OPEN ACCESS
Saudi Journal of Economics and Finance
Abbreviated Key Title: Saudi J Econ Fin
ISSN 2523-9414 (Print) |ISSN 2523-6563 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: http://saudijournals.com

Original Research Article

The Value of the Capital Market Development-Bursa Research Scheme's (CBRS) Recommendation Changes in the Malaysian Stock Market

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DOI: 10.36348/sjef.2022.v06i05.001 | **Received:** 26.03.2022 | **Accepted:** 04.05.2022 | **Published:** 17.05.2022

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Abstract

This study analyses the changes in analyst recommendations in the Malaysian stock market from 2010 to 2018. Using samples of 668 upgrade recommendations and 495 downgrade recommendations, this study employs event study methodology to examine price performance by predicting abnormal returns using the market model. The findings indicate that significant positive stock price reactions occur following upgrade recommendations and significant negative stock price reactions occur following downgrade recommendations over a short-term and up to six-month period. Further analysis reveals no statistically significant difference in performance between analysts who are participants of the Capital Market Development Fund – Bursa Research Scheme (CBRS) and those who are not. This finding implies that, despite the significant market reaction to both upgrade and downgrade recommendations, CBRS's financial analysts do not provide better analysis than those of non-CBRS analysts.

Keywords: Analyst recommendations, recommendation changes, financial analyst, Bursa Malaysia, CBRS, Malaysian stock market.

INTRODUCTION

The growing importance of stock markets globally, combined with the increase in retail investor engagement in financial markets, has resulted in considerable advancements in the production and use of financial information (Blandon & Bosch, 2009). In order to achieve good returns, investors should always collect relevant information and be well-informed before making any important investment decisions. Because of the vast amount of information available in the stock market, the quality and dependability of such information may be called into doubt. As a result, investors demand expert services that offer accurate and relevant information. The information is clearly crucial for investors, particularly non-professional investors, in creating better investment strategies.

In general, price changes are correlated with the entry of new information in the stock markets. However, not all investors possess the ability to analyse information effectively enough to identify mispriced stocks. Hence, financial analysts' participation is necessary, as they are commonly referred to as industry professionals, key opinion leaders, and value experts. They will supply the investment community with the required information to make informed investment decision. Given investors' difficulty in getting and analysing relevant information, financial analysts' role in assisting investors in reducing information imbalances between investors and companies is crucial.

As experts, analysts are said to reduce information imbalances by serving as intermediaries and conducting research on the companies they cover. However, not all information imbalances can be reduced, particularly among companies that receive little analyst coverage. It is because most analysts are more likely to cover larger companies than smaller ones. To ensure that smaller businesses do not lag behind, Bursa Malaysia, like other stock exchanges, has taken the lead in assisting smaller businesses in increasing their liquidity and visibility among investors.

Due to the fact that Malaysian research providers normally cover only the top 100 stocks listed on Bursa Malaysia [1], the CMDF-Bursa Research Scheme (CBRS) was established in June 2005 to

[1] Source: https://www.bursamalaysia.com/reference/research_repository/cmdf_bursa_research_scheme_cbrs

promote the development and use of equity research reports in the Malaysian capital market. In specific, CBRS is a collaboration between Bursa Malaysia and the Capital Market Development Fund (CMDF), with Bursa Malaysia serving as administrator and CMDF covering 50% of the cost of coverage. It aims that by providing open access to research reports, it may help investors make more informed investment decisions. To that end, in addition to examining the value of changes in analyst recommendations in Malaysia, this study investigates the effects of CBRS that may explain the abnormal returns generated by changes in analyst recommendations. By investigating evidence from Malaysia, one of the emerging markets, this research adds a new viewpoint to the analyst recommendation literature.

The remainder of this study is divided into the following sections. Following the introduction, a review of the literature on the value of analyst recommendations and the CBRS is presented. Then, the methodology section follows, which includes information about data collection, sample size and methods used. Next, the following section discusses the market's reaction to analyst recommendations, followed by an examination of the effect of the CBRS on analyst upgrade and downgrade recommendations. Finally, the conclusion.

LITERATURE REVIEWS

This section summarises prior research on the value of analyst recommendations in determining stock returns. The majority of research findings indicated a significant market reaction to analyst recommendations (see for example, among others, Jegadeesh & Kim, 2006; Moshirian *et al*., 2009; D. Vukovic *et al*., 2020; D. B. Vukovic *et al*., 2021; Womack, 1996; Yas & Shah, 2021). This demonstrates how analyst recommendations convey new and important information, which results in market price revisions. Their influence on stock market prices demonstrates the value added by analysts through their recommendations.

According to Moshirian *et al*., (2009), investors in developed markets generally view emerging markets as less attractive than developed markets due to the perception that they are too risky to invest in. The less desirable circumstances exist as a result of emerging markets' weak governance and disclosure mechanisms (Lang *et al*., 2004). Investors, particularly non-professional investors, will have difficulty obtaining accurate information necessary to determine the company's true value because the manager has refused to disclose reliable information (Farooq & Id Ali, 2014). As a result of this situation, there is an information gap between the company and the investors.

According to Frankel *et al*., (2006), voluntary disclosure by management and the ability of financial analysts to gather private information can help bridge the information imbalance between investors and companies. In that case, investors are perceived to require the services of experts who can provide them with valuable information to assist them in making investment decisions. Due to that reason, the study's rationale is to improve the validity of analysts' recommendations and the informational role of financial analysts in emerging markets such as Malaysia. Additionally, it is critical to understand whether financial analysts from CBRS-member research firms had an effect on the variation of abnormal returns.

The Capital Market Development Fund-Bursa Research Scheme (CBRS) and Financial Reporting Standard (FRS) regulation, which establishes mandatory disclosure requirements for financial reporting by publicly traded companies on Bursa Malaysia, began in the same year, 2005. Given these two facts, it is reasonable to expect that the analysts' recommendations will be valuable as a result of the high level of transparency in financial reporting by publicly traded companies, which leads to higher financial information. The high level of financial disclosure by management is likely to benefit financial analysts in terms of gathering additional information for evaluating their companies.

The disparity in research coverage between smaller and larger listed companies is a major issue for Bursa Malaysia. Financial analysts tend to overlook companies with lower market capitalization because research companies typically cover the top 100 listed stocks on Bursa Malaysia, which are typically large corporations. The worst-case scenario for these smaller companies is that investors will ignore them because analysts do not cover them. Thus, the introduction of CBRS could be an aid developed by Bursa Malaysia to ensure that under-researched companies have the opportunity to improve their corporate image. Thus, earning investors' confidence.

Thus far, Madun (2008) concentrated on CBRS's impact on the Malaysian stock market. The study concludes that the CBRS does not benefit investors because there is no significant market reaction. The study findings covers 1 May 2004 to 31 December 2005. Mohammed Qasem *et al*., (2015) examined the participation of publicly traded companies and research firms from 2005 to 2013. They observe a downward trend in the number of publicly traded companies and research firms that participate in CBRS. Given the CBRS implementation period of more than ten years and the less interest by listed companies and research firms to take part in CBRS, it shows that it is important to conduct an empirical study to determine whether the scheme is still relevant to implement or if it

provides no value to investors. This study fills the gap in the literature in this area.

DATA METHODOLOGY

Event study

This study contains 1163 observations of recommendation changes, 668 are upgrades and 495 are downgrades. To establish market reactions, tests are undertaken on publicly traded companies on Bursa Malaysia that have undergone changes in analysts' recommendations. The data on changes in analyst recommendations originates from Bloomberg Terminal. At the same time, the CBRS reports come from the research repository section of Bursa Malaysia. Daily closing prices and market indexes are collected via Datastream.

This study employs the event study methodology as proposed in prior research (Brown & Warner, 1985; Mackinlay, 1997). The market model (MM) is used to calculate the impact of abnormal market reactions on analyst recommendation returns. This study employs a 141-day event window that includes ten days prior to the event (-10), the event day (0), and 130 days after the event day (130) to examine the effects of recommendation changes on market reactions. The estimation time ranges between 200 and 11 days prior to the event date (-200, -11). The normal return must first be determined using the market model technique, as in Mackinlay (1997) before the cumulative abnormal return (CAR) may be computed. The "normal return" is the rate of return that would be expected in the absence of the event. The FTSE Bursa Malaysia EMAS Index (FBMEMAS) serves as the market benchmark. First, calculate the actual daily returns for each firm and daily market return during the event window, -200 to 130 (331-day) using the equation 1:

$$R_{i,t} = ln\left(\frac{p_{i,t}}{p_{i,t-1}}\right) \text{ ..... (1)}$$

Where $R_{i,t}$ represents the actual return for firm i on day t while $ln(\frac{p_{i,t}}{p_{i,t-1}})$ denotes the natural log of firm i's stock price on day t divided by the previous day's stock price. Next, equation 2 is used to estimate the FBMEMAS index's daily market return:

$$R_{m,t} = ln(\frac{EMAS_t}{EMAS_{t-1}}) \text{ ..... (2)}$$

$R_{m,t}$ refers to the market index return on day t whereas $ln(\frac{EMAS_t}{EMAS_{t-1}})$ indicates the natural log of market index level at the end of day t ($EMAS_t$) divided by the market index level at the end of the preceding day ($EMAS_{t-1}$). Then, the actual return ($R_{i,t}$) in equation (1) and the return on the market index ($R_{m,t}$) in equation (2) are used to estimate the market model's (MM) intercept and slope from day -210 to day 11 (the estimation period). The following equation3 is used:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t} \text{ ..... (3)}$$

$R_{i,t}$ signifies the return of firm i on day t, α_i and β_i is the parameters of the model for firm i, $R_{m,t}$ denotes the market portfolio return on day t and $\varepsilon_{i,t}$ represents the zero mean disturbance term. Then, this study estimates the abnormal returns for firm i from day -10 t130 as the equation 4:

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t}) + \varepsilon_{i,t} \text{ ..... (4)}$$

Where $AR_{i,t}$ signifies the abnormal returns of firm i on day t, and the remaining parameters have been discussed earlier. The following step is to compute the daily average abnormal returns (AAR_t) of all firms as in equation 5:

$$AAR_t = \frac{\Sigma_{i=1}^{n} AR_{i,t}}{n_t} \text{ ..... (5)}$$

Where n_t denotes the number of traded stocks on day t. Next, equation 6 is used to calculated the variance of AR_t:

$$var_{(AAR_t)} = \frac{1}{n^2} \Sigma_{i=1}^{n} \sigma_{\varepsilon i}^2 \text{ ..... (6)}$$

Where $\sigma_{\varepsilon i}^2$ is the variance of firm i's residuals derived from the equation 3. Then, the Z-test is used to determine the daily significance of AR_t as in the equation 7:

$$z = \frac{AAR_t}{\sqrt{var_{(AAR_{t1,t2})}}} \text{ ..... (7)}$$

The cumulative average abnormal return ($CAAR$) is then calculated for the window period between $t1$ and $t2$ ($CAAR_{t1,t2}$) as follows:

$$CAAR_{t1,t2} = \sum_{t=t1}^{t2} AAR_t \text{ ..... (8)}$$

Following that, the Z-test is used to determine the significance of $CAAR_{t1\text{-}t2}$. The Z-test is modelled as follows:

$$z = \frac{CAAR_t}{\sqrt{var_{(CAAR_{t1,t2})}}} \text{ ..... (9)}$$

Finally, the cumulative abnormal returns of firm i ($CAR_{i(t1,\ t2)}$) over a specified time t_1 to t_2 are calculated by adding the daily abnormal returns for firm i ($AR_{i,t}$) across the period as in equation 10 below:

$$CAR_{i(t1,t2)} = \Sigma_{t=t1}^{t2} AR_{i,t} \text{ ..... (10)}$$

Univariate analysis

This study employs the independent sample t-test, which assumes a normal distribution, and the Mann-Whitney U test, which assumes a non-normal distribution, to determine whether there are differences between the two groups (CBRS and non-CBRS).

FINDINGS AND DISCUSSION

Event Study

Table 1: Average Abnormal Returns (AARs) for Stock Upgrade and Downgrade Recommendations Over an Eleven-Day Period

Event Day (t)	Panel A: Upgrade Recommendations		Panel B: Downgrade Recommendations	
	AAR	P-value	AAR	P-value
-5	-0.17%	0.022**	0.04%	0.594
-4	0.11%	0.125	-0.04%	0.675
-3	-0.09%	0.272	0.04%	0.628
-2	0.04%	0.675	-0.02%	0.838
-1	0.20%	0.016**	-0.16%	0.144
0	0.69%	0.000***	-1.07%	0.000***
1	0.26%	0.002***	-0.60%	0.000***
2	0.14%	0.043**	-0.07%	0.421
3	-0.01%	0.840	-0.27%	0.001***
4	0.09%	0.180	-0.13%	0.166
5	0.09%	0.173	0.12%	0.186

Note: ***, **, and * denotes statistical significance at the 1%, 5%, or 10% level.

Table 1 displays the average abnormal returns (AARs) for stock upgrade in Panel A and stock downgrade in Panel B over an eleven-day period. Panel A of Table 1 demonstrates that investors react quickly and significantly to favourable upgrade recommendations. The Malaysian market reacts positively to upgrade recommendations beginning one day before the announcement day (-1) and lasting up to two days after the announcement day (2), with a surge on the announcement day (0). Noticeably, share price movements with a 5% significance level occur on pre-announcement day (-1) and exhibit a positive average abnormal return (AAR) of approximately 0.20 percent (p-value = 0.016). Furthermore, on the day of the announcement (0), the average abnormal return (AAR) peaks at 0.69 percent and is statistically significant at the 1% level with a p-value of 0.00. However, the value of upgrade recommendations drops to around 0.26 percent (p-value = 0.002) on day 1 and to 0.14 percent (p-value = 0.043) on day 2, but remains statistically significant.

According to the findings in Panel A of Table 1, this study concludes that changes in upgrade recommendations around the event window contain new information that causes market price adjustment, confirming Fama (1970) efficient market hypothesis that new information influences pricing instantly. These findings are consistent with those of Murg and Zeitlberger (2014), Vukovic et al. (2020), and Yas and Shah (2021), which all suggest that investors can optimize value creation by responding quickly to upgrade recommendations.

Panel B of Table 1, finds stock prices react significantly to downgrade recommendations on the announcement day (0). On the following day (1), the price continues to move in the direction of analyst recommendations until day three (3), with the exception of day two (2), which is insignificant. Specifically, the study records significant negative returns occur on the announcement day (0), the next day (1) and day three (3). Meanwhile, the significant negative abnormal returns on day three (3) indicate that the downgrade recommendations have a longer-lasting effect, as the price continues to drop from the day of the release.

The largest absolute negative abnormal returns of 1.07 percent, which is statistically significant at the 1% level on the recommendation day (0), suggest that prices react quickly to unfavourable news. The following day (1), the downgrade recommendation's effect had lessened marginally but remained negative, falling to 0.60 percent with a 1% significance level. The negative abnormal returns keep falling to approximately 0.27 percent (p-value = 0.00) on the third day after the announcement (3), which is statistically significant at the 1% level. The negative impact power of the analysts' downgrade recommendations remains statistically significant at the 1% level, implying that the analysts' downgrade recommendations contain predictive information to the investors.

According to the findings in Panel B of Table 1, downgrade recommendations have a stronger short-term impact than upgrade recommendations on average, as the absolute abnormal returns on downgrade recommendations are significantly greater than those of upgrade recommendations. It corroborates prior research by Ishigami and Takeda (2018), Moshirian *et al*., (2009), Murg and Zeitlberger (2014), Vukovic *et al*., (2020) and Womack (1996). According to Moshirian *et al*., (2009), the greater performance on downgrade recommendations is due to investors' loss aversion, which drives them to prioritize negative signals while making investment decisions.

All in all, Table 1 illustrates that the abnormal returns are statistically significant, with the highest abnormal returns occurring on the day of announcement (0), showing that the market reacts immediately to analyst recommendations, whether upgrades or downgrades. It is an indication of financial analysts' effectiveness as intermediaries in lessening information asymmetry between investors and publicly traded companies. In that regard, investors should not delay to follow the recommendations for wealth creations.

Table 2: Cumulative Average Abnormal Returns (CAARs) for Stock Upgrade and Downgrade Recommendations

Event Window	Panel A: Upgrade Recommendations			Panel B: Downgrade Recommendations	
	CAAR	P-value		CAAR	P-value
CAAR(-10,130)	3.03%	0.002***		-6.41%	0.000***
CAAR(-10,1)	1.02%	0.000***		-1.52%	0.000***
CAAR(-5,5)	1.34%	0.000***		-2.15%	0.000***
CAAR(-1,1)	1.16%	0.000***		-1.82%	0.000***
CAAR(0,1)	0.95%	0.000***		-1.67%	0.000***
CAAR(2,130)	2.02%	0.024**		-4.88%	0.000***

Note: ***, **, and * denotes statistical significance at the 1%, 5%, or 10% level.

Table 2 summarises the cumulative average abnormal returns (CAARs) for upgrade recommendations in Panel A and downgrade recommendations in Panel B over six event windows. The cumulative average abnormal returns (CAARs) on upgrade recommendations as in Panel A of Table 2 are positive and statistically significant at the 1% and 5% levels for all event windows. All event windows generate returns ranging from 0.95 percent for a two-day event window (0,1) to 3.03 percent for a 141-day event window (-10,130). Except for the 129-day post-announcement event window (2,130), which is statistically significant at the 5% level, all returns are statistically significant at the 1% level. According to the findings, stock prices continue to rise in the short and long run as a result of upgrade recommendations.

Panel B of Table 2 summarises the cumulative average abnormal returns (CAARs) associated with downgrade recommendations. The findings show that downgrade recommendations appear to influence share price direction, since all event windows, regardless of window length, are statistically significant at the 1% significance level. The average price reaction ranges from -1.52 percent for an eleven-day event window (-10,0) to -6.41 percent for a 141-day event window (-10,130). Due to the statistically significant negative returns, investors who react to analyst downgrade recommendations in the Malaysian stock market can expect their investments to retain value for up to six months.

Overall, the positively significant returns following upgrade recommendations and significant negative returns following downgrade recommendations demonstrate that analysts in Malaysia have the ability to predict future returns. In addition, the findings show that investors who react to analyst upgrades and downgrades may anticipate abnormal profits since the share price continues to move in the direction of analyst recommendations. Following that, the majority of market movements based on CAARs require investors to respond quickly in order to profit from recommendation changes.

Univariate Analysis

Table 3: The Influence of CBRS on Recommendations for Upgrades and Downgrades

Event Windows	Panel A: Upgrade Recommendations			Panel B: Downgrade Recommendations		
	(1) CBRS (N=21)	(2) Non-CBRS (N=647)	(3) P-value of Indpt. t-test (Mann Whitney U-test)	(4) CBRS (N=6)	(5) Non-CBRS (N=489)	(6) P-value of Indpt. t-test (Mann Whitney U-test)
CAAR (-10,130)	0.67% (0.908)	3.11% (0.002)***	0.679 (0.426)	-17.77% (0.208)	-6.27% (0.000)***	0.394 (0.178)
CAAR(-1,1)	0.47% (0.470)	1.18% (0.000)***	0.297 (0.529)	-4.14% (0.283)	-1.80% (0.000)***	0.526 (0.523)
CAAR(2,130)	0.94% (0.856)	2.05% (0.024)**	0.833 (0.559)	-21.56% (0.102)	-4.68% (0.000)***	0.178 (0.066)*

CBRS equals one if listed firms and research firms participate in the Capital Market Development Fund (CMDF)-Bursa Research Scheme; 0 otherwise. ***, **, and * denotes statistical significance at the 1%, 5%, or 10% level. The values in parenthesis in columns (1), (2), (4), and (5) represent the p-value of one sample t-test.

The Influence of CBRS on Recommendations for Upgrades

Panel A of Table 3 shows the results of the influence of CBRS for upgrades recommendations. There are 21 CBRS while the other 647 are non-CBRS. Due to the small sample size, caution should be exercised when interpreting the results from CBRS analysis. The findings reveal that non-CBRS provides higher returns than CBRS, implying a larger market influence. Furthermore, the non-CBRS returns are all significant for all three event windows, whereas the CBRS returns are all insignificant for all three event windows, as the p-values exceed 10%.

Non-CBRS earn a significantly higher return of 3.11 percent than that of CBRS, which earns around 0.67 percent but is insignificant over the 141-day window period (-10,130). Meanwhile, over a three-day event window of (-1,1), CBRS earns a negligible 0.47 percent return while non-CBRS earns a significant 1.18 percent return. Furthermore, the returns on post-upgrade recommendations (2,130) show that non-CBRS earns a significant return of 2.05 percent while for CBRS, the return is 0.94 percent but not statistically significant.

While both CBRS and non-CBRS generate positive returns in response to upgrade recommendations, the CAAR difference between the two groups across all event windows (-10,130), (-1,1), and (2,130) is not statistically significant even at the 10% level. Similarly, the Mann-Whitney U test indicates that none of the event windows is statistically significantly different from zero. The insignificant difference between the two groups imply that the scheme offered by Bursa Malaysia provides no value compared to non-CBRS in terms of upgrade recommendations. As a result, whether or not research firms participate in CBRS, the value added is similar to that of non-CBRS recommendations. In contrast to Madun (2008), this study suggests that investors should be careful when following recommendations given that both CBRS and non-CBRS analysts perform equally well in their analyses.

The Influence of CBRS on Recommendations for Downgrades

Panel B of Table 3 compares the findings for downgrade recommendations using CBRS and non-CBRS. Six downgrade recommendations are based on CBRS observations, while the remaining 489 are based on non-CBRS observations. Again, since the number of CBRS observations is limited, the conclusions of this study should be regarded with caution due to the small sample size. According to Panel B of Table 3, CBRS downgrade recommendations have a stronger influence on absolute abnormal returns than non-CBRS downgrade recommendations. Similar to upgrades, recommendations for non-CBRS downgrades generate statistically significant returns over the three event periods, whereas CBRS returns do not. The negative signs in downgrade recommendations indicate that the market is trending downward.

The longest event window (-10,130) reveals a statistically insignificant loss of approximately 17.77 percent for CBRS, while the average return for non-CBRS is -6.27 percent and statistically significant at the 1% level. CBRS generates an insignificant -4.14 percent during the three-day event window (-1,1), whereas non-CBRS generates -1.80 percent and is significant. The (2,130) post-announcement downgrade recommendations represent a decrease of approximately 21.56 percent for CBRS, the largest decrease of the three event windows but not statistically significant. However, non-CBRS produces -4.68 percent, which is statistically significant at the 1% level. Although non-CBRS performs better independently than CBRS, the difference in CAAR between the two groups is not significant in all the three event windows. The insignificant mean difference in returns for downgrade recommendations between CBRS and non-CBRS suggests that Bursa Malaysia's scheme performs indifferently in terms of analysts' performance in valuing participating listed firms. Thus, investors may choose cautiously between CBRS and non-CBRS recommendations, as both provide value.

The low performance of CBRS analysts could be explained by the fact that participating listed firms pay a fee to participate in the scheme, thus reducing the scheme's objectivity. Furthermore, the frequency with which research firms are required to issue recommendation reports may have reduced the value of the recommendation, as there may not have been significant updates to participating listed firms. However, the CBRS' research firms are required to do so in order to comply with Bursa Malaysia's requirements.

CONCLUSION

This study examines the changes in analyst recommendations in Malaysia's stock market from 2010 to 2018. The findings suggest that stock prices react significantly to changes in upgrade and downgrade recommendations on the day of the recommendations and the next day. Over the long run, the study demonstrates that stock prices continue to shift in the direction of recommendation changes for upgrades and downgrades. Additionally, this study discovers that downgrade recommendations appear to trigger a stronger market response than upgrade recommendations suggesting that investors tend to focus more on negative signals than those of positive signals.

Furthermore, this study analyzed the effect of the Capital Markets Development-Bursa Research Scheme (CBRS) on market reaction to changes in recommendation. The findings indicate that there is no

statistically significant difference in returns between analysts who participate in CBRS and those who do not. Despite the added value provided by analysts in Malaysia, it makes no difference whether the recommendations originate from a participating CBRS or not. Therefore, it is recommended for future research to concentrate on other aspects, for example the firm-specific factors that may affect the analyst's recommendation changes in the Malaysian market.

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