon rating agencies to highlight the financial and performance level of the companies of the small market and it can attract the attention of investors by getting their bonds rated by rating agencies. Using 149 credit rating announcements for the period July 1999 till June 2000, the study found that abnormal return existed for downgrades implying that rating information is new information to the market. However, initial assignments did not provide significant abnormal returns meaning they do not provide new information to the market.

On top of this the study revealed that bond upgrades lead to slightly positive and significant reactions. Hence, this suggests that in a small market upgrades as well as downgrades are both important.

As for the KLSE no comprehensive research has been done as yet to date in this area and is yet to be seen the impact of bond ratings on market efficiency and stock returns at KLSE, a small and thinly traded market.

3.3 Event Study

Event study methodology is used to analyse the behaviour of stock prices or stock returns to the occurrence of a pre-defined event. In other words, the study

analyses the investors' reaction before, during and after the event of concern. The event could be interpreted as positive, neutral or negative news in the market place; and is expected to influence the return to investors on their investments in the form of shares, bonds or other assets.

Examples of research where event studies have been conducted include dividend and earnings announcement; occurrences of political events; natural catastrophes and even nuclear accidents. The insurance sector is also increasingly using event study methodology in its researches.

The earliest application of event study methodology was undertaken by Fama, Fisher, Jensen and Roll (1969); and by Ball and Brown (1968). The former researchers concentrated on market efficiency whereas the latter researchers concentrated on information usefulness (Henderson Jr, and Glenn V, 1990).

There are two types of event studies, i.e. market efficiency and information usefulness studies. In the market efficiency type, the study attempts to examine how quickly and correctly the market reacts to the occurrence of a pre-determined event. In an efficient market share prices should be able to adjust on the day of the event announcement, and not linger on significantly after or before the announcement date. On the other hand, in the information usefulness type, the study determines the degree of impact of the event occurrence on selected variables like share returns, bond returns or even on trading volumes. New information of value should be able to create a significant positive or negative impact around the announcement date (pre, during and post announcement period) of the good or bad news respectively. In this study, hypothesis H_1 involves event study of the market efficiency type and hypothesis H_2 pertains to the information usefulness type.