THE IMPACT OF CREDIT RATING AS SCORING METHODS ON GCC MARKET INDEXES

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Abstract

The aim of this paper is to investigate whether country credit rating changes announcement has a significant impact on GCC Stock Market Index. As per researcher knowledge, none has been done on the GCC. Using event study methods in estimation of the relationship between the credit rating agency Moody's and GCC stock markets indexes over 11 years period between 2004 to Jun 2015. The sample of this study is relatively related to GCC stock markets indexes, it focuses on all the long-term country credit rating decisions by Moody's and its impact on short-terms investments and stock markets. Moreover it considers the gap between long-terms and the short-terms investor singular events. The result of our paper indicate that the impact of credit rating agency Moody's on GCC Stock Markets Indexes is insignificant and have no impact, taking into consideration the impact of 2008 financial crisis.

Keywords: Event Study, Credit Rating, GCC, Stock Market Indexes

1. INTRODUCTION

The aim of this paper is to show the impact between credit rating agency Moody's, through Event Study Model, and it's Impact on GCC Stock Markets Indexes movements. Trade Impact has captured a lot of attention, through investor, CFO's, corporate, stock markets specialists and other research scholars, studies of developed countries markets such as the United States of America, EU and china. This study takes into consideration that GCC as emerging markets have some major factors in common, either location or structure. However, each and every economy has its own unique characteristics.

In order to reach the prove objective, this study take both the logical explanation method explaining the main concepts that needs to be understood in order to form the relationship between these two variable Credit rating announcements and GCC stock market Indexes.

2. LITERATURE REVIEW

Many studies has been done on the effect of credit scoring methods on (equity market, bonds, oil price and gold), however the impact of country credit rating changes as an announcements have a stronger impact on the markets as new information, in general, a significant stock price reactions happen in reaction to the release of any upcoming news.

The role of CRA's as external opinion available to the public; this information should have a significant reaction. The reaction followed by the announcement on the equity markets as new information. The literature review found by the researcher confirm that none, covering the relationship between CRA's and GCC Equity markets, however other study found in Australia, USA, Norwegian, Latin American, European Market and Sweden or smellier in event on oil price and bonds impact.

Weinstein (1977), Study the impact of credit rating and stock price in USA market. This study found no evidence of the price change during and before the period of eighteen to seven months on announcement change, however this study confirm that after the effect of CRA's change of six month are insignificant, using the observation methods throw graph, declaring that there are no relationship between CRA's and stock markets or bonds price.

Pinches and Singleton (1978), study the impact for over month period in USA market, the stock price change on the announcements of CRA's using the cumulative abnormal returns, result small moved on opposite to the direction of the rating change by selecting an event period, thirty days before and twelve days after however, not reaching significant level.

Griffin and Sanvicente (1982), study the relationship between credit rating and stock price in USA market, the examination was on eleven months, event timeframe to discover the upgrades. Result in minor price adjustment in the month of the rating adjustment. Meaning that after one month from the rating adjustable (upgrade) there are acceptable significant price changes in positive movement on

the abnormal return in the eleven months of preceding the adjustment.

Wakeman (1984), study the relationship between credit rating and stock price in USA, this study declare that there are insignificant relationship toward credit rating as information announcement to the stock price and bond price as the price is not changing according to this announcement no significantly relationship using the observation methods.

Holthausen and Leftwich (1989, 1992), Studies has been contacted to such reaction hypothesis two time in USA market. Both study represent same conclusions that a significant price reaction affect stock price performance change by the announcement or credit rating only with downgrading and not upgrading, the study investigate the daily excess bond and stock returns with the announcement of CRA's as yield to maturity. The argue was that the investors believe that the bond has greater default risk. Hand et al (1992), tested both bond and stock market and finds the same results that the price of security has the larger impact as abnormal returns is greater when downgrading from event study prospective.

Goh and Ederington (1993), Study the market movement toward the upgrade and downgrade in the USA stock price and credit rating announcement. contend market reaction to the rating change as another common finding of literature as a asymmetric response as no reaction toward upgrade but only a signification toward the downgrade, the event window as thirty days before and after credit changes.

Kliger and Sarig (2000), study the price response to credit rating announcement by using the Moody's rating classification in 1982. This study appeals that it is a general accept or rational why of rating, as information valued, because issuers reveal inside information on rating agency, who assign ratings which reveal this information without fully concealing the underlying details and asset to the public. A method to separate the rating change to price reactions that reflected rating information, this study come with a result, credit rating influence the market in USA and bond price as new information which is a significant.

Dichev and Piotroski (2001), study the upgrade and downgrade credit rating impact on the stock markets, indicate that upgrade have become significant, but the effect still small about one fifth of the effect on downgrading, the report indicate three days price effect on downgrading -1.95% and upgrading only + 0.48, meaning result on downgrade is significant and upgrade is insignificant.

Kaminsky and Schmukler (2001), consider the potential of cross-county and security market for window of 10 days around the event which the conclude and stock decrease 1 % on average and the yield spread increase by 3 %, this result take place of security index on 16 emerging markets.

Triandafil and Brezeanu (2001), study the link between corporate and sovereign rating impact on developing country with more than 150 firms in USA, showing the firms located in developing county have impact more on macroeconomic event as sensitive international firms, rather than credit rating of the country, however more finding result that the private entity inside the country will not have the right to be rated above the county level.

António Afonso, Pedro Gomes and Davide Fucenri (2002), Study Europe credit rating change and the impact of stock market. This Study takes the window of 3 days before and after, even by study the credit default swaps (CDS), the finding results shows that more impact on negative announcement on the yields and CDS than positive announcement, this study take the data from 1991 to 2000 European stock market.

Jorion, Liu and Shi (2004), study the impact of credit rating as regulator and their news toward event, come to discover the same result that downgrading have a significant negative abnormal returns and that no such reaction toward upgrades, they found that downgrades impact from (-.06% to –4.85) and no significant positive reaction to upgrades.

Nadia Linciano (2004), study the Australia Markets on the equity price reactions to credit rating change announcements are relatively moderate or insignificant. A significant abnormal returns are only incorporated for negative watches and for actual downgrades however the impact on upgrade is not significant.

Nadia Linciano (2004), study the reaction of stock prices to rating change, the paper investigates the reaction of common stock returns to rating changes for a sample of 299 rating actions involving Italian firms and announced by Fitch, Moody's and Standard & Poor's from January 1991 till August 2003. Rating changes and credit watches are classified according to direction, reason, the sector of the rated entities, anticipation through watches and contamination by concurrent news. Significant average excess returns recorded only for negative watches and for actual downgrades. Abnormal returns however seem too driven mainly by the release of relevant information around the announcement of the rating action. The study, by providing evidence for a specific European country, is a useful sensitivity check to the earlier empirical research, mainly focused on the U.S. case and China.

Gande and Parsley (2005), wrote on his paper that negative announcement regarding downgrading is more impact on the stock markets as the data from 1991 to 2000, they conclude possibility even if the government leak positive information to the market or hide the negative one, the sound of negative information take place in wider and larger factor than positive. This is why incomplete information (asymmetric information) can create a bigger impact on the market.

Jorion, Dichev and Piotroski (2006), use bond ratings between 1970 and 1997 from Moody's. They find no consistent abnormal returns after upgrades. Nevertheless, they find negative abnormal returns in the first year after downgrades by studying the US Market

Choy, Gray and Regunathan (2006), study CRA's impact on Australian stock exchange with more than 63 companies between 1989 to 2003 as Cumulative default Rates, the result shows a significant and negative reaction for the downgrades, and an insignificant impact for upgrades, these impact conclusion of any good news try to disclosed very fast in the market but still the impact of upgrading still not reflecting such news. According to them, companies very quickly reveal optimistic information, and stock prices immediately reproduce to such information, anticipating rating changes. The researcher stressed, however, that their sample of upgrades is small, which may have impacted the results.

Dichev and Piotroski (2007), confirm the argue

of Griffin and Sanvicente (1982) and Jorion and Zhang (2007), that stock price and bond rating by Moody's between 1970 and 1997 have negative abnormal return between 10% to 14% in the first year after the announcement of downgrade. They study the abnormal returns magnitudes are even bigger for companies with low credit quality.

Zhang (2007), Answering on asking the question of why more impact on downgrading rather than upgrading and try to fill the puzzle of the effect of the price, asked by Goh and Ederington (1999), Studying USA market, investigate how the reaction to downgrade announcements differs according to the implications for cash flows and the extent of surprise; however his study was on thirty days, result was only on downgrade is significant to announcements and only bad news reaction is significant more to that the study result that not all downgrade consider as bad news for the stockholders.

Jorion and Zhang (2007), examine the timeframe of one year of U.S corporate bond market between 1996 and 2002 of the effect in (1,195 downgrade and 361 upgrades) by studying the methods of CAR (cumulative abnormal return), result that CAR have -4.43% on downgrade and closed to zero CAR 0.31% on the upgrade. This study have a conflict between Griffin and Sanvicente (1982), as closed to same tenor impact on upgrade, the methods was the same but the time from was different result on the updated stock price a significant change in tenor 1996 to 2002.

Ee, B. C. B et al. (2008), discover evidence that equity markets response as a significant different to American depository receipts markets. This study explores the rating change announcements among companies performance outside of the USA and abnormal returns of credit watch. In a window between (- one year, + one year), the author finds significant negative CAR for rating downgrades (CAR of -1.33%) and negative credit watch announcements (CAR of -1.37%). For upgrades and positive credit watch announcements, the CAR is not significant no relationship, at 0.07% and 0.13%, respectively. The concerned, is the only one to mention the four countries been examine: Argentina, Brazil, Chile and Mexico, more to that this study declare a limitation of not performing the t-test on the mean significance, which it will provide compare to the group of study.

Bone and Ribeiro (2009), explore the impact of rating change in the Brazilian Stock Exchange during year 1995 and 2007. This study declare the systematic risk measured beta and chow test that there are no evidence or relationship of structural breaks after or before the change, result no impact of thirty days study.

Knut Morseth and Peter Norgaard (2011), study the impact of credit rating on stock price in Oslo stock exchange and found that the impact of announcement on downgrade is high significant on stock exchange meaning market index; however they found that negative have more impact on larger firms than the small one. The impacts increase after the crisis in 2008 result a hypothesis that confirm the CRA's is significant relationship toward big firms impact and still the impact after the crisis still have influence. Found that there are relationships between positive and negative announcement.

Juan Carlos (2012), studies the European market that shows negative significant abnormal returns to downgrades. The negative cumulative average abnormal return for the 3-day period.

Halmstads Hogskola (2012), study the US stock market by taking 30 companies to find on sovereign credit rating announcement, if there are significant different between high and low debt firms. this study take 15 company with high debt and 15 company with low debt by studying the regression model of 10 % significance level, which he found that result shows market are affected by downgrade and conclude that there was a significant in negative impact on high firms debt.

M.A.J. Timmermans (2012), Credit rating changes and the effect on stock prices, investigates the announcement value of credit rating changes made by the three major rating agencies during 1997-2012 European market. Downgrades result in negative significant abnormal returns. Upgrades result only for the period preceding the event date in negative significant abnormal returns. A small firm investigated and financial firms have result a stronger reactions to credit rating downgrades. Final result that the financial crisis and the investment grade boundary have no significant effect on abnormal returns.

José Faias, Ana Mão de Ferro and Carlos Moreira (2012), Study the credit rating Impact on European Stock Markets, The impact of credit rating changes in both the bond and the stock market has been a extensively discussed in the press since the announcement of the change last financial crises. Foreign stock and home stock market impacts on sovereign credit rating downgrades by S&P in Europe focusing on Portugal, Ireland, Italy, Greece and Spain from 2008. An event study was run on the effect of CRA's downgrades in the national stock market returns. Finding a significant average abnormal market under reaction of 140 basis points, other European countries underperform by 38 basis points only results that downgrading have the higher impact.

Michaelides et al. (2012), examined the effect of credit rating changes on daily stock market returns for over 65 countries between 1989 and 2011 by using event study methodology and they discover that the stock market moved before the public announcement of credit rating downgrade, weak reaction at the event and a mild correction after the event and the results are much weaker on the upgrades credit rating.

Brooks et al. (2012), examined the effects of sovereign credit rating announcements on realized stock market return distributions during normal and financial crisis periods in order to determine whether credit ratings destabilize stock markets during financial crisis for over 75 countries from 1996 to 2010 by using panel regression and found that CRA's did not destabilize stock markets during financial crises no impact.

Niklas Rosenius and Sepehr Sharafuddin (2013), study the effects of Moody's credit ratings on European Stock Markets, and examine if the credit ratings by Moody's provide and have any effect to the respective countries stock markets index, moreover this study also examine if the magnitude of the effects has changed after the crisis in 2008. The research is based on price series data from eleven European countries which have had a debt to GDP ratio of 80 % or more between the years of 2008 to 2012. An event study methodology has been applied when analyzing the time series data using linear regressions with the Ordinary Least Squares

(OLS) method in order to examine if there exist abnormal returns in relation to credit changes. The results suggest that credit rating changes announced by Moody's do have an impact on the stock markets and the effects of negative credit changes have increased. It finally concluded that a negative effects has increased after the crisis of 2008.

Olle Björklund and Sepehr Sharafuddin (2013), study the impact of credit rating on Swedish market, the methods used on this study was events and measure the abnormal activity returns, for 60 to 120 days, sampling 17 firms and 71 credit rating activity, from 1990 to 2012, result no significant change on upgrade credit rating change only the downgrade are being effect and no change toward the crisis impact on 2008.

Freitas and Minardi (2013), Investigate stock market in Brazil, Chile, Mexico and Argentina and it is impact on the credit rating change to find the conclusion that upgrades as CAR have no significant impact on stock return even if the company disclosed the data immediately however not the same occur in the negative news. In additions, investor take action on downgrade and not upgrade compare their study with Ee (2008).

Ibrahim Fatnassi, Zied Ftiti and Habib Hasnaoui (2014), Study the stock market index impact to CRA's changes on four European countries, using Fitch, Moody's, and S&P from 2008 to 2012 using panel regression equations. To discover that upgrades and downgrades affect both own country returns and other countries' returns, market reactions to foreign downgrades are clearer during the sovereign debt crisis period, and the negative news from rating agencies are more informative than positive news.

Ghachem (2015), study the US Market with sample 192 American rated and listed firms in Nasdaq during the crisis in 2008 compare to 2003 and 2006, results no impact on upgrade using ± 1 days, on the other hand the downgrade have more notches in the crisis period, Results show that there is an overreaction to downgrade and an insignificant impact on the upgrade.

Abdulrahman Adnan AlQattar (2015), study the impact of oil price on the GCC on stock market as event study using Auto regressive Distribute lag Model (ARDL), between 2006 and 2015 result that there are no relationship between oil price except for Oman which is have slide impact .

Mu Lan Wang, Ching Ping Wang and Shiang Yi Lee (2015), study the impact of credit rating on Taiwan Stock Market using CAR, to discover that there are no significant relationship toward the stock market, firms size, financial leverage, turnover rate and even the age of the firms have no momentum effect, this study took place from 2005 to 2010.

The previous researcher carried out perception and behaviors of stock market index and the credit rating of a country or sovereign credit rating. The literature has also given an insight on the perception of stock market index. Different methods were used, most common presented as market model and cumulative abnormal returns (CAR). The studies have various findings like clarifying the variables that might help to justify the magnitude of investor reaction to such news. Many studies were similar on literature reviews; conclusion that none sighted or done as per our knowledge on the GCC stock markets; with similar objective. The information value of credit rating, investigated in widely aspects, result that abnormal returns influence downgrade announcement and in real impact of the crisis the investor view etc.

3. RESEARCH METHODOLOGY

The Market Model Event Study approach was used to determine the relationship between GCC Stock Markets Index and Credit Rating Agency Moody's announcements on the country. Further Pearson Correlation and t-test was applied on the two variables to test whether they are significant impact of correlated or not compare to normal return S&P 500 Index. The approach finding the abnormal activity during 31 days took each country by its own, and performed each single event announcements occur between 2004 to Jun 2015 country. Further the study of abnormal acidity was on 15 days before and after the events announcements. The statistical Software Excel was used to generate the results, which helped analyzing the results and eased the interpretation process.

3.1. Research Design and Data Sources

The study design based on descriptive research by using quantitative methods to examine the four hypotheses and achieve the objectives. The area covering all the GCC stock markets index.

3.2. Population and Sampling

In this research population are the six market indexes countries called GCC (Bahrain, Kuwait, Oman, UAE, KSA and Qatar), known by international stander emerging market, the sampling of this research are the 31 days surrounding the events study that effect the stock markets index performance.

3.2.1. Population

The population for the study is the GCC Stock Market Indexes.

3.2.2. Sample Size

Events presented by Credit Rating Agency Moody's which is 31 days surrounding the events on the GCC Stock Market Indexes.

3.3. Data Analysis and Technique

Before the process of data analysis initiated, the raw data rearranged from the secondary data source, Bloomberg using Excel software to complete collecting data. Analysing data using the modern statistical tools to find the T-Test, Standard Deviation, and Regression in terms of the Intercept, Slop (Beta), Standard Error and last the R-Square. The resultant information will present, using statistical tables and charts; therefore, the sample is limited to events with the market capitalization available on the event date.

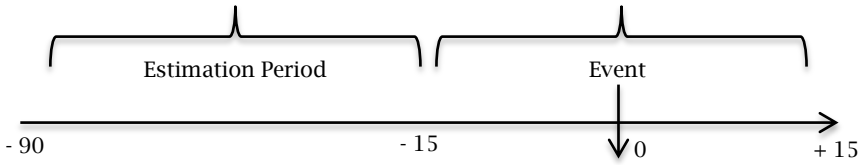
To improve the information result and to have comfortable analysis, the resulted impacted was compare with an expected return from the international standard index S&P 500 stock market, and furthermore studying the same data in graph measurements.

4. THEORETICAL FRAMEWORKS AND DATA METHODOLOGY ANALYSIS

De Goeij and De Jong (2011) reduces the five steps in conducting an event study of Bowman (1983) to three as below:

1. Identify the event of interest and in particular the timing of the event.
2. Specify a "benchmark" model for normal Equity return behaviour.
3. Calculate and analyse abnormal returns around the event date.

Figure 1. Steps in conducting an event study



According to De Goeij and De Jong (2011), it is a good way defining abnormal as residuals of the market model, since the model accounts for difference in "beta" in calculating abnormal returns. Returns exceeding the expected return identified as abnormal returns and it realized by the formula applied by Brown and Warner (1985):

$$Ri,t = In\ (Pi,t\ /\ Pi,t\ -1) \quad (1)$$

Where: Pi,t is the price of security i at time t and the triple line equal sign states it as a definition.

The second formula will find a unique risk component (αi) and a systemic risk component (βi) applied by (Kale, Dyer & Singh 2002). Regression analysis, where one regresses the realized returns of the stock during the estimation period against the realized returns of the benchmark index, which is S&P 500 Index. Both sets of returns were obtain using formula number one.

$$R = \beta i\ Rs \quad (2)$$

Where: R is the realized return of stock i at time t, β0 is the intercept with the Y-axis (α), and β1is the slope of the individual variable (β). X1 is the variable itself (the market return).

The third formula will obtain the output from the regression model in formula two, gives the alpha and beta components, which are combined with the realized return of the market during the event window, to provide the expected returns of the stock for each day in the event window (Kale, Dyer & Singh 2002):

$$E\ (R) = \beta i\ RMt \quad (3)$$

Where: E(Rit) is the expected return on security i at time t, Rmt is the realized return of the benchmark index at time t

As to find the abnormal return (MacKinlay, 1997), researcher have to apply the following formal number four:

$$\begin{aligned} &\text{Abnormal Returns=Actual Returns – Normal Returns} \\ &AR = R - E\ (R) \\ &\text{Or}\quad AR = Rs - Rm\ \beta i \\ &E\ (R) = \beta i\ RMt \end{aligned} \quad (4)$$

Brown, (1985) introduce: normal returns as the require return, from Capital Asset Price Model (CAPM), E (Rit) = α + βi RMt + Ɛ. This methods called Market Adjusted Returns and Defines the cumulative abnormal returns as CARit = Rit – (αi + βi RMt), where Ɛ is the error and Rit is the daily stock returns or index closed price and RMt is the daily market which is S&P 500 as expected returns at time t, and α is intercept and βi is the slope of the line from CAPM, which this study apply using Excel Sheet for better result as per Lihuang Tong (2010).

The calculation the cumulative abnormal return, CAR are given on the equation below that can be observed, the error term in formula 5 is the abnormal return calculated in formula 4, defining the abnormal return differences between the realized and expected return of the stock price changes by (Kale, Dyer & Singh 2002):

$$CAR = \frac{1}{N}\sum_{i=1}^{n} AR \quad (5)$$

And last T-test or T- Value formula:

$$\text{Test statistic} = \frac{CAR}{\sqrt{\text{Var (CAR)}}} \quad (6)$$

As per MacKinlay (1997), the researcher may use this type of test for investigating if the study events are providing significant impact on the return in the analyzed window otherwise a nil hypothesis are accepted.

1. Upgrade, all upward rating change result upgrade on notch or more in equity market.
2. Downgrade, all downgrade rating change result downgrade on notch or more in equity market.
3. Stable with negative watch, all downgrade watch rating, result downgrade on notch or more in equity market.
4. Stable with positive watch, all upward watch rating, result upgrade on notch or more in equity market.

5. DATA ANALYSIS AND HYPOTHESES TESTING

The data used in this study have been assembled using Bloomberg, retrieved the Stock Markets index and Credit Rating announcements by Moody's. The Data of Six GCC states were collected from the same sources to keep the consistency factor.

Further all databases was screen and study using the statistical software then applied the market model event study indicator equation on all historical data in an excel sheet to get the final index values for all events announcements over the years 2004 and Jun 2015.

Before the process of data analysis initiated, the raw data will first be screened and cleaned using Excel software to complete collecting data.

Analyzing data using the modern statistical tools to find the T-Test, Standard Deviation, and Regression in terms of the Intercept, Slop (Beta), Standard Error and last the R-Square. The resultant information will present, using statistical tables and charts, the market capitalization on the event date; therefore, the sample is limited to events with the market capitalization available on the event date. To improve the information content of the analysis, compare to expected return from S&P 500 stock market index, and studying the same data in graph measurements.

This study investigated the issue of whether or not the credit rating provide any information value to the stock markets, under markets efficiency, the rating agencies, only provide information to the public as independent insider opinion without given the information since it is confidential as credit rating agency aspect.

6. ANALYSIS AND RESULT

In order to give a more comprehensive picture of the price adjustment resulting the impact of the CRA's announcements we take in consideration the closed market indexes movement for the GCC over the three windows.

Table 1 and 2 below Represents the Independent variable of CRA Moody's announcements on the GCC countries, Bahrain, Kuwait, Oman, UAE, KSA and Qatar from year 2004 until June 2015, result that all country have upgrade or stable watch announcements except Bahrain obtain four years 2010, 2011, 2013 and 2015 of downgrading highlighted in red below:

Table 1. GCC Moody's Credit Rating (Bahrain, Kuwait, Oman)

Moody's - FC Curr Issuer Rating											
Bahrain				*Kuwait*				*Oman*			
C.R	*Rating*	*Watch*	*Effective*	*C.R*	*Rating*	*Watch*	*Effective*	*C.R*	*Rating*	*Watch*	*Effective*
Do.	Baa3		15/04/15	St.	Aa2		09/06/09	Up.	A1		18/02/10
Do.	Baa2		18/09/13	St.	Aa2	*-	19/03/09	Up.	A2		24/07/07
St.	Baa1	*-	13/06/13	Up.	Aa2		24/07/07	Up.	A3		04/10/06
Do.	Baa1		26/05/11	Up.	Aa3		04/10/06	St.	Baa1	*+	07/09/06
St.	A3	*-	23/02/11	St.	A2	*+	07/09/06	Up.	Baa1		06/10/05
Do.	A3		23/08/10								
Up.	A2		24/07/07								
Up.	A3		04/10/06								
ST.	Baa1	*+	07/09/06								

Source: Bloomberg 14 November 2015

Table 2. GCC Moody's Credit Rating (UAE, KSA, Qatar)

Moody's - FC Curr Issuer Rating											
United Arab Emirates				*Saudi Arabia*				*Qatar*			
C.R	*Rating*	*Watch*	*Effective*	*C.R*	*Rating*	*Watch*	*Effective*	*C.R*	*Rating*	*Watch*	*Effective*
Up.	Aa2		09/07/07	Up.	Aa3		15/02/10	Up.	Aa2		24/07/07
Up.	Aa3		04/10/06	Up.	A1		24/07/07	Up.	Aa3		04/10/06
St.	A1	*+	07/09/06	Up.	A2		04/10/06	ST.	A1	*+	07/09/06
Up.	A1		21/12/04	St.	A3	*+	07/09/06	Up.	A1		18/05/05
				Up.	A3		14/11/05				
				St.	Baa2	*+	03/10/05				

Source: Bloomberg 14 November 2015

By Studying table 1 and 2 using credit rating announcements events, result the following impact on the GCC markets. As per share markets movement in Figure 2.

Figure 2. Moody's Credit Rating by Country

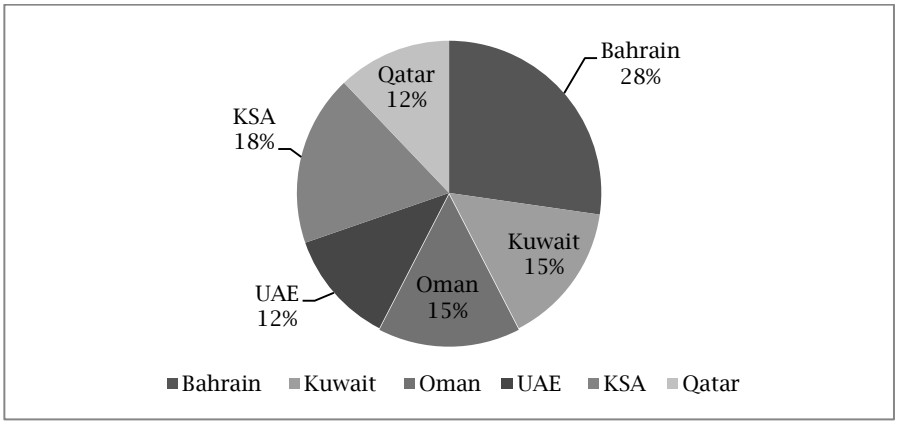


Figure 2 represents the shares markets in the GCC announcements, resulting 28% of the total announcements on Bahrain by nine announcements compare to others country in the GCC, however Bahrain consider to be the only country who represents downgrading by four downgrade as

presented in table 1 compare to other countries in table 1 and 2 for the years between 2004 and 2015 and Bahrain still under watch for more downgrading by end of this years 2015 (Moody's, 2015).

The Markets index movement may convey from some new price abnormal change due to relevant information to the markets because the credit rating changes effect the short-run investment such as stock price, although the CRA's change are related to long-run view of the country by independents CRA's. The results reported by GCC markets as follow.

Bahrain markets index result, studying the t-test to find the significant impact by yes significant or no for insignificant impact, the cumulated abnormal return CAR will be on 30 days impact, the same studying will be apply to the rest of the research.

The result of T-Test using ±15 days windows. The CAR on the 15 days was very small, however slightly negative. Although, a t-test score of -1.96 was needed for a 95% confidence level in 2015,four significant impact are represented as one significant impact on the event time zero, confirm on day +7, -10 and -13, it shows that the score of acceptable to the confident level, but it is not enough to accept for confident level compare to other three events in 2013, 2011 and 2010, therefore, researcher failed to reject the null hypothesis number one, even if 2015 is significantly impacted by four abnormal return because all the events should be impacted at the same level of impact of downgrading.

For upgrades events, there are little evidence of significant price movement after the announcements date. It is apparent that the two events do not treat upgrades as new informational that affect the market, since 2007 reacted to the information in three days significant, however no sign of movement in 2006 reacted to upgrade event. Therefore, researcher failed to reject the null hypothesis number one, due to one confirm of T-Score of +1.95 not reaching the level of confidence 95%, the confirm should be obtain only if two events reacts on same action of both activity in year 2007 and 2006

Studying Bahrain Market index for 31 days events activity with estimated windows 90 days, resulted from ± 15 days are not significant to the sampling of given by years the impact of announcements is not equally impacted table 12 and table 13 result, except the stable news announcements of credit rating have significant impact shown below in table 13 below:

The conclusion can be as follows; Bahrain Market index has an impact by CRA announcements only on stable under negative watch however, this result as per Bahrain study, still rejecting the relationship even of on is acceptable, to confirm the relationship researcher need the three announcements to be acceptable.

Table 3. Result of Bahrain Downgrade Events of Significant Counting (No Evidence)

Downgrade Events	*2015*	*2013*	*2011*	*2010*	*Total*
Significant impact Before the event window	1	0	0	0	1
Significant impact on the event window	1	0	0	0	1
Significant impact Before the event window	2	0	0	0	2
Total	4	0	0	0	4

Table 4. Result of Bahrain Upgrade Events of Significant Counting (No Evidence)

Upgrade Events	*2007*	*2006*	*Total*
Significant impact after the event window	3	0	3
Significant impact on the event window	0	0	0
Significant impact Before the event window	0	0	0
Total	3	0	3

Table 5. Result of Bahrain Stable Events of Significant Counting (Evidence)

Stable Events	*2013*	*2011*	*2006*	*Total*
Significant impact after the event window	0	7	0	7
Significant impact on the event window	0	0	0	0
Significant impact Before the event window	1	1	2	4
Total	1	8	2	11

The result aggregates impact result of downgrade, upgrade and stable are confirm and agreed with other studies in Latin America and US along with emerging market that no evidence of impact in all activity confirm by Weinstein (1977) and Mu Lan Wang, Ching Ping Wang and Shiang Yi Lee, their study confirm the impact of stock exchange and credit rating are not significant in all the announcements.

Juan Carlos (2012), argue that impact of 30 days has significant impact in Europe, and another Swedish study confirm the same by Sharafuddin (2013), on this study, the result conflict of significant impact in downgrade as per their confirm. Result in no confident level of movement in downgrade or announcement with negative stable expected change.

6.1. Qatar Market Index

The result shows that the T tests ± 15 days events window on the t-score ± 1.96 that needed for 95% confidence level. The t-score result is not closed enough to reject the null hypotheses number one, although the upgrade events 2006 have two significant impact after the event date or time zero, this impact is not enough to reaching the same impact in all the events to rejecting the null hypotheses, result the researcher failed to reject the null hypothesis. By studying the stable under positive watch, and confirm that no forms of

impacts are presented as per the study of Qatar markets index confirm.

6.2. KSA Index

The t-score result is not closed enough to reject the null hypotheses number one, although the upgrade events 2006 have one significant impact after the event date of + 7 days, this impact is not enough to reaching the same impact level in all the events, as a result researcher failed to reject the null hypothesis number one on KSA stock markets.

6.3. Oman Markets Index

The t-score result is not closed enough to reject the null hypotheses number one, although the stable event 2006 have one significant impact after the event date of + 3 days, this impact is not enough to reaching the same impact in all the events to accept the hypotheses and although the upgrade events in 2005 impact – 4 and –7 is significant level, it's not enough to accept the alternative hypotheses. However, the researcher failed to reject the null hypothesis number one.

6.4. UAE Market Index

The t-score result is not closed enough to reject the null hypotheses number one, although the upgrade events 2007 have one significant impact after the event date of + 15 days, this impact is not enough to reaching the same impact in all the events to reject the null hypotheses one. UAE has the result of abnormal activity in 2004 before the market event and after the market events. These results are not complete to reject the null hypothesis number one.

6.5. Kuwait Market Index

The result of test ± 15 days events window on the t-score ± 1.96 that needed for 95% confidence level. The t-score result failing to accept rejecting the null hypotheses number one, although the events in table 21 not having enough confidence level, however it's total of two stable events into three events (2/3), the researcher failed to accept hypotheses number one as per the event study which should have found the same equal acceptance in all the activity, therefore the researcher cannot accept that Kuwait have significant impact on the credit rating change as per the stable positive announcement under watch events, however the upgrade show sign of significant impact on one event from total of two (1/2), therefore the researcher cannot accept the impact of CRA Moody's news on stock market index due to an efficient number of confidence level by using the significant result of t-score and CAR.

We can't accept in overall impact, the GCC are impacted by any change in the stock market, the relationship are acceptable due to some movement on the market in particular activity, however the researcher cannot accept the GCC are impacted by any change announcements of CRA Moody's.

Table 6. Summary of result of GCC Stock Market Indexes of Significant Counting

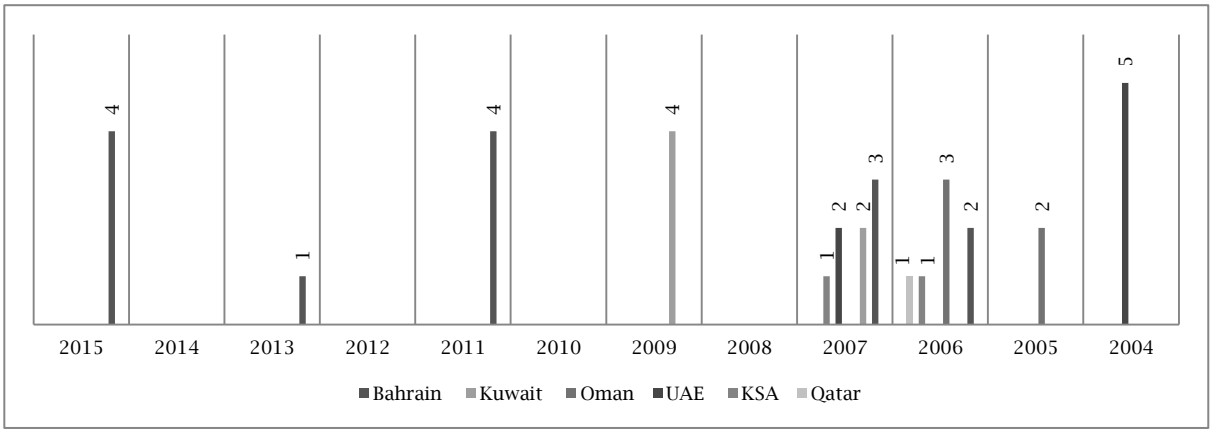
Impact of CRA by accept or reject correlation	*Downgrade*	*Upgrade*	*Stable*
Bahrain	Reject 1/4	Reject 1/2	Accept 3/3
Qatar	Nile	Reject 1/3	Reject 0/1
KSA	Nile	Reject 1/4	Reject 0/1
Oman	Nile	Reject 1/4	Accept 1/1
UAE	Nile	Accept 2/3	Reject 0/1
Kuwait	Nile	Reject 1/2	Accept 2/3
Total number of Accept / Reject	*Reject 1/6*	*Reject 1/6*	*Reject 3/6*

The above table represent the GCC markets events counts, if we accept the correlation or reject, result the correlation is confirmed and significance in stable watch list by three over six, however its rejected on downgrade and upgrade events, to summarize the impact of credit rating on stock markets, we accept that relationship exists between credit rating and stock price but it is not sufficient evidence of t-test significant level of 95%, to accept rejecting the null hypothesis, result the deterioration, present low information available to the markets, however other researcher study GCC investor behavior known by holding there share in terms of investment in long run, which can be found on the Market Cap, as per the daily movement of index compare to number of shares holding, result low movement of shares activity on these emerging markets (Bloomberg, 2015).

6.6. 2008 Financial crisis impacts on the GCC Stock Markets Indexes, CRA reliability and credibility by Moody's

Figure 3 represents the number of significant activity on the GCC Stock Markets Indexes before the crisis 2008 and after the crisis from 2004 to 2015, however the result show that no impact between the two period and the CRA impact on the stock markets react on the same significant volume, more to that before the impact the action toward CRA was 22 significant impact on t-test on 4 years but 13 significant t-test in 7 years, result in both acceptable behaviour of similar activity, while the study of below figure, the researcher failed to accept the null hypothesis number two, resulting in no impact on 2008 financial crisis on the credit rating credibility.

Figure 3. GCC Market Indexes Number of Events Significant Level



Result of US market study exposes on 2011 by Chachem, Boudriga and Chokri state the significant impact are presented on the firms between 2008 crisis and 2003 with 2006 that more impact with significant level after the announcement of good news or bad news, similar to this study Swedish and Europe are impacted, however, this study confirms that there are no relationships or significant impacts between before and after the crisis in credit rating.

Similar to this paper result, Brooks (2012), confirm that no evidence of impact in 75 countries between credit rating and stock exchange in related to 2008 crisis.

6.7. CRA Moody's equally impacted on the GCC Stock markets indexes by upgrade / downgrade and stable under watches announcements

Table 7 below shows the results of CRA Moody's on the GCC countries; 33 events, from Bahrain 9, Kuwait 5, Oman 5, UAE 4, KSA 6 and Qatar 4, these events represent the announcements of downgrade, upgrade and stable under watches events on the country level; However the impact on GCC Stock markets Indexes was clearly represented in Bahrain, result of these sampling, this study will solve hypothesis number three by two parts, Bahrain and GCC for better understanding the relationship between announcements impact of downgrade, upgrade and stable under positive or negative watch.

Table 7. Result of GCC Upgrade/Downgrade/Stable Under Watches Events by Moody's

Moody's - FC Curr Issuer Rating											
Bahrain		*Kuwait*		*Oman*		*UAE*		*Saudi Arabia*		*Qatar*	
C.R	*Effective*	*C.R*	*Effective*	*C.R*	*Effective*	*C.R*	*Effective*	*C.R*	*Effective*	*C.R*	*Effective*
Do.	15/04/15	St.	09/06/09	Up.	18/02/10	Up.	09/07/07	Up.	15/02/10	Up.	24/07/07
Do.	18/09/13	St.	19/03/09	Up.	24/07/07	Up.	04/10/06	Up.	24/07/07	Up.	04/10/06
St.	13/06/13	Up.	24/07/07	Up.	04/10/06	St.	07/09/06	Up.	04/10/06	ST.	07/09/06
Do.	26/05/11	Up.	04/10/06	St.	07/09/06	Up.	21/12/04	St.	07/09/06	Up.	18/05/05
St.	23/02/11	St.	07/09/06	Up.	06/10/05			Up.	14/11/05		
Do.	23/08/10							St.	03/10/05		
Up.	24/07/07										
Up.	04/10/06										
ST.	07/09/06										
Count	9		5		5		4		6		4

6.8. Part One Bahrain

Table 8 below shows the result of t-score affected by significance level on downgrade, stable and upgrade credit rating, Bahrain study represent ± 15 events windows on 30 days that t-score ± 1.96 that is needed for 95% of confidence level, the t-score represented and shows that there are high level of significant level abnormal activity around the event on credit rating watch; 11 stable significant level, 4 downgrade and 3 upgrade, result that there is no evidence to support and accepting the null Hypothesis number 3.

Table 8. Result of Bahrain Upgrade/Downgrade/Stable Events Significant by Moody's

Events on Bahrain Stock Market	*Downgrade*	*Stable*	*Upgrade*	*Total*
Significant impact Before the event window	1	7	3	11
Significant impact on the event window	1	0	0	1
Significant impact After the event window	2	4	0	6
Total	4	11	3	18

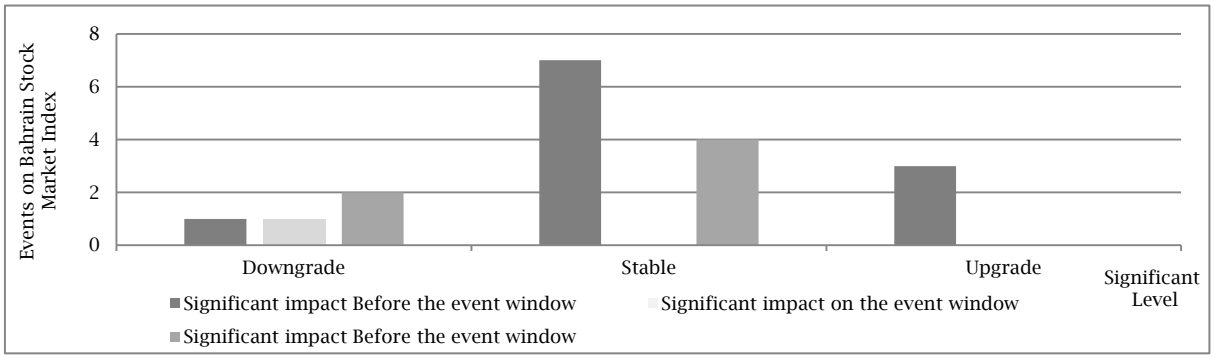
In addition, differences in the response created by market anticipation, the selected period in previous discussion incorporates during the upgrade and downgrade confirm in some countries that there are no impact, other impacts in downgrade, however in Bahrain market shows that week intercept to downgrade and accept the under watch stable rating with negative expectations before the event windows by 11 significant abnormal activity on downgrade 1, stable 7 and upgrade 3, result of event zero event

it's only 1 significant abnormal on downgrade however after the event windows 2 on downgrade and 4 on stable and nil on event wend or after on the event zero windows. Conclusion stable have more impact as CRA expected of changes compare to upgrade and downgrade.

Figure 4 below shows the events activity on Bahrain Stock Market index, upgrade, stable and downgrade events compare to before and after the events window along with on the events zero windows, the activity of abnormal events take place in equal representation, although the abnormal activity is taken more in the stable events, and by studying the confident level of t-test, the confirmation of accept the null hypothesis number 3 is rejected and confirm and validity of the second one, however accepting that both before and after events are equally confirm as shown below.

Author and other researcher study emerging market such as Triandfil and Brezeanu confirm this result in 2001 for 150 firms, other such as Nadia (2004) confirm that downgrade are impacted.

Figure 4. GCC Market Indexes Number of Events Significant Level



6.9. Part Two GCC

The same source has been used to examine part one in table 8, used in part two, summarizes the GCC countries of each event counted from 33 events, sighted total of 39 event as additional on downgrade, and stable under watches, result that all events are not equal in terms of impact, this study observes and to confirm that researcher failed to reject the null hypothesis number three on term of all the GCC result

Table 9. Result of GCC Upgrade/Downgrade/Stable Events Significant by Moody's

Country	*Moody's - FC Curr Issuer Rating*									*Total*
	Upgrade			*Stable*			*Downgrade*			
	Before	Event	After	Before	Event	After	Before	Event	After	
Bahrain	0	0	3	3	0	7	2	0	2	17
Kuwait	0	0	2	2	0	2	0	0	0	6
Oman	2	0	0	2	0	1	0	0	0	5
UAE	3	0	4	0	0	0	0	0	0	7
KSA	0	0	2	0	0	0	0	0	0	2
Qatar	0	0	2	0	0	0	0	0	0	2
Total	5	0	13	7	0	10	2	0	2	
GCC Total	18			17			4			39

Conclusion of this study result, Bahrain has the only downgrading news to the market which is significant in terms of equality appear of movement in terms of events, on the other hand the GCC is not fully significant to this event since, they do not have downgrade event, result of hypothesis number three, therefore this study confirms that researcher failed to reject the null hypothesis number three.

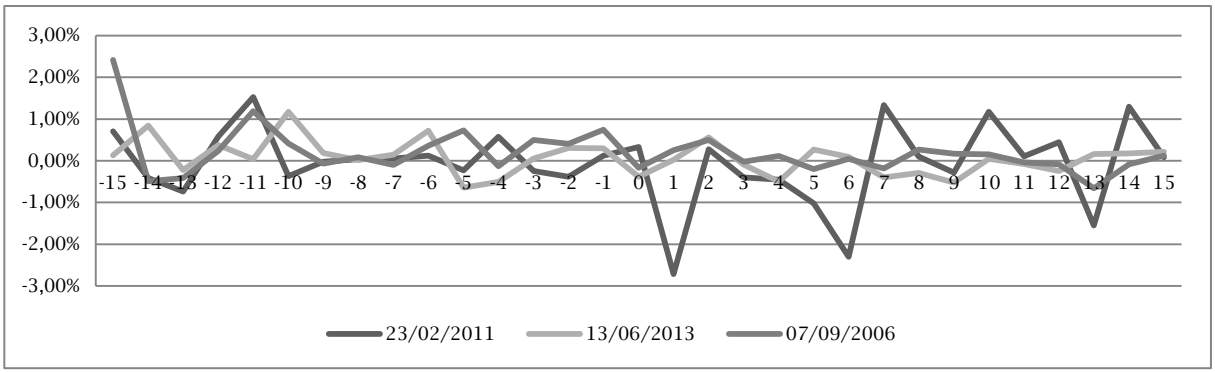
Review on Bone and Rideir (2009), study agrees with this paper result, that Brazil event of credit rating change are not impacted with 30 days study, this is a confirm of similarity that GCC react to other country, however markets are driven with different type of force other than rating and credit rating are not significantly impacting the market for any change.

6.10. CRA Moody's Impact and timeframe of observation Impact

The same source has been used to check the timeframe for observing the abnormal activity or credit rating announcements; and impact on GCC stock markets, however the significant impact was confirm on 6.6, that there are no impact or significant relationship between CRA change announcements on the stock markets indexes due to level of confident not completed. Result cannot confirm or reject the hypothesis number 4 from GCC Markets Indexes, but the researcher cannot accept or rejecting hypotheses number four, days from the result of Bahrain stock markets Index activity since it holds the downgrade abnormal activity and more data from one of the notifying and clear impact event such as 2015.

Bahrain Market shows in Figures 5, 6 and 7 below, the abnormal activity are active, however on some events are not equally diversify along the rest of abnormal activity but researcher can notify the relationship are exist between the CRA'a and stock market indexes, however not reaching the significant acceptable level of 95%, researcher cannot fully confirm the relationship of either study. Figure number 5 shows the result of testing the abnormal activity on the stock market on 2011, a notifying spike on downwards and adjusted after 10 days.

Figure 5. Bahrain Market Index Number of Events Significant Level Stable



The number of downgrading and negative watch's downgrading on Bahrain CRA are noticeable and shown in figure 5 and 6; result spike on market movement down, due to downgrading, resulting accepting the relationship between CRA's and Stock Market, although some event are not matching the event activity such as 2013 and 2006 on stable under watch's and in 2011, 2010 and 2013 in downgrading rating announcements. Result of noticeable event in 2015 and 2011 the events failed to reject the null hypothesis number 4 since the market back to normal after 10 days for the events announcements.

Figure 6. Bahrain Market Index Number of Events Significant Level Downgrade

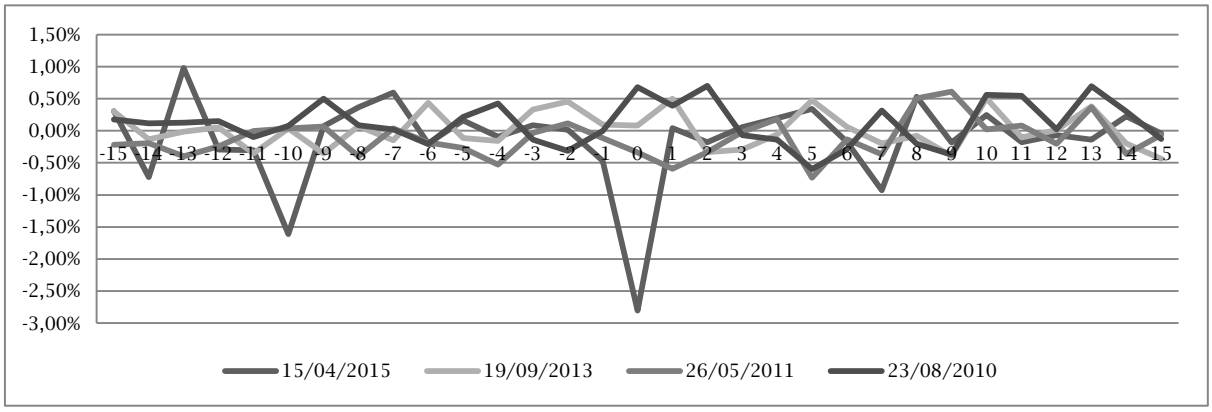
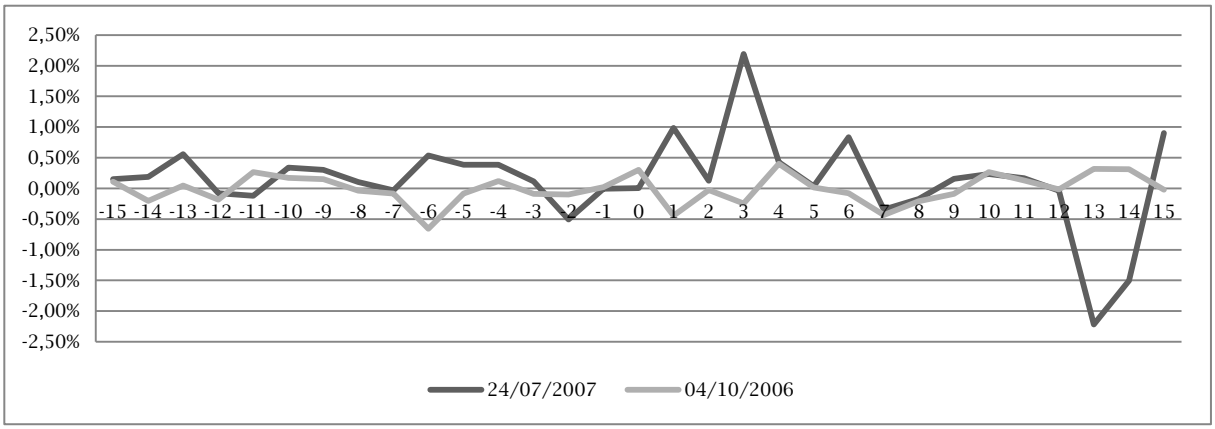


Figure 7 shows the result of abnormal return activity after the upgrade announcements of CRA Moody's the impact result spike in 2007 and normal activity in 2006, result of the market movement of such news. The spike takes place after 3 days from the event result of significant impact acceptable by T-test, but at reverse bank on days 13 and 15 as negative impact, as a result researcher failed the reject the null hypothesis number 4; the market take more than 10 days to adjust the announcements impact.

Figure 7. Bahrain Market Index Number of Events Significant Level Upgrade



Result in all models above, that this study failed to accept the null hypothesis number 4, all sparks event are observation after 10 days, even if it is not reaching the confident level of 95%. The market is not significance more toward the CRA movement, buy studying the CAR on hypothesis number one, not fully notify that the market move and adjust itself after 10 days for the events.

5. CONCLUSION AND RECOMMENDATIONS

This study begins with an examination of market response to rating changes related events announced by Moody's. Examining each country's market index individually and aggregate. Suggesting the manner in which markets react to credit rating change across markets and relates to the distinct characteristics of specific markets, result no impact in term of aggregate nor prove individual, there are no evidence to support the claim of credit rating impact stock markets as per GCC study. The study confirm that correlation analysis between credit rating and stock markets in GCC, surrounding the 15 days event, tested t-score, confirm that none of them had high enough score to confirm the level of significance. In particular, also compare the impact of downgrades during the 2008 crisis periods and after, counting for the potential impact of crisis on credit rating credibility, GCC examined markets, most of them perform in a similar manner as no impact. The finding also confirm the assume, impact on credit rating change upgrading, downgrade and stable announcements in term of equally impacted, this study confirms the impacts are not equally impacted; reject equality assumption. Last, time duration to observe the impact of sparks abnormal return to measure the impact time. Result average of ten days to make the markets react accordingly. Bahrain, Oman and KSA seem to be more sensitive to stable announcements but not reaching the significant level of confident. The impact of credit rating change announcements, markets index show slow, or no evidence in upgrade, and downgrade events, indicating that the GCC market index have no relationship or evidence of impact with credit rating change. To sum up, all the findings and examining results in this study present that generally the credit ratings in emerging markets as GCC, do not contain new information affecting the markets. However, the market reactions to the information hold different view in term of market characteristics, rating agencies, markets conditions and investors behavior or anticipation.

Recommendations, Investigating the GCC investor behavior, by qualitative questioner to understand on what basis they are encounter the stock markets, this enhance better understanding of the relationship toward the credit rating.

It by now well known, the limited size of the GCC market, affected the nature of the sample. Although it is fair to assume that no evidence of relationship existing, in many cases in fact they were impacted. Therefore, the distinction between market indexes could be altered to movement of market cap rather than impact of credit rating.

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