

Credit Rating Changes and Stock Market Reaction in the Kingdom of Bahrain

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ABSTRACT

Between 2014 and 2015, the oil price almost halved. Since then, it has fallen a further 40%. Consequently, Moody's Investors Service has downgraded Bahrain's long-term issuer rating from Baa3 to Ba1 with a negative outlook and placed it on review for further downgrade. In this context, previous literature reaches no agreement about the impact of credit rating changes on stock prices. Some studies indicate that credit rating changes do not affect stock prices, while others conclude they do. Therefore, this study aims to examine whether credit rating change has a significant impact on Bahraini stock prices. We conducted an event study to analyze stock market reaction to such news in the Kingdom of Bahrain. Even though Bahrain has witnessed a series of sovereign downgrades over the past five years, the latest downgrading event in February 17, 2016, has been followed by a credit rating downgrade of its banking sector in March 7, 2016. Hence the choice of the sample period of the event study includes both these downgrading events over the period of study from January 2, 2014 till March 22, 2016. Three sectors were selected from the Bahrain all share index: banks, service and industrial. The findings of the study reveal that sovereign rating downgrade has some mixed pre-announcement and post-announcement effects and credit rating downgrade provides useful information. Overall, the results indicate that downgrades and negative outlook announcements have an adverse impact on long-term equity returns, but little impact on short-term performance.

Key words: Credit Rating Changes, Sovereign, Stock prices, Event Study, Bahrain Stock Market

JEL Classification Code: G14, G18, G29

1. INTRODUCTION

While the information efficiency of ratings has been extensively analyzed with reference to the U.S. markets, little evidence is available for Gulf countries and no study focuses specifically on the case of Kingdom of Bahrain. Therefore, the assessment of the price impact of rating actions for a particular Gulf country, such as Bahrain, may be a useful sensitivity check to the earlier research mainly based on U.S. data. Furthermore, it may provide insights for financial markets authorities involved in the evaluation of the usage of the external ratings as a regulatory tool in the Middle East region and Gulf countries.

Credit rating agencies, such as Moody's Investors Service or Standard & Poor's, play an important role in the financial markets and do typically impact investors' decisions (Gropp & Richards, 2001; and Ferri & Morone, 2008). They also influence market prices of financial instruments that are available as investment vehicles for investors. Moreover, credit rating agencies display a pro-cyclical behavior in downgrading countries in bad times and upgrading in good times. This may reduce or magnify patterns in stock markets. Oil-exporting sovereigns like the Kingdom of Bahrain has been under a series of downgrading announcements impacting prices and affecting the pool of investors who hold investment grade instruments such as commercial bank stocks. In fact, persistent low oil prices have created a strong fiscal pressure on the government of Bahrain and lowered its capacity in supporting its banking sector when needs pop up. Effectively, such credit profile has been followed by a credit rating downgrade of five major commercial banks in the kingdom.

Standard & Poor's downgraded Bahrain's sovereign debt by two levels to BB on February 17, 2016, claiming that the collapse in oil prices would aggravate Bahrain's public finances. Later and in March 2016, Moody's Investors Service has downgraded Bahrain's long-term issuer rating to Ba1 from Baa3 with a negative outlook and placed it on review for further downgrade. The key driver for the rating downgrade is the highly negative impact of the further sharp fall in oil prices, which Moody's expects to remain low for several years, on Bahrain's government finances, balance of payments and economic performance. Furthermore, Moody's has lowered Bahrain's foreign currency bond ceiling to Baa2 from Baa1 and foreign currency deposit ceiling to Ba2 from Baa3. The short-term foreign currency bond ceiling was lowered to Prime-3 (P-3) from Prime-2 (P-2), whereas the short-term foreign-currency deposit ceiling was lowered to Not Prime (NP) from P-3. Bahrain's local currency country risk ceilings were lowered to Baa1 from A3.

In this paper, we investigate credit rating changes and its effect on stock prices by analyzing specific Bahraini industries, banking, industrial, and service. These industries are selected because of their relative high market capitalization and trading volumes compared with the other existing industries in Bahrain stock market. This focus on specific industries may differentiate this analysis from other event studies conducted on analyzing credit rating changes and their effect on stock prices. It has been noticed that none of the existing companies included in the specific industries under investigation have investment grade bonds. Nevertheless, the banking sector includes five commercial banks having investment grade bonds and most of the events happened around

downgrading announcements. Consequently, we analyze the downgrade that took place in the banking sector.

The rest of the paper is organized as follows: Section 2 includes the literature review to show the relation between credit rating changes and stock prices. The research methodology, data sources and measures of main variables are in section 3. Section 4 presents the empirical analysis and test results of the relation between credit rating changes and stock prices. Section 5 provides summary and concluding remarks.

2. LITERATURE REVIEW

Numerous studies in the finance literature have investigated the impact of credit rating changes on capital markets in developed countries particularly in the U.S. Empirically, some studies have examined this impact on the price or return of bonds such as Katz (1974), Ederington et al. (1987), Goh & Ederington (1999). Another set of studies measured this impact on stocks, for example, Pinches & Singelton (1978), Holthausen & Leftwich (1986), Followill & Martell (1997), Jorion et al. (2005), and Jorion & Zhang (2007). More recently some studies investigated the credit default swaps, such as Micu et al. (2004), and Cathcort et al. (2010). Moreover, few studies have also investigated the European market such as Gropp & Richards (2001), Cesare (2006) and single countries, for example, in UK, the study of Barron et al. (1997) and Batchelor & Manzoni (2006), in Germany, the study of Steiner & Heinke (2001), and in Spain, the study of Pilar and Dolores (2014). Reviewing all these studies show clearly that the results of the responses to downgrades and upgrades of credit ratings are diverse.

For example, Weinstein (1977) studies the behavior of corporate bond prices over the period around the announcement of a credit rating change. The study indicates that the market should not expect that bond rating changes detect new information. In addition, some support of price change was found during the period from 18 to 7 months before the announcement of the rating change. However, the study found no result of a price change 6 months prior to the announcement of a rating change. The study shows little evidence during the change or 6 months post the announcement. While, Wakeman (1978) concludes statistically insignificant price response using weekly bond returns and monthly stock returns.

Other studies reveal that bond rating downgrades do affect the stock price while upgrades do not. Griffin and Sanvicente (1982) determine that in most cases there is a significant negative stock price reaction to bond downgrades, but not to upgrades. They conclude that their results are in line with the logic that rating downgrades notify new information to the stock market. However, they do not set aside the fact that downgraded companies are already doing worse than normal and this paradigm just carries on after the downgrade.

Moreover, Holthausen and Leftwich (1986) report that downgrades by Standard & Poor's and Moody's are linked to negative abnormal stock returns, while no reaction is found for upgrades. Using daily stock returns in the analysis, they found negative significant abnormal returns during the 2 day window, even after the removal of observations that include simultaneous issues of news. Similarly, Hand et al. (1992) report in their study on the US market that rating downgrades conveys

new information to investors, while upgrades have no impact with the interpretation that they are already inserted in the prices.

In addition, Goh and Ederington (1993) conclude similar findings, however they explain rating downgrades in more details, grouping downgrades into two types: those because of decay in the company's financial outlook and those because of an increase in leverage. Companies that are downgraded because of deterioration in company's financial prospects have a negative equity market reaction, whilst those because of increased leverage do not.

In a more recent study, Goh and Ederington (1999), examine how the reaction to downgrade announcements varies based on the implications for cash flows and the extent of surprise. The findings reveal that downgrades result for the 2 day event window in a negative cumulative abnormal return (CAR). The impact when upgrades are announced result for the 2 day event window in a negative cumulative abnormal return (CAR). The study concludes that downgrades are to a great extent due to prior negative public information and upgrades exist only because of public information.

Dichev and Piotroski (2001) examine the post announcement reaction by studying the price effect over a three year horizon. Downgrades and upgrades are divided into two subsamples according to whether they belong to holding or subsidiaries. The findings indicate that only downgrades matter: they present a post announcement impact which lasts at least one year and is more evident for holdings, small companies and lower rated enterprises.

Jorion and Zhang (2007) investigate also the impact of rating changes on stock returns by measuring the cumulative abnormal return (CAR). They examine a window from one year before till one year after (-1 year, +1 year) the date of announcement. The results show that downgraded companies have a negative CAR, which is statistically significant. For upgraded companies, the CAR comes very close to zero. However, they report a positive and significant average CAR for upgrades of speculative grade issues, although of a smaller volume than the downgrade effect.

Minardi (2008) predicts Brazilian companies' default probabilities using the Black & Scholes Merton Model, compares them with Moody's mortality rates, and links them with a credit rating. Overall, S & P's and Moody's credit ratings and ratings as estimated by stock prices synchronize in terms of the rating's capital letter. The study explains this as a proof that the information of credit rating is efficient in Brazil.

Bone and Ribeiro (2009) examine the impact of rating changes in the Brazilian stock market over the period from 1995 to 2007. They check if rating change announcements affect systematic risk. The study uses the Chow stability test and shows no evidence of structural breaks pre or post the change. Further, Cisneros et al (2012) report that the improvements in the regulatory environment in Peru, Chile and Colombia boost the quality and importance of rating agencies' credit risk reports.

To conclude, early studies on the impact of rating changes, using either daily or monthly data for the U.S. bond market, found either mixed evidence (such as Pinches and Singleton, 1978) or no effect at all (Weinstein, 1977, and Wakeman, 1978). These findings mainly support the fact that most of the rating actions followed the occurrence of publicly known events. Recent studies refine

the methodology by breaking down the rating actions into different subgroups based on whether they were foregone by a credit watch in the same direction or by inaccurate information. Hand et al. (1992), among the others, find out that only negative watches and downgrades lead to a significant impact on both stock and bond prices and that non contaminated samples present stronger reactions. Therefore, this research effort may shed some light into the relationship between credit rating changes and stock market reaction in the Gulf area, particularly in the Kingdom of Bahrain. Hence, this study would motivate researchers to examine this relationship perhaps in some other Gulf countries such as Saudi Arabia, UAE, Kuwait, Qatar or Oman.

3. METHODOLOGY

This paper adopts an event study approach as proposed by Campbell, Lo and Mackinlay (1997). Such approach is commonly used in the fields of finance and economics when one is seeking to determine the impact of an event on a particular variable. In this paper, the event being examined is a ratings downgrade for a particular company's bond, and the variable of interest is the stock price. However, before looking at how the stock price acted on the day of, and the days surrounding the event, it is important to determine how we expected the price to act if there was no event. There are a few choices for determining the expected return, and while some studies use an average of the returns over some period of time prior to the event, in this research effort we use a market model, allowing us to make a more accurate prediction of expected return.

We use an event window equal to (twenty) days before (-20) and (twenty) days after (+20) the date of a rating change announcement (0). According to Ford, Jackson and Skinner (2010) and Freitas and Minardi (2013) the choice of the window is arbitrary and "should not be too long, because it would risk encompassing other events, generating biases, nor too small, because it would risk failing to fully capture the abnormality in prices". Also, the literature about market reaction to rating announcement does not have a consensus in the event window definition. Dichev and Piotroski (2001) check different event windows: 0 (date of the announcement) to 3 months, to 6 months, to 1 year, to 2 years and to 3 years after the announcement. Jorion and Zhang (2007) checked the event window of 1 year before to 1 year after the announcement. Ee (2008) tested different windows: 1 day before to 1 day after, 3 days before to 3 days after, 50 days before to 26 days before, 25 days before to one day before.

To perform the event study, we first calculate the return on each asset i by equation (1), where \ln is the natural logarithm, $P_{i,t}$ is the price of asset i on day t and $P_{i,t-1}$ is the price of asset i on day $t-1$.

$$R_{i,t} = \ln(P_{i,t}/P_{i,t-1}). \quad (1)$$

We then estimate the returns over an estimation window that does not overlap with the event window and using the market model, which reads

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t} . \quad (2)$$

Given the market model parameter estimates, we can measure the abnormal returns by equation (3), where $R_{i,t}^*$ and $R_{m,t}^*$ are the event-window returns of asset i on date t and the event-window market returns, respectively, as follows

$$AR_{i,t} = R_{i,t}^* - \hat{\alpha}_i - \hat{\beta}_i R_{m,t}^*. \quad (3)$$

To draw overall inferences for the credit downgrading event, we aggregate the abnormal returns through time by calculating the cumulative abnormal returns over the entire event window. Taking τ_1 and τ_2 as two consecutive dates within the event window, we define the cumulative abnormal return for asset i in the following equation:

$$CAR_i(\tau_1, \tau_2) = \sum_{t=\tau_1}^{\tau_2} AR_{i,t}. \quad (4)$$

We define the null and alternative hypotheses to determine whether the calculated CAR is significant as follows:

H_0 : No abnormal return is observed in Bahraini industries' stock prices around the credit rating downgrade

H_1 : An abnormal return is observed in Bahraini companies' stock prices around the credit rating downgrade.

We can now construct a test of H_0 for asset i to assess the significance of the abnormal returns using the standardized abnormal return in the following t-statistic as in Dodd (1980),

$$t\text{-stat} = \frac{AR_{i,t}}{\sigma_i}, \quad (5)$$

with

$$\sigma_i = \sqrt{\frac{1}{N} \sum_{T=\tau_1}^{\tau_2} (AR_{i,T} - \overline{AR}_i)^2} \quad (6)$$

and where N is the number of observations of the event window $(T_1, \dots, 0, \dots, T_2)$, and \overline{AR}_i is the average event-window abnormal returns.

4. ANALYSIS AND EMPIRICAL FINDINGS

Even though Bahrain has witnessed a series of sovereign downgrades over the past five years, the latest downgrading event in February 17, 2016, has been followed by a credit rating downgrade of its banking sector in March 7, 2016. Hence the choice of the sample period of the event study includes both these downgrading events. Additionally, the selection criteria for the inclusion of a

given sector in the event study is based on market capitalization and industry representation. The Bahrain all share index has 45 listed companies and are spread in six sectors. As such, the sectors selected are banks, service, and industrial with a respective market capitalization of 47%, 15%, and 14.7% from a total market capitalization of \$ 17.5 billion. Other sectors like investment, hotel and tourism, and insurance not only have the least industry representation but also displayed the lowest trading volumes over the period of study from January 2, 2014 till March 22, 2016. The source of the data of credit rating changes is Standard and Poor's and Moody's Investor Services, the two largest and oldest providers of ratings to the market, and the source of the data is GulfBase data provider. The main data consists of indices representing Bahrain stock market and its chosen sectors. The construction of these indices is price weighted and are available on a daily basis. Additionally, we select the sample based on the following criteria:

- Being a publicly traded company with stocks held by the major stock indexes in the kingdom of Bahrain as of 22/3/2016.
- Having experienced changes in issuer ratings or foreign currency long-term ratings by Moody's or S&P's between 02/01/2014 and 22/3/2016.
- In cases where a company listed on the stock market has more than one class of stock, we select the class with the highest average volume traded between 02/01/2014 and 22/3/2016
- We disregard rating changes of companies whose stocks were not traded on dates close to the announcement.

Table (1) provides a descriptive statistic summary of the return series of the market and the three sectors under study. The average return is positive for the bank and service sector and negative for the market and the industrial sector. However, they are small compared to their respective volatilities. Despite the low volatility of Bahrain stock market (0.46%), the industrial sector has a higher volatility than the other sectors, which could be explained by the fact that Bahrain stock market is more connected to major stock markets in the world than its counterparts in the Gulf region. The distributions of the market and sector returns seem to be non-normal with a negative skewness and excess kurtosis showing fat tails, which is consistent with most emerging markets.

Table (1) Descriptive Statistics for Stock Returns

	Sector			
	Market	Bank	Service	Industrial
Mean	-0.014	0.020	0.022	-0.011
Median	-0.016	0.021	0.000	0.000
Standard Deviation	0.460	0.962	0.804	2.375
Variance	0.212	0.925	0.646	5.640
Kurtosis	3.941	144.728	28.252	294.154
Skewness	-0.341	-8.515	-1.892	-14.404
Minimum	-2.842	-16.097	-8.219	-47.486
Maximum	1.537	3.685	4.283	10.032

The methodology described in the previous section uses the market model as the normal performance return model. The market model parameters are based upon daily return observations beginning 501 days through to 41 days before the sovereign rating change. The event period ranges from 20 days before to 20 days after the rating change. Table (2) summarizes the market model parameter estimates.

Table (2) Market Model Parameter Estimates

Coefficient	Bank Sector	Service Sector	Industrial Sector
α	0.017	0.038	-0.004
β	0.182*	0.342*	0.452*
R^2	0.007	0.036	0.007

* Denotes 5% significance level

On the premise that the literature has revealed that sovereign rating downgrade has some impact on stock market returns, the results displayed in Table (3) show some mixed pre-announcement and post-announcement effects. On the announcement day (day zero), the abnormal return for the bank sector is -0.066% and for both the service and industrial sector is -0.293% and -0.368% respectively, with no significant impact as the t-statistics accept the null hypothesis that the downgrading event has no impact. Focusing on the pre-announcement date, we observe an anticipation of the sovereign downgrade for the bank and industrial sectors only. There is a statistically significant reaction for the bank sector on day -16 with an abnormal return of -1.158%, and on day -8 and -7 for the industrial sector with respectively 2.587% and -2.930%. On the post-announcement date, we observe a significant effect on day 5 and 6 for the industrial sector with significant negative abnormal returns. Whereas, for the bank and service sector, it takes longer times to absorb the sovereign credit rating downgrade, respectively on day 16 and 18 for banks and day 19 for service. This would suggest that investors in the banking sector could earn significant positive returns sixteen days after the announcement as a possible overreaction but then realizing the negative outlook of the economy two days later. Investors in the industrial sector may have realized the negative outlook and have absorbed the announcement at an earlier time than with investors in the service sector. Nevertheless, the significant negative abnormal returns associated with the negative news of credit rating is in line with previous empirical studies. Overall, and within an interval of 5 days, the market seems to anticipate the information provided by the rating agencies as there are no significant abnormal returns whether earned by investing in the bank sector, the service or industrial sector.

Table (3) Cumulative Abnormal Return around Sovereign Rating Downgrade

Event Day	Bank Sector			Service Sector			Industrial Sector		
	AR	CAR	T Stats	AR	CAR	T Stats	AR	CAR	T Stats
-20	-0.126	-0.126	-0.237	0.195	0.195	0.195	-0.101	-0.101	-0.095
-19	0.316	0.191	0.596	-0.420	-0.225	-0.419	-0.085	-0.186	-0.080
-18	-0.302	-0.111	-0.568	0.056	-0.168	0.056	0.416	0.229	0.390
-17	-0.476	-0.587	-0.897	-0.637	-0.805	-0.636	0.304	0.533	0.285
-16	-1.158	-1.745	-2.181*	0.553	-0.253	0.551	0.596	1.129	0.559
-15	0.914	-0.831	1.723	0.112	-0.140	0.112	0.038	1.167	0.035
-14	0.113	-0.717	0.213	-0.281	-0.421	-0.280	0.329	1.496	0.308
-13	-0.990	-1.707	-1.865	-0.198	-0.619	-0.197	-0.206	1.289	-0.193
-12	0.829	-0.878	1.561	-0.109	-0.729	-0.109	0.514	1.803	0.482
-11	0.472	-0.406	0.889	0.122	-0.606	0.122	1.573	3.377	1.475
-10	0.375	-0.032	0.706	0.238	-0.368	0.238	-1.903	1.473	-1.784
-9	-0.352	-0.384	-0.663	-0.024	-0.392	-0.024	1.687	3.160	1.582
-8	0.247	-0.137	0.465	-0.553	-0.945	-0.552	2.587	5.747	2.425*
-7	0.152	0.015	0.286	0.556	-0.389	0.554	-2.930	2.817	-2.747*
-6	0.564	0.579	1.063	-0.287	-0.676	-0.286	-0.075	2.742	-0.070
-5	-0.004	0.575	-0.008	-0.077	-0.752	-0.076	-0.046	2.696	-0.043
-4	-0.126	0.449	-0.237	0.672	-0.081	0.670	-1.154	1.542	-1.082
-3	0.070	0.520	0.133	1.522	1.441	1.519	-0.053	1.489	-0.050
-2	-0.462	0.058	-0.871	0.056	1.498	0.056	0.000	1.488	0.000
-1	0.738	0.796	1.391	-0.384	1.114	-0.383	0.227	1.716	0.213
0	-0.066	0.730	-0.125	-0.293	0.821	-0.293	-0.368	1.348	-0.345
1	-0.338	0.391	-0.638	-0.070	0.751	-0.070	-0.262	1.086	-0.246
2	0.078	0.469	0.146	1.407	2.158	1.403	-0.204	0.882	-0.191
3	0.171	0.640	0.323	0.031	2.189	0.031	-1.698	-0.816	-1.591
4	0.434	1.074	0.817	-0.054	2.135	-0.054	-0.043	-0.859	-0.040
5	-0.133	0.941	-0.250	-0.356	1.779	-0.355	-2.070	-2.929	-1.940*
6	-0.216	0.725	-0.407	-0.157	1.623	-0.156	2.614	-0.314	2.451*
7	0.041	0.767	0.078	-0.091	1.532	-0.091	0.019	-0.295	0.018
8	-0.125	0.642	-0.235	-0.168	1.364	-0.167	-0.166	-0.462	-0.156
9	-0.135	0.507	-0.255	-0.117	1.247	-0.117	-0.832	-1.294	-0.780
10	-0.754	-0.248	-1.421	0.212	1.459	0.212	0.189	-1.105	0.177
11	0.670	0.422	1.261	0.236	1.695	0.236	-0.645	-1.750	-0.604
12	-0.122	0.300	-0.230	-0.054	1.641	-0.054	-0.074	-1.824	-0.069
13	0.546	0.846	1.029	-0.070	1.571	-0.070	0.099	-1.724	0.093
14	0.014	0.860	0.026	-0.296	1.276	-0.295	1.146	-0.578	1.074
15	-0.432	0.428	-0.814	-0.247	1.028	-0.247	-0.531	-1.109	-0.498
16	1.143	1.571	2.153*	-0.310	0.718	-0.309	-0.012	-1.121	-0.012
17	-0.943	0.629	-1.776	0.488	1.206	0.487	-0.898	-2.019	-0.842
18	-1.058	-0.429	-1.992*	-0.679	0.527	-0.678	-0.230	-2.249	-0.215
19	-0.185	-0.614	-0.349	-5.443	-4.916	-5.430*	0.987	-1.262	0.925
20	-0.133	-0.748	-0.251	1.652	-3.264	1.648	0.131	-1.131	0.122

* Denotes 5% significance

In order to provide further insight to the results, we present the results of the effect of the credit rating downgrade of four out of the seven banks that constitute the bank sector portfolio, which

took place on March 7, 2016, on all three sectors. The same methodology has been applied for this downgrading event and where the market model parameters are re-estimated based upon daily return observations beginning 511 days through to 21 days before the credit rating change. We observed no change in the parameter estimates carried out previously. The event period ranges from 10 days before to 10 days after the rating change. Table (4) presents the abnormal returns as well as the cumulative abnormal returns for the three sectors under study. The results are consistent with the empirical literature on the information content of credit rating change. There is a supporting evidence that credit rating downgrade provides useful information. In fact, there is a significant negative reaction in both the bank sector and the industrial sector four days after the announcement. Whereas there is a delay of 8 to 9 days for the service sector.

Table (4) Cumulative Abnormal Return around Banks Credit Rating Downgrade

Event Day	Bank Sector			Service Sector			Industrial Sector		
	AR	CAR	T Stats	AR	CAR	T Stats	AR	CAR	T Stats
-10	-0.571	-0.126	-0.544	0.592	0.592	0.864	-0.476	-0.476	-1.041
-9	0.046	-0.080	0.043	-0.607	-0.015	-0.886	-0.469	-0.945	-1.025
-8	0.078	-0.002	0.074	-0.145	-0.160	-0.211	-0.492	-1.437	-1.075
-7	-0.447	-0.449	-0.426	0.466	0.306	0.679	0.266	-1.171	0.581
-6	-0.388	-0.838	-0.370	-0.408	-0.102	-0.596	-0.392	-1.563	-0.857
-5	0.256	-0.582	0.244	-0.534	-0.637	-0.779	0.160	-1.403	0.351
-4	0.213	-0.369	0.203	0.182	-0.455	0.265	-0.501	-1.903	-1.094
-3	0.012	-0.357	0.011	-0.949	-1.404	-1.384	-0.071	-1.974	-0.155
-2	-0.063	-0.420	-0.060	0.203	-1.200	0.296	0.737	-1.237	1.610
-1	-0.452	-0.872	-0.431	0.125	-1.075	0.183	-0.026	-1.263	-0.057
0	0.626	-0.247	0.596	-0.890	-1.965	-1.298	0.507	-0.757	1.107
1	-0.953	-1.199	-0.907	0.232	-1.732	0.339	-0.830	-1.587	-1.815
2	-0.622	-1.821	-0.593	-0.402	-2.135	-0.587	0.337	-1.250	0.736
3	-0.104	-1.925	-0.099	-0.311	-2.445	-0.453	0.005	-1.246	0.010
4	3.207	1.282	3.055*	1.152	-1.293	1.681	0.915	-0.330	2.000*
5	0.433	1.715	0.413	-0.520	-1.813	-0.758	0.024	-0.306	0.053
6	0.401	2.117	0.382	-0.118	-1.931	-0.173	0.607	0.301	1.327
7	-2.308	-0.191	-2.198*	0.142	-1.789	0.207	-0.120	0.180	-0.263
8	1.885	1.694	1.796	-1.590	-3.379	-2.320*	-0.138	0.042	-0.302
9	-0.393	1.300	-0.375	-1.822	-5.201	-2.657*	-0.245	-0.203	-0.535
10	0.878	2.178	0.836	0.142	-5.058	0.208	-0.547	-0.750	-1.196

* Denotes 5% significance level

5. CONCLUSIONS

This study's main conclusion is that an emerging market such as of Bahrain could be seen as forward looking. Knowing that the oil price slump has triggered a series of fiscal pressures on the government, the sovereign downgrading has been expected by market participants and all of the anticipated market consequences of the downgrade are gradually factored into market prices over time, before a downgrade actually happens. Therefore, once the sovereign downgrade is announced, the market movements in the three sectors at the time are not significant. After the announcement, a much delayed significant reaction is witnessed in all three sectors. Such delay however was shorter when a credit rating downgrade is announced for the banking sector. In fact, learning that there is less willingness by the government of Bahrain to support its banks and a weakening of the bank operating conditions, investors in the bank sector and in the industrial sector seemed to be synchronized in displaying a negative reaction. Investors in the service sector seemed to react negatively days later. In a nutshell, this may suggest that downgrades and negative outlook announcements have an adverse impact on long-term equity returns, but little impact on short-term performance.

This study however presents some limitations as it is mainly limited to its small sample size. A larger sample, perhaps from different Gulf countries, with a greater number of observations would have allowed the results to give general insights. Another possible improvement would be in interviewing some policy makers, investors and professionals from the Kingdom of Bahrain. Personal interviews could elicit greater information regarding stock market reaction to credit rating changes in Bahrain. This method could have added important qualitative data and greater insight into the policy makers and investors' thoughts and opinions, so that better understanding and interpretation of the relation between credit rating changes and stock market reaction in the Kingdom of Bahrain would have achieved.

Although the relation between credit rating changes and stock market reaction has been established in the finance literature, to the authors' knowledge, this paper is the first of its kind to examine this issue in the Middle East and particularly in the Kingdom of Bahrain. The findings of this study are confined to one country in the Gulf area, i.e. the Kingdom of Bahrain, and this may limit the generalizability of its results. Hence, future research may conduct a comparative study or cross countries study perhaps in some other Gulf countries such as Saudi Arabia, UAE, Kuwait, Qatar or Oman, especially for examining the relationship between credit rating changes and stock market reaction. Moreover, the assessment of the price impact of rating actions for a particular Gulf country, such as Bahrain, may be a useful sensitivity check to the earlier research mainly based on U.S. data. Furthermore, it may provide insights for financial markets authorities involved in the evaluation of the usage of the external ratings as a regulatory tool in the Middle East region and Gulf countries.

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