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COVID-19'S IMPACT ON THE KUWAITI BANKS' STOCK PERFORMANCE

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Abstract

This study examines the impact of the COVID-19 pandemic on banking stocks listed on the Kuwait stock market. By applying the event study methodology (ESM) and one-factor model, the study reveals that the performance of bank stocks versus the pandemic varied, as the stock prices of some banks decreased at a higher rate compared to others. However, in general, all stock prices decreased because of the of the news of the spread of the COVID-19 pandemic in Kuwait, after which the prices stabilised after. Two significant CAAR were found for the sub-events window: (-10,10) and (0,10), while four out of nine selected stocks only have significant CAR in the (0, 10) window. In general, the average return for the period following the day after the event day was below the average return before the event day. All stocks witnessed high volatility during the post-event day compared with the pre-event day in the event window.

Keywords: Kuwaiti Stock Market, Event Study Methodology, CAAR, and CAR

INTRODUCTION

In January 2020, the world witnessed the spread of the COVID-19 pandemic, which was discovered in China on 27 December 2019. This virus affected the economies of all countries around the world, as markets, airports and government departments became locked down. On 24 February 2020, the Ministry of Health in Kuwait announced the discovery of the first three cases of COVID-19 infection. Since this virus emerged, Kuwait has taken many steps, including closing the airport, curfews and suspending the work of various government departments. The Kuwaiti Stock Exchange (KSE, henceforth) continued to operate, as trading continued via the

Internet, and the general stock market index (KSEI) declined significantly following the announcement of the first cases. The banking sector is one of the most important sectors in Kuwait's stock market, as this sector contributed about 61.4% of the total value of trading in stocks in the KSE. Therefore, the main objective of this study is to test the effects of the COVID-19 announcement on the stock prices of the Kuwaiti banks. A comparison between the Islamic banks and the traditional banks will be discussed. The remainder of this paper is organised as follows: the second section provides a review of the relevant literature; the third section explains the spread of COVID-19 in Kuwait; the fourth section discusses the methodology and data, the fifth section presents the empirical results; and the sixth section provides the conclusion.

LITERATURE REVIEW

In the recent, pioneering literature, scholars and researchers have been interested in studying and investigating the stock market's performance and its effect on the economy. Many studies examine the behavioural aspect of investors during pandemics and emergencies, such as terrorist attacks, economic crises, and disasters, and how these influence stock market prices. The research by He et al. (2020) stated that any infectious disease that hits the world would have a high impact on and create risk in the capital market, which causes high volatility. The reaction to volatility in the financial sector depends on the degree to which the pandemic impacts on each industry. In addition, the empirical study of Ngwakwe (2020) discussed the concept of Black Swan Theory and public health outbreaks, like Severe Acute Respiratory Syndrome (SARS) in 2003, swine flu in 2009 and Ebola in 2014, that influenced investor sentiment regarding the capital markets.

Numerous researchers have examined the influence of previous infectious diseases, like SARS and Ebola, on stock performance and economic disruption. Loh (2006) investigated the effect of SARS on the movement of airline stocks in Canada, China, Hong Kong, Singapore, and Thailand, and concluded that it reacts negatively and aggressively to any statement about SARS. According to a working paper by Brahmbhatt and Dutta (2008), even with its relatively low number of infected people and deaths, SARS had an impact on the economic performance in East Asia, due to fear among individuals. Moreover, Nippani and Washer (2004) concluded that the SARS outbreak had a negative effect on the stock markets in China and Vietnam, yet no impact on other Asian stock markets. Another empirical study on the Ebola Virus outbreak found that it influenced the financial market and had a clear effect on the stock markets in West African Countries and the U.S. (Ichev and Marinc, 2018). Jalloh (2019) also found that the Ebola outbreak had a significant negative effect on the economic conditions in West Africa. Moreover, Ichev and Marinc (2016) identified a negative influence of Ebola disease on U.S. asset prices.

On the other hand, the pandemic that caused the latest, unprecedented economic recession is the novel Coronavirus disease (COVID-19). At a global level, Corona invaded the world in the first quarter of 2020 and caused the world economy to grind to a halt. Since WHO announced that the COVID-19 outbreak was a world pandemic, the downfall in firm's demand and disruption to the global supply chain caused vagueness within the global economic system (Kotishwar, 2020). As a result, a decrease in stock prices and rise in their volatility have been observed during the COVID-19 pandemic. Senol and Zeren (2020) specified that several sectors have witnessed a sharp decline in their stock prices, like petrol and gas, banks, customer services and transportation, whereas other sectors, such as food, automobile services, and care equipment, have experienced an increase. Recent research by Sansa (2020) declared that the Corona outbreak has hit social welfare as well as the trading markets and firms' production. The first reason for the economic recession is that many countries have taken some precautions and enforced movement restrictions and curfews onto their citizens, which has forced businesses to shut down or employees to work from home, as acknowledged by Yan et al. (2020). Likewise, Lee et al. (2020) confirmed that the closure of business activities and city lockdowns has caused high uncertainty regarding investors' decisions. Secondly, governments worldwide have placed various bans and restrictions on airports and international travel, which has led to a decrease in transportation revenue and so a corresponding decline in airline stock prices. (Baker et al., 2020; Lee et al., 2020).

Throughout economic history, none of the previous epidemics affected the world's financial sectors to the extent that COVID-19 has done. As a result, numerous empirical research has begun to emerge, using different methods to analyse the impact of COVID-19 on the global economy. The recent working paper by Lee et al. (2020) examines the influence of Corona on Malaysian sectors from 31 December 2019 to 18 April 2020. The outcome of the regression analysis indicates that, as the number of COVID-19 cases increases, the KLCI index, 12 sectoral indices except for the REIT index, and Brent Crude Oil Price were proven to be significantly affected. Anh and Gan (2020) disclosed that the financial sector in Vietnam witnessed a major jolt due to unpaid debt and a large number of deposit withdrawals over a short period of time. The authors used a panel data regression model from 30 January 2020 to 30 May 2020 in order to estimate the impact of the number of confirmed cases on the returns from the Vietnamese stock market. The findings revealed that COVID-19 had a significant negative effect during pre-lockdown, and thus a positive association with lockdown. Yar (2020) used a research model to study the contagion influence of positive COVID-19 cases, fatalities and recoveries on Pakistani Stock Market performance for the first and second quarters of 2020, and concluded that recoveries from COVID-19 had a significant effect whereas positive

cases had no effect on the performance of PSX. Bora and Basistha (2020) disclosed, by using a GARCH model to demonstrate the volatility movement of tbe Nifty and Sensex indices from 3 September 2019 to 10 July 2020, that the Indian financial markets experienced high volatility during the Corona outbreak, due to a decline in stock returns.

He et al. (2020 conducted an event study to evaluate the effect of the Corona outbreak on Chinese industries from 3 June 2019 to 13 March 2020, and concluded that the Shanghai Stock Exchange was negatively affected by the pandemic and that the stock prices of the Shenzhen Stock Exchange reacted positively. In addition, the transportation, mining, electricity & heating and environment-related industries were mainly affected due to their dependence on logistics and transportation. Since the roads were closed and so the movement of goods limited, investors' attitudes changed. This resulted in a drop in stock prices. Sansa (2020) used a sample from the Shanghai Stock Exchange and New York Dow Jones to investigate the influence of Corona on the financial markets from 1 March 2020 to 25 March 2020, using a simple regression model. Their findings revealed that a positive relationship existed between confirmed cases and both financial markets. Chowdhury and Abedin (2020) used GARCH, VAR, and ESM models to measure the effect of Corona on the U.S. financial market from 1 January 2020 to 30 April 2020 and concluded that cases and deaths related to COVID-19 debilitated the U.S. stock market while Covid-related deaths increased the volatility in the market. Supporting previous research, Dey et al. (2020) used the same sample data but ML and conventional econometric models to investigate the impact of Corona on the U.S. stock market. This impact was noticeable on the U.S. stock market as the number of cases and deaths increased, but there was no effect on price volatility. Likewise, Kotishwar (2020) assessed the effects of cases on six countries (the U.S., Spain, France, Italy, China and India) from 11 March 2020 to April 2020, using VECM & CAAR models. By applying VECM, it was found that Corona das a negative long-term effect in six countries, while CAAR has a positive reaction in the post-COVID-19 period. Also, they looking for long-term investment at the lowest level. Using an event study methodology, Liu et al. (2020) analysed the effect of Corona on 21 major countries from 21 February 2019 to 18 March 2020. The results confirmed that all of the stock markets in the 21 countries fell after the Coronavirus pandemic was announced. Additionally, Asian countries predominantly demonstrated a negative abnormal return. Ashraf (2020) tested the response of 64 countries to Coronavirus cases and deaths from 22 January 2020 to 17 April 2020, using panel data analysis techniques. The stock markets had a negative reaction as the number of cases rose and reacted more to confirmed cases than deaths. Moreover, high volatility within the stock markets during the periods when cases began to be reported was observed as well as at 40-60 days of original confirmed days.

On the other hand, Mzoughi et al. (2020) tested the impact of COVID-19 cases against the movement of crude oil prices from 22 January 2020 to 30 March 2020 using the VAR model. Their findings showed that, as the number of cases increased, the crude oil prices witnessed a decline, and this also affected the equity markets. Similarly, Aloui et al. (2020) demonstrated the impact of COVID-19 shocks on energy commodities S&P GS indexes from 2 January 2020 to 9 April 2020, using VAR and TVP-SVAR models. The results confirm the effect of fundamental, behavioural and psychological factors on these indexes. Both studies support the conclusion that oil prices are declining due to a fall in demand for crude oil stemming from lockdowns in various countries and the restricted transportation of goods, movement which have led to a decline in oil consumption.

COVID-19 CASES IN KUWAIT

The COVID-19 first three cases were announced in Kuwait on 24 February 2020. Figure 1 shows the fast increase in COVID-19 cases in Kuwait from 24 February to 30 April 2020.

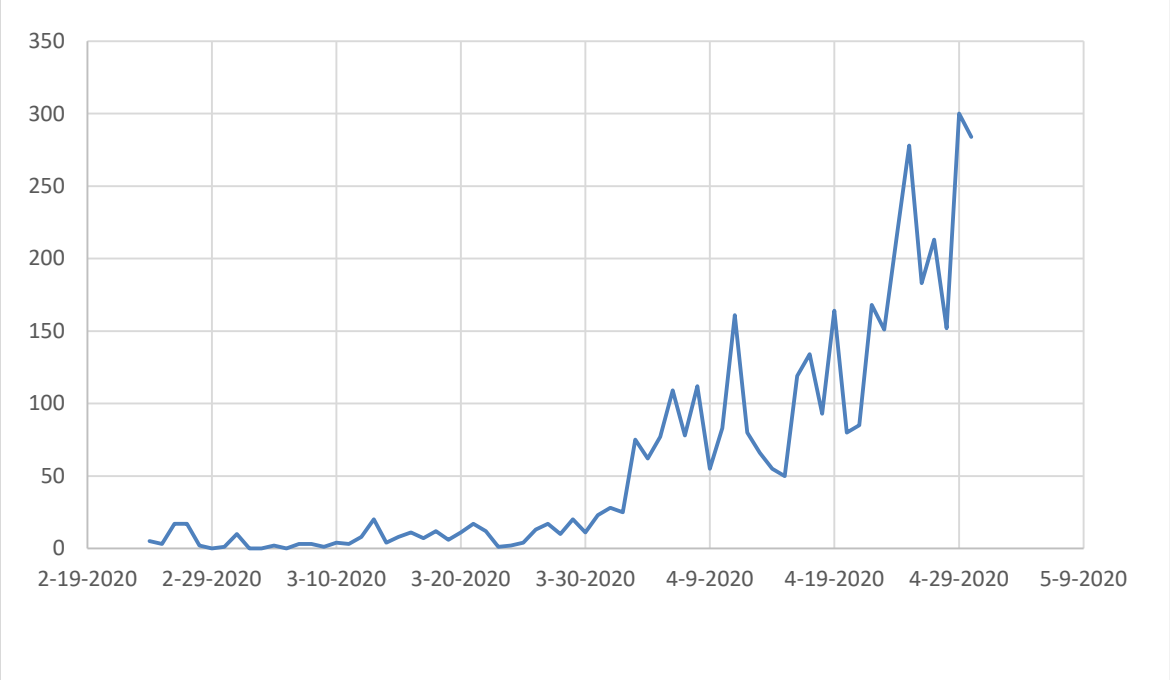

Figure 1. COVID-19 Cases in Kuwait from February-April 2020

Figure 2 shows the KSEI activity during the period from February 2019 to April 2020; it is clear from this figure that the Kuwaiti stock market index started to decline from 24 February 2020 to 18 March 2020.

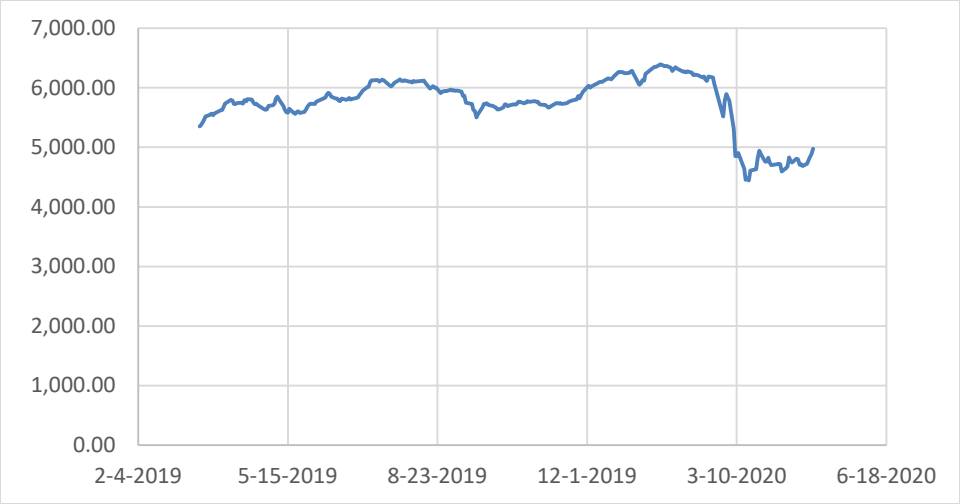

Figure 2. KSEI, 2019-2020

RESEARCH METHODOLOGY

The Event Study Methodology (ESM) is used in this study to measure the impact of an unanticipated event (namely, COVID-19) on the bank stock prices listed on the KSE. The standard one-factor model for each bank was employed in this study. The abnormal returns are calculated to reflect the impact of COVID-19 on the stock prices of each bank. The following steps were followed in the empirical work for this study:

- The selected event day was 1 March 2020. The first report of COVID-19 cases in Kuwait was on 24 February 2020 and, from 25-29 February, the KSE was closed due to national holidays.
- The event window starts from 11 February to 16 March 2020. To investigate the impact of the COVID-19 pandemic, six subdivided windows were examined: (-10,0), (-5,0), (-10,10), (-5,5), (0,5) and (0,10). While the estimation window covers the period from 17 March 2019 to 10 February, 2020.
- The compounded returns or each bank and market index was calculated by:

$$R_{it} = \ln\left(\frac{P_t}{P_{t-1}}\right) * 100 \qquad (1)$$

Where, the P_t= the adjusted closing price on day "t" and P_{t-1}= the adjusted closing price on day "t-1". The same model was used to estimate the stock market index returns (R_{mt}).

- The one-factor market model is expressed as:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \qquad (2)$$

Where, R_{it} is the rate of return of bank stock "i" on day t., the R_{mt} is the rate of return on the Kuwaiti Stock Exchange Index (KSEI) on day t, the α_i is the intercept term, β is the slope of the

regression line (OLS) and reflects the systematic risk of bank stock "I", and ε_{it} is the error term. This equation was calculated for the pre-event window.

- From model (2), the daily abnormal returns for each bank stock as follows:

$$AR_{it} = R_{it} - (a_i + b_i R_{mt}) \quad (3)$$

Where, AR_{it} (Abnormal Return) = the actual returns minus the expected returns and the a_i and b_i are estimated by equation (2) by OLS over the pre-event window. The significance of the abnormal returns was tested using t statistics, which should be t >1.96 at the 5% level, where t = the AR/standard error.

- However, the cumulative abnormal return (CAR) over the event window for each bank stock was calculated as follows:

$$CAR_{i,(-T_2,T_3)} = \sum_{t=-T_2}^{T_3} AR_{i,t} \quad (4)$$

Where, $-T_2$ and T_3 are the period of the event window.

- The average of abnormal return (AAR) for all bank stocks in the event window and the cumulative average abnormal return for all bank stocks (CAAR) in the event window were calculated as follows:

$$AAR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{i,t} \quad (5)$$

$$CAAR(-T_2, T_3) = \sum_{-T_2}^{T_3} AAR_t \quad (6)$$

Where, AAR_t is the average of the abnormal returns of all bank stocks while the CAAR is the cumulative average of the abnormal returns of all bank stocks. The t-test was calculated as follows: t-statistics of CAAR = CAAR/(standard deviation of the estimation window *(number of days)^(1/2)).

- On the other hand, the data obtained from the Kuwaiti Stock Exchange covers the period from 17 March 2019 to 30 April 2020. The sample consists of nine banks listed on the KSE, while the stocks of (CBK) bank have been excluded, as there was no trading in them on the majority of days within the specified period. In order to simplify the comparison, we divided the stock into two groups. The first group included NBK, AUB, KFH, Warbah and Boubyan, while the second group consisted of KIB, Burgan, GBK, and ABK.

RESULTS AND DISCUSSION

The estimation window ran from 17 March 2019 to 10 February 2020, while the event window ran from 11 February (10 days prior to the event day) to 16 March 2020. The event day was 1

March 2020. The event window consists of six sub-windows: (-10,0), (-5,0), (-10,10), (-5,5), (0,5), and (0,10). Table 1 shows the average of the returns and standard deviation of all stocks during the ten days prior to the pre-event day (-10, -1) and the post-event period (0,10). All stocks have high negative mean of returns from day 0 to day ten compared with the pre-event day (-10, -1). However, the standard deviation for all stock was increased during the event window (sd2 in table 1) compared with the pre-event window (sd1 in table 1) and reflects the increase in stocks' volatility.

Table 1. Average Returns of the Banks' Stocks Pre and Post the Event Day

*	NBK	AUB	KFH	WARB.	BOUB.	KIB	BURG.	GBK	ABK
Pre	-0.1567	-0.089	-0.297	-0.2206	0.1104	0.0365	-0.369	-0.512	-0.0383
Pos	-2.6117	-2.445	-3.084	-3.0930	-3.7865	-2.246	-3.811	-3.8001	-3.1923
Sd1	0.88945	0.9898	1.0832	0.9905	1.1352	0.9929	1.2721	0.97755	1.18727
Sd2	4.56575	3.4854	4.0931	3.0782	4.0968	3.8723	4.0331	4.3161	3.3900

*Sd1 and Sd2 are standard deviations for the pre- and post-event window.

Figures 3 and 4 indicate that all investigated stock returns moved together in the same direction. It is noticeable that all stocks witnessed a sharp decline on the event day (t_0), before increasing over the next two days. However, the stock returns of the second group increased slightly more than those of the first group. All stocks witnessed a significant decline from the third to the sixth post-event day, while the second group's decline was greater than that of the first group. It is noticeable that all stocks witnessed sharp fluctuations in their prices during the window (0,10; Figures 3 and 4).

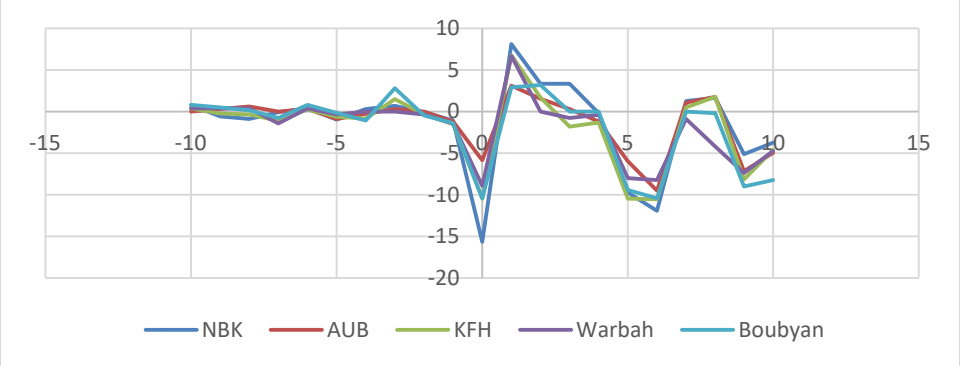

Figure 3. Stock Returns of Group One
(Event-Window)

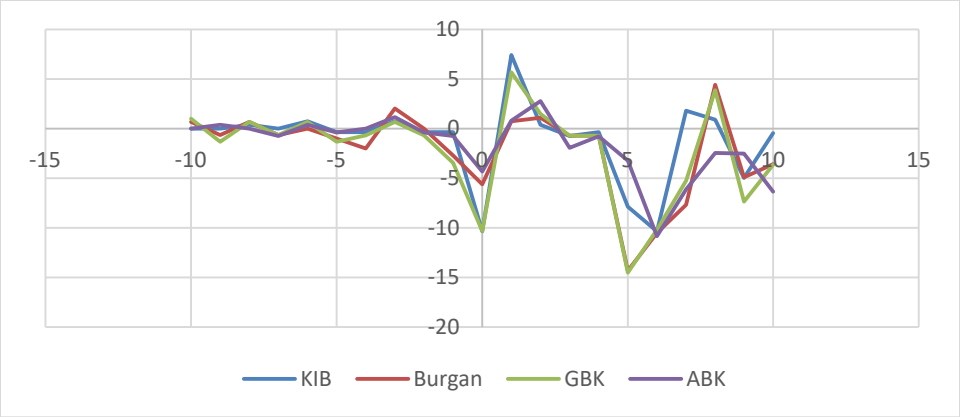

Figure 4. Stock Returns of Group Two
(Event-Window)

Table A.1 shows the results obtained using the ordinary least squares (OLS) regression of the one-factor model. This table contains the intercept (α), slope of the regression line (β), R-square, standard error and standard deviation. Four banks have a beta more than one, including ABK, Burgan, KFH and Boubyan, which indicates that they swing more than the Kuwait stock exchange index. At the same time, other stocks move at the same rate as the market index. The abnormal returns (AR) for both groups are shown in tables A.2.a. and A.2.b. These tables show that significant negative ARs on the event day were found for the stocks of NBK and KIB only, while significant positive ARs were found for AUB, KFH, BURGAN and ABK. Other stocks did not show any significant results regarding the event day. However, during the post-event period, the ARs fluctuated from negative to positive and *vice versa*. Although the banks suffered a decline in their profits, and some of them witnessed losses during the first quarter of 2020, their stock prices in the KSE absorbed the shock of COVID-19. It is true that they decreased on some days, and their average returns responded negatively, but they were modified within a short time of period. All bank stocks recovered after the shock of the COVID-19 event on the KSE within just 21 days. This may have been due to the fact that the stocks of the banks listed on the Kuwaiti Stock Exchange are in high demand and considered a safe bet for investors because the banks are supported by the government and deposits in the Kuwaiti banks is also guaranteed by the government.

On the other hand, table A.3 illustrates the cumulative abnormal return (CAR) for the event window, sub-divided into six windows, including (-10, -1), (-5, -1), (-10, 10), (-5, 5), (0, 5) and (0, 10). The trend among five stocks, namely NBK, AUB, KFH, Warbah and Boubyan, was positive but not significant, except that, in the case of NBK, the CAR was significant at the 5 per cent level and positive for the sub-event windows of (0, 5), and (0, 10). Figure 5 shows that the

trend in the CAR of these bank stocks was positive during the post-event day. NBK responded most negatively on the event day (t_0), while other stocks responded positively.

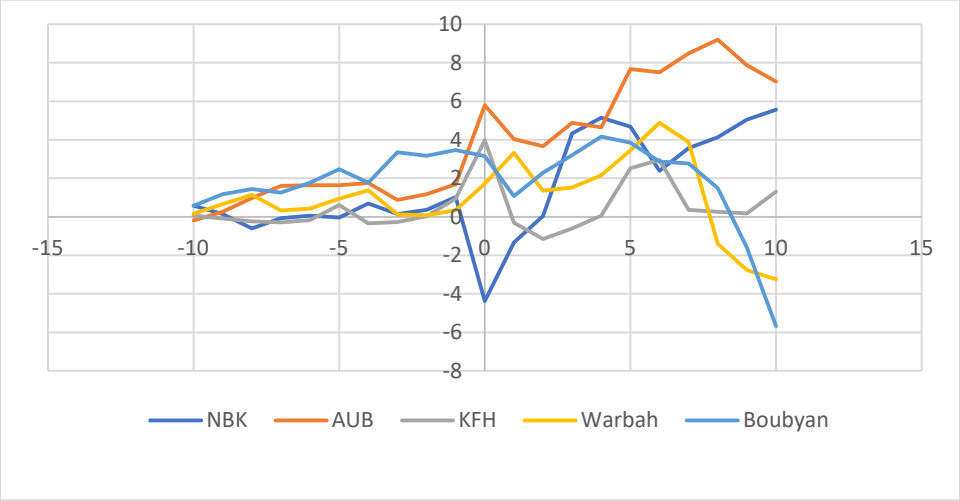

Figure 5. CAR of Group 1

Table A.3 indicates that KIB responded most negatively among the other stocks, which was significant at the 5 per cent level and negative in three sub-event windows: (-10,10), (-5, 5) and (0, 10). Burgan's stocks responded negatively and were significant at the 5 per cent level in two sub-event windows: (0, 5) and (0, 10), while ABK had a significant negative response in the (0, 10) window only. GBK has no significant CAR in any window. Figure 6 shows the trend of CAR for these stocks, and the ABK stock direction during this stage was contrary to that of group one.

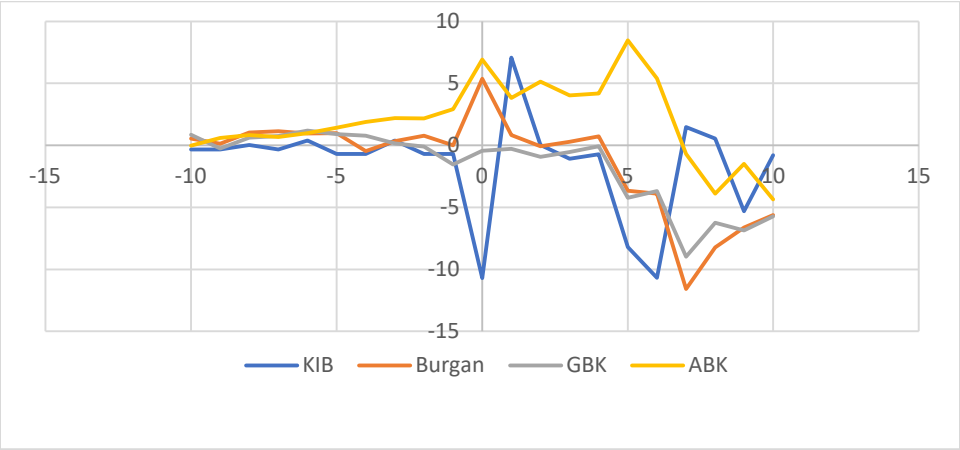

Figure 6. CAR of the Four Bank Stocks

By comparing figures 5 and 6, we can conclude that three stocks, namely KIB, GBK and Burgan, were the most negatively affected by the COVID-19 pandemic, while the other stocks absorbed the shock in the short term.

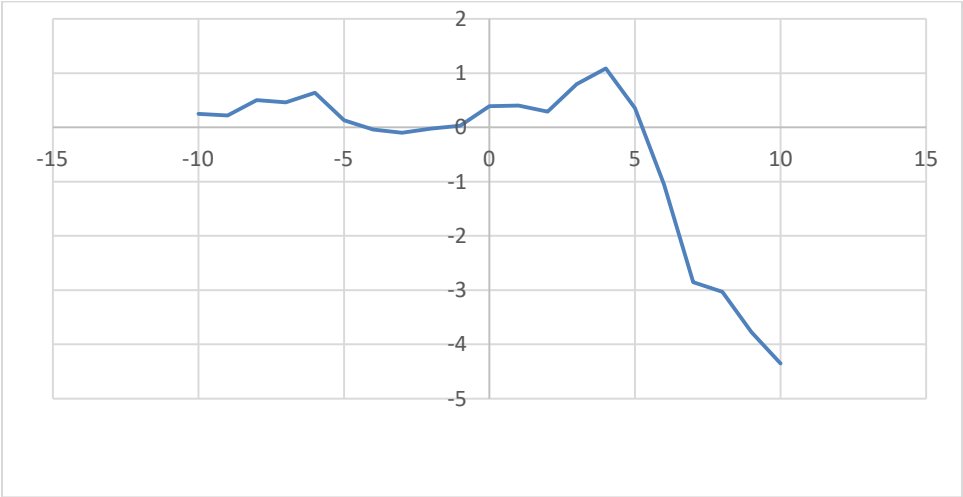

Figure 7. CAAR of All Banks

The cumulative average of the abnormal returns for all bank stocks was positive until the fifth day after the event day, and then the CAAR dropped to become negative. (figure 7). However, a significant negative at level 5 per cent of CAAR were found for the (-10, 10) and (0, 10) windows, respectively. (Table A.3.).

CONCLUSION

This study examines the impact of the COVID-19 pandemic on the banking sector of the Kuwaiti stock market for the period from 17 March 2019 to 10 February 2020. The study used the event study methodology (ESM) and one-factor model. The event day was 1 March 2020 and the window ran from 11 February (-10 days prior to the event day) to 16 March 2020 (10 days after the event day). The study found that pandemic negatively affected bank stocks during the event day. The average return of all stocks was less on the post-event day than on the pre-event day. Four out of the nine selected stocks only had significant CAR in the (0, 10) window. In contrast, two significant cumulative average abnormal returns (CAAR) were found for the sub-events window, namely (-10,10) and (0,10). All stocks witnessed high volatility during the post-event day compared with the pre-event day in the event window. The stocks that were most negatively affected by the pandemic were KIB, Burgan, and GBK.

This research represents a comprehensive study and analysis of epidemic's effects on the Kuwaiti's Bank stock market performance. However, a momentous room for further

investigation is needed with regard to the following areas: scholars might investigate the performance of other Kuwaitis stocks and longer sample periods. Also, future research can examine the influence of the number of death cases on Kuwaiti stock market return. Hence, researchers need to consider the impact of other pandemic variables and proxies on Kuwait indices.

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APPENDICES

Table A.1: One Factor Model Results

	NBK	GBK	ABK	AUB	KIB	BURGAN	KFH	WARBAH	BOUBYAN
Intercept	-0.0181	-0.09185	-0.13986	-0.02561	-0.09984	-0.11558	0.011036	-0.01413	-0.01403
Slope	1.068815	1.183259	0.849907	1.032702	1.05612	1.131909	1.480351	1.071401	1.050546
R-square	0.471675	0.453525	0.142385	0.326257	0.342725	0.213973	0.537982	0.353833	0.241262
St-Error	0.77175	0.890268	1.423086	1.009485	0.997835	1.480118	0.935955	0.987804	1.271049
STDEV	0.889453	0.977556	1.187272	0.989853	0.992905	1.272119	1.083205	0.990551	1.135224

Source: Author's calculations using Excel.

Table A.2.a. Abnormal Returns

	NBK		AUB		KFH		WARBAH		Boubyan	
	AR	t-st.	AR	t-st.	AR	t-st.	AR	t.st.	AR	t.st.
0	-5.3926	-6.987*	4.107	4.0692*	3.730	3.985*	1.368	1.385	-0.321	-0.253
1	3.0347	3.932*	-1.763	-1.7471	-0.282	-0.302	1.607	1.627	-2.070	-1.6293
2	1.3868	1.797	-0.367	-0.364	-1.071	-1.144	-1.973	-1.997*	1.215	0.9565
3	4.2840	5.551*	1.211	1.199	-0.559	-0.598	0.167	0.169	0.899	0.7074
4	0.8077	1.046	-0.224	-0.222	0.050	0.0541	0.628	0.636	0.978	0.7700
5	-0.4526	-0.586	3.022	2.993*	2.361	2.522*	1.309	1.325	-0.330	-0.2599
6	-2.3051	-2.986*	-0.172	-0.170	2.768	2.958*	1.415	1.433	-0.974	-0.7668
7	1.1895	1.541	0.988	0.979	0.336	0.359	-0.997	-1.009	-0.1006	-0.0792
8	0.5511	0.714	0.708	0.702	0.242	0.258	-5.284	-5.349*	-1.2805	-1.0074
9	0.9270	1.201	-1.330	-1.318	0.160	0.171	-1.363	-1.380	-3.095	-2.435*
10	0.5029	0.651	-0.846	-0.838	1.219	1.303	-0.477	-0.483	-4.072	-3.203*

Source: Author's calculations. * denotes significant.

Table A.2.b. Abnormal Returns

	KIB		BURGAN		GBK		ABK	
	AR	t-st.	AR	t-st.	AR	t-st.	AR	t.st.
0	-10.7098	-10.733*	5.35438	3.617*	1.117958	1.2557	3.981932	2.7980*
1	7.074936	7.0902*	-4.53846	-3.066*	0.144489	0.1622	-3.09682	-2.1761*
2	0.039374	0.03945	-0.91042	-0.6151	-0.64287	-0.7221	1.314199	0.92348
3	-1.08774	-1.0901	0.37012	0.25006	0.377362	0.42387	-1.08969	-0.7657
4	-0.71393	-0.7154	0.45076	0.30454	0.466509	0.52400	0.138075	0.09702
5	-8.21395	-8.231*	-4.39742	-2.9709*	-4.14437	-4.6551*	4.277822	3.0060*
6	-10.6899	-10.713*	-0.22635	-0.15293	0.540028	0.60659	-3.0624	-2.1519*
7	1.465989	1.46917	-7.689	-5.1948*	-5.29855	-5.9516*	-6.0901	-4.279*
8	0.553033	0.5542	3.35322	2.2655*	2.740214	3.0779*	-3.20344	-2.251*
9	-5.32556	-5.337*	1.58649	1.07187	-0.61948	-0.6958	2.393966	1.6822
10	-0.80206	-0.8038	1.00758	0.68074	1.130955	1.270	-2.85291	-2.004*

Source: Author's calculations. * denotes significant.

Table A.3: Cumulative Abnormal Return (CAR) and Average Abnormal Returns (CAAR)

CAR	NBK	GBK	ABK	AUB	KIB	BURGAN	KFH	WARBAH	BOUBYAN	CAAR
(-10)	1.0223	-1.5445	2.929881	1.691672	-2.99298	0.008502	0.247551	0.349634	3.472269	0.576037
	(0.3634)	(-0.4996)	(0.7803)	(0.5404)	(-0.9532)	(0.00211)	(0.07226)	(0.1116)	(0.9672)	(0.4524)
(-5)	0.966702	-2.72909	1.948616	0.044505	-2.40658	-0.94491	0.917943	-0.07648	1.705269	-0.06378
	(0.4861)	(-1.2485)	(0.7339)	(0.02010)	(-1.0839)	(-0.3321)	(0.3789)	(-0.0345)	(0.6717)	(-0.0708)
(-10,10)	5.555976	-5.73225	-4.35949	7.024553	-31.4027	-5.63058	9.204021	-3.24777	3.472269	-3.80766
	(1.3494)	(-1.2796)	(-0.8012)	(1.54859)	(-6.9015)*	(-0.9658)	(1.8542)	(-0.7154)	(0.6674)	(-2.0639)*
(-5,5)	4.634833	-5.4101	7.474136	6.029915	-16.0177	-4.61594	5.146051	3.03301	2.076135	0.261155
	(1.5711)	(-1.6686)	(1.8980)	(1.8367)	(-4.8640)*	(-1.0940)	(1.4324)	(0.92321)	(0.5514)	(0.1955)
(0,+5)	9.060726	-3.79887	1.543588	6.029915	-2.90132	-9.02541	0.497702	-4.96636	0.692436	-0.03478
	(2.3303)*	(-1.7379)	(0.58142)	(1.83672)	(-1.3067)	(-3.1728)*	(0.2054)	(-1.5854)	(0.2727)	(-0.038)
(0,+10)	9.926272	-5.30571	-11.2713	1.225071	-31.4027	-10.9935	5.226064	1.740535	-4.75909	-4.74342
	(1.9555)*	(-1.7163)	(-3.0020)*	(0.3913)	(-6.9015)*	(-2.7327)*	(1.5256)	(0.7858)	(-1.3256)	(-3.726)*

Source: Author's calculations. The t-statistics are shown in parentheses.
*Denotes significant