

The Effect of Credit Rating Changes on Banks Stock Returns: Evidence from the GCC Markets

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Abstract

This paper presents empirical evidence concerning the effect of the announcement of credit rating change on banks stock returns in the Gulf Corporation Council countries (GCC). These changes occurred during the prosperity period from 2005 through 2006 and during rescission period from 2007 through 2010. The study analyzed the financial data of nine GCC banks, whose credit ratings were upgraded, downgraded or watched. Data consist of banks daily stock closing price, maximum, minimum and index price, for 157 trading days. The empirical evidence revealed that except for Oman, upgrade and downgrade announcements did not have any significant impacts on banks stock price and volatility. It also indicates that there was a significant effect on volatility in the case of outlook.

Keywords: Financial institutions, stock returns, credit rating, volatility, announcements, event study, GCC markets.

JEL Classification Codes: G14, G21, G24, G28

1. Introduction

Companies derive their values from their capitals, assets, liabilities and profits generated by the company which are the main indicator of the company's value.

A rating agency is an organization that provides analytical services that plays a pivotal role in the financial markets. These services are based on independent, objective, credible, and crystal clear assessments. The agency's recognition depends on the investor's willingness to accept its judgment.

Rating agencies fulfill a mission of delegated monitoring for the benefit of the active investor in the market. The objective of rating agencies is to provide an independent opinion based on accurate criteria. Their contribution is reflected through rating grades that convey information about the borrower. Over the last three decades rating agencies played an increasingly basic role in financial markets and their ratings have had a greater influence on stock prices in capital markets.

This study will focus on those ratings changes that are not immediately preceded by other changes, so as to concentrate on ratings changes which potentially contained new information about bank health. While the relatively small sample size of this study is an important caveat, it finds that upgrades by ratings agencies have not followed periods of rising prices for bank stocks, although there is no downward drift in bank stock prices prior to ratings downgrades.

In this study, the banks of the GCC markets were chosen due to the following facts:

First, all GCC countries are oil exporting countries and GCC have high values of cash surpluses resulting from the increase in oil prices, the end of these money are banks those depend on cash generated from oil in a high percent which cannot be neglected, so volatile in oil price will be reflected

in cash flow and liquidity of GCC banks and their credit ratings. Second, most of GCC countries currencies' exchange rates pegs to the US dollar which makes GCC economics and GDPs volatile exactly like US Dollars and affected negatively or positively up or down which affect on the banks' foreign currencies reserves .

The paper is organized into the following sections: Section 2 provides a theoretical background of the relationship between banks credit ratings and stock returns. Then, section 3 presents the literature review and previous studies. Section 4 states the hypotheses the study. The Sample and the methodology are presented in section 5. On the other hand, section 6 reports the empirical findings. Finally, section 7 presents the concluding remarks.

2. Theoretical Framework

The relation between credit rating and stock return which is the main topic of this study is not a new concept but it remains one of the main motivations behind all investors' target, which is to maximize their wealth. If the investors knew information earlier than others, they would get abnormal return. In this chapter, the study sheds light on credit rating with special focus on the international rating companies, stock return, stock exchange bursas and banks in the GCC countries.

2.1. Credit Scoring Systems

Credit scoring systems are widespread and used in many types of credit analysis for commercial loans of consumers. The idea is still the same, identify the cretin key factors that determine the possibility of default and construct them into quantitative score. This score can be considered as indicator for the probability of default or it can be used as a classification system. In this region scoring system can be used to put both good and bad borrowers in their groups. Full review of traditional approach can be found in (Caouette, Altman, & Narayanan, 1998) and (Saunders, 1999). This model is widespread and considered as the top of scoring models, though many other newer models are commonly used, but Altman still have crucial part of analyzer business.

2.2. Rating Agencies and Credit Rating Scoring

A rating agency is an organization that provides analytical services. These services are based on independent, objective, credible, and crystal clear assessments. The agency's "recognition depends on the investor's" willingness to accept its judgment.

Credit rating issued by rating agency is generally divided into classes from AAA to D as in Standard and Poor's, short term can use a different scale, for example, from A-1 to D the credit firm is the best for AAA. AAA deteriorates as rating goes down the alphabet. The coarse grid AAA, AA, A CCC can be barreled with pluses and minuses in order to indicate the level of risk more accurately. Rating agencies provide rating only in case of data and information availability, this rating depends on the analysis which is formed in analytical framework. (Saunders, 1999)

2.4. The GCC Banking System

The economies of the Gulf Cooperation Council Countries (GCC) share a number of commonalities. All GCC countries are large oil exporters with fixed exchange rate regimes, which expose them to be as indicators of international oil prices. The similarities in their economic structure meant common sources of strengths and vulnerabilities of their financial systems. The research shows that the financial systems in the region are dominated by the banking sector, which exhibits a number of common structural characteristics across these countries. They have supported to a large extent GCC banks' resilience to the financial crisis. First, the predominance of domestic banks across the region minimized direct influence of financial crisis due to the ownership channel within GCC. Second, the high share of the traditional banking book in banks' on- and off-balance sheets limited losses from

exposures to structured products and derivatives to a few isolated cases. Third, the banking sectors in the GCC countries were buttressed by high profits and capital buffers in the run-up to the 2008-09 global recession and international financial crisis. GCC banking systems had some weaknesses that were revealed by the recent global crisis and the impact they had on the economies of the GCC countries Al-Hassan, Khamis, & Oulidi (2010).

3. Literature Review

There are an extensive research that has been performed on mature markets, mainly the United States on which they studied the relationship between ratings changes and their effects on bond and stock prices. However, studies that are related to this issue are scarce.

However, there are two opposite views on the question whether rating agencies provide valuable information to investors. Modigliani & Miller (1958) emphasized that in a perfect market, with no taxes, credit quality was irrelevant to the value of the firm. Early studies on the informational content of bond rating agency announcements appeared to support this argument. Since rating analysts were thought to use only publicly available financial information, it was generally believed that bond rating agency revisions lagged earlier established market perceptions.

On other hand, Danos (1984) argued that rating agencies possessed expert judgment and were specialists at processing information related to a firm's financial situation. Thus, they could provide valuable information which is not easily available to the public investors. Furthermore, Cornell (1989) argued that revisions in bond ratings may have informational content because they reflected a more informed estimate of the intangible assets of a firm and the implicit claims on an entity by other stockholders.

Moody's (1991) pointed out that if that kind of information was costly, the rating agencies were the lowest cost providers, and therefore, the rating changes may affect security prices.

On the other hand, the bond rating is changed due to a change in the health of the company that issued the bond. Rating agency changes a bond rating due to perceptions that management is acting so as to transfer wealth between bondholders and equity holders, then a ratings change that drove down (up) bond prices could actually drive up (down) stock prices. This possibility receives some modest support from a study by (Goh & Ederington, 1993) which differentiates between bond ratings downgrades that are due to deteriorating firm prospects and those that are due to changes in leverage. In addition to that, Katz (1974) tested the efficiency of bond market in terms of an event study on the price adjustment process of bonds to rating reclassifications. Also, Grier (1976) found that the new information was not instantaneously absorbed by the industrial bond price and there was a step-by-step price adjustment after the rating change for a significant period.

On the other hand, Ingram (1983) studied the municipal bond market reaction to the rating change announcement; the empirical results showed that the mean differential was significant during the month of the change for both the upgrading and downgrading bonds, whereas there was no significant mean differential prior to the rating change.

Similarly, there were several studies that were performed on the US equity market. For instance, Griffin (1982) explored the common stock price reaction to the rating changes. He examined the price changes in the eleven months preceding the announcement and during the month of announcement itself. He found that the cumulative abnormal returns were significant in either the preceding eleven months or the month of announcement for the downgrading stocks, whereas, were insignificant in the month of announcement for the upgrading. On the other hand, Elayan & Maris (1990) examined the stock price response to false signals – positive and negative placements on CreditWatch that were not followed by a rating change of the indicated direction. The statistical test results indicated that there was a negative stock price response to negative placements that were followed by rating affirmation, but no response at the time of placement for firms placed for negative reasons with a subsequent lowering of the rating.

Both of Ammer & Clinton (2004) used a sample of more than 1300 changes in Moody's or Standard and Poor's (S&P) ratings of U.S. Asset-Backed Securities (ABS). They found that rating downgrades tend to be accompanied by negative returns and widening spreads, with the average effects stronger than those that had been reported in prior research on corporate and sovereign bond ratings.

Matolcsy & Lianto (1995) studied a market reaction to rating revisions. They investigated an incremental information effect of bond rating changes by controlling the accounting income announcements. On other hand Schwert (1989) proved that stock return variability was unusually high during the 1929–1939 Great Depression, the aggregate leverage was significantly correlated with volatility, it explained a relatively small part of the movements in stock volatility.

Jung, Sivaramakrishnan & Soderstrom (2006) examined how both bond rating agencies and equity analysts evaluate public companies, and reported their findings and opinions to market participants. Regulation Fair Disclosure (FD) changed the dynamics of the market and placed restrictions on the information that companies could disclose to analysts. Debt rating agencies were not subject to similar restrictions. They analyzed how FD impacted the relation between changes in debt ratings and revisions in analyst forecasts. They found that following FD, analysts appear to place greater weight on information from bond rating agencies.

Also, there were other studies that were performed on the UK, Australia and the Chinese equity markets. Barron, Clare & Thomas (2003) conducted a study based on the UK share market. They used daily data around a rating change or CreditWatch announcement for the period from 1984 to 1992. A significant excess stock returns were found being associated with bond rating downgrades and positive CreditWatch announcements. They concluded that credit rating announcements provided information to the capital market in UK. Similarly, Creighton (2007) examined the impact of announcements from credit agencies in Australian financial markets. More specifically they test the effect on stock prices and yield spreads. They found evidence that both prices move in the direction indicated by the announcement. On the other hand, Poon & Chan (2008) examined whether credit ratings and rating outlooks of the listed companies which are assigned by Chinese rating agencies have any effect on their stock returns. The results suggested that profitability, debt structure, firm size, and past stock performance are important factors in determining Chinese credit ratings and rating outlooks.

Furthermore, Richards & Gropp (2001) argued that the current study provides some further evidence on this question by examining the effect of the announcement of changes in the credit ratings of banks on their stock prices. The results suggest that ratings agencies may perform a useful role in summarizing and obtaining non-public information on banks and that monitoring of banks' risk through bond holders appears to be relatively limited in Europe.

As for the GCC market, a study by Sbeiti & Haddad (2011) proved the causality between stock prices and oil price using cointegration and Granger causality test. On the other hand, Al-Hassan, Khamis, & Oulidi (2010) studied the banking sectors in six member countries including ownership concentration, cross border linkages, balance sheet exposure and risks, recent trend in credit growth and financial soundness.

Another research study by Hesse, Jobst, & Juan (2008) emphasized financial crises and its impacts on Islamic banks specially and focused on GCC market ". It present empirical evidence on the effect of crises on these banks' stock price , using panel data technique of Blunddel and Bond (1998) to design their model . The Authors found a significant effect of financial crises on stock price.

4. Hypotheses

This study tests the following two hypotheses:

- H₀₁:** There is no significant difference between the returns before and after the event rating change announcement.
- H₀₂:** There is no significant difference in the volatility of price before and after credit rating change announcements.

5. Data and Research Methodology

5.1. Study Population and Sample

The idea of this study is how credit rating change can affects the stock returns in prosperity phase i.e. 2004-2006 followed by rescission; 2006-2010 this sequence in periods is unique in the economic history. While this sample is relatively small compared to other size of population of banks, it is covered with banks which their ratings changed and they were already registered in the stock market. To the end of my knowledge, there are no previous studies tried to measure the correlation between credit rating change and stock return of GCC banks or measure the correlation between the credit rating change and the volatility of the stock price.

Ratings List

Table 2.2: List of banks which had their credit rating changed in GCC countries.

1	Commercial bank of Kuwait 2006--01-30 - Up grade	CBK
2	Kuwait Finance House - positive – Outlook - 2007-01-29	KFH
3	Burgan Bank Kuwait - 6 Nov 2006 - Up grade	BBK
4	Burgan Bank Kuwait -27 Nov 2008 - Down grade	BBK
5	United Gulf bank – Bahrain - on 12 May 2008- Down grade	UGB
6	National bank of Bahrain - 23 Aug , 2010- Down grade	NBB
7	National bank of Bahrain - Mar , 2007 - Up grade	NBB
8	Abudhabi Commercial Bank 2006 -04-03 - Up grade	CBA
9	Oman INT Bank - 05/08/2010 - Down grade	OIB

5.2. Data Analysis Methods

The monthly reports published by the rating companies such as Moody's and Standard & Poor's shaped the headlines to collect data about GCC stock markets and provided data related to the rating change announcements whether upgrade or downgrade, these reports also provided crucial information about the historical dates of settlements, observing, even notes sent by observer before the grades were granted.

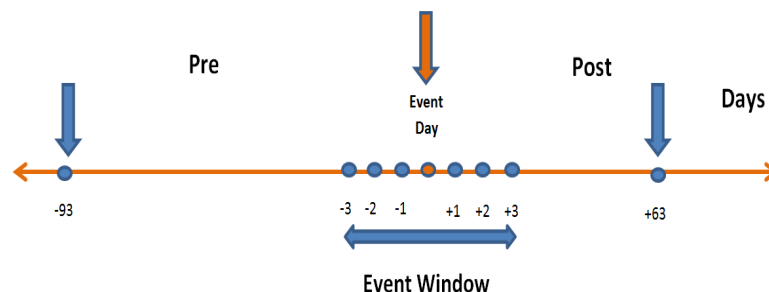
The analysis of this study is applied on sample of 7 GCC banks in order to evaluate the effect of credit rating change on the volatility and stock return of the studied banks. The estimation of expected returns using equation (1) and historical data of daily returns during the 90 days pre-announcement period from day -93 to the day -3 and to calculate abnormal returns (AR) for day -3 to day +3 after the announcement day using equation (1) (Bley, 2002)

$$ER_t = \alpha + \beta R_m \quad (1)$$

Where: ER_t is the estimated stock return and R_m is the actual index return of the market. α is the intercept; β beta is the slope which is the main indicator to calculate ER for each bank.

This study will calculate the cumulated abnormal return (CAR) for each bank across sample of seven GCC banks for each of the nine events day t , since event windows covering more than one day.

Figure 1: Time division of the event



T calculated is conducted through the (2) formula which used by Bley (2002).

$$T_{test} = \frac{CAR}{S\sqrt{N}} \quad (2)$$

Where:

S is standard deviation of the stock return of 90 days prior to event windows period i.e. from the day -93 to the day -3. N is the number of observations which is here seven days.

The next step is to judge whether the difference is significant or insignificant and the credit rating change announcement has serial impact on stock return or not. The second step is testing whether credit rating change announcements has an impact on volatility of stock price as an indicator of investors' confidence. If investors trust their stocks they never think to sell and buy these stocks as soon as new news available to them, here the investors' confidence will be measure in volatility of stock price during the trading day by the formula Bley (2002).

$$VOL_t = \frac{\sqrt{\sum_{i=1}^{90} \left(\frac{H_t - L_t}{0.5(H_t + L_t)} \right)^2}}{n} \quad (3)$$

Where: VOL_t is computed volatility. H_t and L_t are the highest and lowest price of security, prospectively of the day t.

By calculating the pre volatility of 60 days before the event window i.e. from the day -63 to the day -3 and comparing the volatility of this period with the volatility of the post period beginning from the day +3 to the day +63.

First we should apply t-Test for two means with unequal or unequal variances, so there should be a check if these variances are equal or not. That could be done by applying F test two means for variances then applying the suitable T test on the calculation of volatility to compare sixty days before and after the announcement day. If the results were significant and volatility increased, it means that there is a missing in the stock confidence after credit rating change announcement. On the other hand, if the volatility decrease was significant, it means that there is a growing up in the investor's confidence of bank stock in the market.

6. The Empirical Results

6.1. The Analysis Process

This analysis will be applied on four steps. The first is estimating the regression of relationship between two variables, the stock return which is actual stock price = LN (today stock price / previous stock price) as dependent variable and market return the actual stock price = LN (today market index price / previous market index price) as independent variable. By applying nine tests of regression, we can build stock return equations, each of which represents stock return in a specific market.

The outcomes of regression which are constants (α) alpha and (β) beta intercept or are the basic elements of stock return equation. The differences between actual and predicted stock return (outcomes of values of market equations are the predicted stock returns) are called abnormal returns. This study focused on the window time period to study the effects of the credit rating change announcements on the stock abnormal returns.

The second step is to calculate t value using formula (2) CAR for the seven days which were effected, divided on S standard deviation of the abnormal returns for the day -93 to -3 multiply by the square root of number of observations. Then we compare the calculated t value with tabulated t value. If t value is significant then we reject H_0 and that proves that credit rating change announcement has significant effect positive/negative on stock return of banks.

The third step is applying t-test for two means with equal/unequal variances. To know which test should apply we use F-test two means for variances, if the F-test is significant then the researcher will applied t-test test with unequal variance, otherwise t-test with equal variance.

T-test on the calculation of volatility will applied to compare sixty days before and after the announcement day. If the results were significant positive effect on volatility, it means that there is a missing in the stock confidence after credit rating change announcement. On the other hand, if the volatility decrease was significant, it means that there is enhancing in the investor's confidence of bank stock in the market.

The analysis build up using regression of relationship between two samples, the stock return as dependent variable and market index as independent variable.

6.2. Results Summary

The answer whether GCC countries have real cooperation in their union and have similarity in their economics (see table 1, 2, 3). The results which came out of these banks in GCC markets showed that there is no homogeneity in their characteristic; so they didn't have well aligned movement toward merger.

Tables 1, 2 and 3 show the summary of the study results, where (+) indicates positive effect of Upgrade or Downgrade and (–) stands for negative effect of up or downgrade.

Table 1: Upgradable Banks

Bahrain	Kuwait	Kuwait	UAE	Stock Market	Upgrade
NBB	BBK	CBK	CBA	Bank Name	
-	-	-	+	Stock return	
-	-	-	-	Volatility	

*, **, *** indicates significant at 10%, 5%, and 1%, respectively

Table 2: Down Gradable Banks

Oman	Bahrain	Bahrain	Kuwait	Stock Market	Downgrade
OIB	UGB	NBB	BBK	Bank Name	
+	+	+	+	Stock return	
**+	-	-	-	Volatility	

*, **, *** indicates significant at 10%, 5%, and 1%, respectively

Table 3: Summary of the Study Results (Outlook Banks)

x	Stock Market	Outlook
KFH	Bank Name	
-	Stock return	
*-	Volatility	

*, **, *** indicates significant at 10%, 5%, and 1%, respectively

By verifying the results of this study, we conclude that credit rating change announcements upgrade/downgrade have not significant effect on stock return and that clear evidence that most of the investors cannot invest these announcements to generate abnormal returns.

The second answer to the question which is, is credit rating change announcement has significant impact by increasing/decreasing the volatility which means a decrease/increase in the investors' confidence whose try to sale/buy stocks when new information available to them? is no, there is no impact of credit rating change on volatility except Oman which was effected significantly at 5% confidence level and this effect was positive and there was decrease in investors' confidence in Oman after downgrade.

This study concluded that outlook enhanced the investors' confidence in Kuwait when no new information available especially no action of downgrade was taken after the outlook and downgrade expectation.

7. Conclusions

Opposite to Moody's (1991) and Griffin (1982) which point out that the rating changes may affect security prices, our study proves that credit rating change has no impact on stock return of banks in GCC markets in most cases of both upgrade and downgrade, and that is clear evidence that new information of credit rating change has no impact on the stock price or stock return in GCC market. This study also disagrees with the results of (Goh & Ederington, 1993) in that there is effect of rating agency's changes a bond rating and equity holders, then a ratings change that drove down (up) bond prices could actually drive up (down) stock prices, at the same time this study rather agrees with the results of Richards & Gropp (2001) which showed a limited effect of credit rating change on Banks' stock return in Europ were relitively limited.

This study proved that outlook has significant impact on stock volatility and that clear in Kuwait Finance House by enhancing the investors' confidence in this market, this result agree with Mairas (1983) in that CreditWatch were not followed by a rating change of the indicated direction has effect on stock price in one direction.

Based on the results which showed that GCC markets have different characters differ from other countries' markets, since most of the markets' stock-return effected by credit rating changes negatively during downgrade and positively during upgrade. Except Oman International Bank which was significantly effected positively by downgrade , the volatility of all other banks like Burgan Bank in Kuwait and National bank of Bahrain and United Gulf bank were affected by credit rating change insignificantly and negatively during downgrade. While Schwert (1989) proved that stock return variability was unusually high during the 1929–1939 Great Depression, we believe that GCC markets had problem with investors' common knowledge which played the main role in the stock markets movements and reactions toward changes and events. However, re-evaluating the educational and training system and increasing the investors' skills are the best techniques that could affect the investors' manners. The higher tending of fundamental analysis, the more control of this phenomenon is. GCC are the main importers of expatriates of the world. This phenomenon of high tendency on expatriates with different cultures of the world enhances the idea that their reactions as portfolio managers are different as much as their cultures. We believe that encouraging the local peoples of GCC to manage the portfolios is the best to align the reaction toward events

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