



The Impact of COVID 19 Spread on Banking Performance: Evidence from Middle East Countries

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Abstract

The purpose of this article is to examine how the spread of COVID-19 has affected Middle Eastern banks. New Cases, Cumulative Cases, New Deaths, and Cumulative Deaths have been used to quantify COVID-19 spread. The CAMELS approach, which takes into account capital adequacy, asset quality, management, earnings, liquidity, and sensitivity to market risk, has also been used to measure banking performance.

This has been conducted on Bahrain, Cyprus, Egypt, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Turkey and United Arab Emirates, using panel data analysis according to GMM technique, during the period from 2017 to 2022. Results indicate that each of New Cases, Cumulative Cases and Cumulative Deaths may significantly affect banking performance of the Middle East countries, which may shed lights for policymakers and regulators of banking industry.

Keywords: Banking Performance, CAMELS approach, Coronavirus, COVID-19, Middle East countries

1. Introduction

The COVID-19 epidemic has had a significant economic and social impact and has drawn the interest of all investors. Retail investors have seen significant losses in a short period of time as a health crisis has transformed into a financial crisis, and risk has significantly increased (Zhang, Hu & Ji, 2020).

The main question of this paper can be addressed as follows: Does COVID 19 spread have a significant impact on the banking performance of MENA countries? The research questions could be addressed as follows:

- 1- Do COVID 19 new cases affect banking performance of MENA countries?
- 2- Do COVID 19 total cases affect banking performance of MENA countries?
- 3- Do COVID 19 new deaths affect banking performance of MENA countries?

4- Do COVID 19 total deaths affect banking performance of MENA countries?

After this introduction, section 2 discussed the related literature, while section 3 is for measuring variables and developing hypotheses. Section 4 illustrates the descriptive statistics and testing hypotheses, while section 5 addresses the results and concluded remarks.

2. Literature Review

This section attempts to provide a selection of earlier research in the areas of banking soundness indicators. Wahdan (2017) discusses banks listed on the Amman Stock Exchange, whereas Kayode, Obamuyi, Owoputi, and Adeyefa (2015) examine the performance of banks in Nigeria. The banking performance of MENA nations has been examined by numerous academics (e.g. Bitar, Saad & Benlemlih (2016) and Caporale, Lodh & Nandy, 2017). Additionally, Tomuleasa (2017) focused on European banks from 2005 to 2012, while Alber & Dabour (2021) examined the performance of ten different nations in 2020.

Regarding "banking performance", Kayode, Obamuyi, Owoputi & Adeyefa (2015) examine how credit risk affects Nigerian banks' performance in relation to "banking performance" using a sample of six banks from 2000 to 2013. The ratios of non-performing loans to total loans and advances, total loans and advances to total assets, and loan-loss provisions to total loans and advances have been used to quantify credit risk, while return on assets has been used to gauge bank performance. The findings suggest that an increased exposure to credit risk reduces bank profitability. The findings also show that total loans significantly and favorably affect bank performance.

Bitar, Saad, & Benlemlih (2016) examine how capital requirements affect bank risk and performance in the MENA area. Between 1999 and 2013, this was implemented on 168 banks in 17 MENA nations. According to the findings, banks are better protected against risk and are more efficient and profitable when they comply with the Basel capital standards. Furthermore, using a sample of 76 foreign and 46 domestic banks from the 17 MENA countries between 2000 and 2012, Caporale, Lodh & Nandy (2017) attempt to examine the effect of the global financial crisis on the performance of domestic and foreign banks in the Middle East and North Africa region. The findings show that during the crisis, domestic banks performed better than international banks. Because they had more subsidiaries in developed economies, foreign banks were more exposed to risk.

Wahdan (2017) makes an effort to look into how financial risks affect commercial banks' financial performance. From 2008 to 2015, this was implemented for all 13 banks that were listed on the Amman Stock Exchange. Financial risks have been measured by (credit risk, interest rate risk, liquidity risk, capital adequacy risk), while Financial performance has been measured by (Share Turnover, ROE, ROA, and EPS). As per the study's findings, commercial banks' financial performance is highly impacted by credit risk and capital adequacy risk, but liquidity risk and interest rate risk have no discernible impact. Besides, Tomuleasa (2017) aims at identifying the determinants of banking soundness of European Banking Systems. This has been analyzed over the period from 2005 to 2012 for 263 European banks.

Regarding "the effects of Coronavirus spread", Alber & Arafa (2020) has aimed at analyzing how the spread of the coronavirus may affect the MENA region's stock markets, stock market return assessed by the stock market index, coronavirus has been measured by cumulative total cases, cumulative total deaths, new cases, and new deaths, from March 1, 2020, to July 24, 2020. Results indicate that MENA region stock markets are generally negatively affected by coronavirus cumulative deaths and new cases, with significant effects in Tunisia, Jordan, and

Morocco, as well as Jordan and Tunisia showing significant effects of coronavirus cumulative cases.

The impact of "cumulative coronavirus cases" on stock market returns in Jordan during May, in Morocco during April, there have been new cases, deaths of the coronavirus. The effect of "Cumulative Coronavirus Deaths" supported in Morocco during April, in Tunisia during March, in June-July. "Coronavirus New Cases" significantly affected Jordan in May, Tunisia in March, and Morocco in May. "Coronavirus New Deaths" significantly affected Morocco in May.

In addition, Alber & Refaat (2020) tries to investigate the effects of Coronavirus spread on stock markets on a daily basis between March 1, 2020, and September 30, 2020, utilizing panel data analysis. The research confirms the significant negative industry effects for the losers (Food, Beverages, Tobacco and Health Care & Pharmaceuticals, while the winners include Energy & Support Services, Shipping & Transportation Services and Trade & Distributors.

Aldasoro, Fender, Hardy & Tarashev (2020) tries to test the effects of Covid-19 on the banking sector by investigating how markets perceive banks' performance, according to stock prices, CDS, bond spreads and credit ratings. While price dynamics have been consistent across equity, fixed income markets, the implementation of the policy measures marked a turning point in the degree to which investors began to distinguish between banks based on their pre-pandemic characteristics. The initial market response was like a tsunami that swept through in a rather random manner, many banks the importance of having sound balance sheets was highlighted by a subsequent small stabilization that revealed stronger differentiation, mostly benefiting better capitalized and more profitable banks. Although funding circumstances are still tight, many banks, particularly those with low profitability, have had their long-term rating outlooks altered to the negative.

Demirgüç-Kunt, Pedraza & Ruiz-Ortega (2020) addresses the effects of the COVID-19 epidemic on the banking industry. The paper examines the impact of policy announcements on the stock returns of banks using an event research technique. Results have showed that banking systems are under severe stress as a result of crises and the countercyclical lending function that banks are required to play, with bank stocks lagging their local markets and other non-bank financial firms.

Besides, Márton Partner (2020) investigates the effects of the COVID-19 epidemic on the banking industry from 12 countries Central and Eastern European region, with a particular emphasis on the projected growth of loan demand, non-performing loans and associated transaction activity, restructuring, and workout measures. Banks were generally optimistic, as the vast majority (about 76%) thought the loan moratorium was an effective tool to maintain financial stability. The majority of banks (about 67%) predict that the corporate NPL ratio will climb at the same rate as the retail NPL ratio, which is expected to rise by 0-3% points.

Comparing with literature, it's important to pinpoint that it considers not only both of infection and death indicators, but also, both of cumulative and new ones. Besides, the existing research mostly covers a specific country. However, this paper concerns with 12 countries (Bahrain, Cyprus, Egypt, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Turkey and United Arab Emirates), during the period from 2017 to 2022, which may shed lights for policymakers and regulators of banking industry.

3. Measuring Variables and Developing Hypotheses

This research tries to test the effects “COVID 19 spread” on “Banking Soundness Indicators” of Middle East countries. This has been applied using multiple regression according to panel analysis techniques. Table (1) shows the characteristics of research variables, as follows:

Table (1): The research variable

Variable	Sign
New Cases	NC
Cumulative Cases	CC
New Deaths	ND
Cumulative Deaths	CD
Common Equity Tier 1 capital to risk-weighted assets	C1
Nonperforming loans net of provisions to capital	A1
Provisions to nonperforming loans	A2
Return on assets	E1
Return on equity	E2
Interest margin to gross income	E3
Liquid assets to total assets	L1
Liquidity coverage ratio	L2

This paper investigates the effect of “COVID 19 spread” on “Banking Soundness Indicators” of MENA countries. So, it aims at testing the following hypotheses:

1- There is no significant effect of COVID 19 new cases on banking performance of MENA countries.

2- There is no significant effect of COVID 19 cumulative cases on banking performance of MENA countries.

3- There is no significant effect of COVID 19 new deaths on banking performance of MENA countries.

4- There is no significant effect of COVID 19 cumulative deaths on banking performance of MENA countries.

The research hypotheses could be tested using panel data analysis according to the following models:

$$C1_{i,t} = \alpha + \beta_1 NC_{i,t} + \beta_2 CC_{i,t} + \beta_3 ND_{i,t} + \beta_4 CD_{i,t} + \varepsilon \quad (1)$$

$$A1_{i,t} = \alpha + \beta_1 NC_{i,t} + \beta_2 CC_{i,t} + \beta_3 ND_{i,t} + \beta_4 CD_{i,t} + \varepsilon \quad (2)$$

$$A2_{i,t} = \alpha + \beta_1 NC_{i,t} + \beta_2 CC_{i,t} + \beta_3 ND_{i,t} + \beta_4 CD_{i,t} + \varepsilon \quad (3)$$

$$E1_{i,t} = \alpha + \beta_1 NC_{i,t} + \beta_2 CC_{i,t} + \beta_3 ND_{i,t} + \beta_4 CD_{i,t} + \varepsilon \quad (4)$$

$$E2_{i,t} = \alpha + \beta_1 NC_{i,t} + \beta_2 CC_{i,t} + \beta_3 ND_{i,t} + \beta_4 CD_{i,t} + \varepsilon \quad (5)$$

$$E3_{i,t} = \alpha + \beta_1 NC_{i,t} + \beta_2 CC_{i,t} + \beta_3 ND_{i,t} + \beta_4 CD_{i,t} + \varepsilon \quad (6)$$

$$L1_{i,t} = \alpha + \beta_1 NC_{i,t} + \beta_2 CC_{i,t} + \beta_3 ND_{i,t} + \beta_4 CD_{i,t} + \varepsilon \quad (7)$$

$$L2_{i,t} = \alpha + \beta_1 NC_{i,t} + \beta_2 CC_{i,t} + \beta_3 ND_{i,t} + \beta_4 CD_{i,t} + \varepsilon \quad (8)$$

4. Descriptive Statistics and Testing Hypotheses

Tables (2) and (3) illustrate the descriptive statistics of the research variables, as follows:

Table (2): Descriptive statistics of independent variables*

	NC	CC	ND	CD
Mean	15078.73	1162901.	103.8000	9452.477
Median	4008.000	398424.0	13.00000	2468.000
Maximum	232295.0	17004677	1773.000	101419.0
Minimum	0.000000	179.0000	0.000000	0.000000
Std. Dev.	33036.15	2738807.	246.5669	18430.74
Skewness	4.377687	4.471921	4.254819	3.706525
Kurtosis	24.53454	23.74951	24.16768	17.45911
Jarque-Bera	3490.038	3297.202	3361.463	1705.124
Probability	0.000000	0.000000	0.000000	0.000000
Sum	2337203.	1.80E+08	16089.00	1465134.
Sum Sq. Dev.	1.68E+11	1.16E+15	9362469.	5.23E+10
Observations	155	155	155	155

*Data collected from: <https://ourworldindata.org/coronavirus-source-data>

Table (3): Descriptive statistics of dependent variables

	C1	A1	A2	E1	E2	E3	L1	L2
Mean	14.09559	9.096336	46.57545	2.178087	19.28073	43.14959	26.57132	124.2399
Median	14.57418	7.822146	32.51585	1.493729	15.61727	47.30540	26.11686	124.7021
Maximum	17.74555	27.86567	84.07674	4.580794	36.18496	71.31638	29.41817	125.6516
Minimum	10.72162	1.677539	17.05363	0.454430	5.114296	23.22695	24.63339	121.9037
Std. Dev.	1.531785	4.981269	30.84217	1.400118	10.16263	15.93322	2.117927	1.626372
Skewness	-0.997343	1.428470	0.261937	0.764565	0.632273	0.125841	0.566919	-0.864283
Kurtosis	4.292495	6.919603	1.185645	2.078376	2.164985	2.041531	1.812182	2.155031
Jarque-Bera	8.003198	33.32764	1.485970	1.328179	0.956802	0.409169	0.449417	0.616986
Probability	0.018286	0.000000	0.475692	0.514742	0.619774	0.814986	0.798749	0.734553
Sum	479.2501	309.2754	465.7545	21.78087	192.8073	431.4959	106.2853	496.9596
Sum Sq. Dev.	77.43003	818.8304	8561.152	17.64296	929.5112	2284.808	13.45685	7.935258
Observations	34	34	10	10	10	10	4	4

Source: Outputs of data processing using EViews 13.

Tables (4) to (7) illustrate the descriptive statistics of the research variables, as follows:

Table (4): The Effect of Coronavirus Spread on Capital Adequacy using Panel Analysis

Panel (1): Determinants of C1 using Panel Regression according to GMM technique				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	15.40404	0.487681	31.58628	0.0000
New Cases (NC)	-2.03E-05	1.77E-05	-1.144534	0.2659
Cumulative Cases (CC)	-1.28E-07	2.85E-07	-0.451223	0.6567
New Deaths (ND)	0.003245	0.002616	1.240565	0.2291
Cumulative Deaths (CD)	0.000111	4.83E-05	2.306490	0.0319
R-squared = 0.701926				

Source: Output of data processing using EViews V13.

Table (5): The Effect of Coronavirus Spread on Asset Quality using Panel Analysis

Panel (2): Determinants of A1 using Panel Regression according to GMM technique				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	23.68595	3.655357	6.479789	0.0000
New Cases (NC)	-0.000142	0.000164	-0.862902	0.3916
Cumulative Cases (CC)	-5.17E-06	3.96E-06	-1.305772	0.1965
New Deaths (ND)	0.014048	0.021050	0.667342	0.5071
Cumulative Deaths (CD)	0.001151	0.000681	1.690910	0.0960
R-squared = 0.268379				
Panel (3): Determinants of A2 using Panel Regression according to GMM technique				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	59.31303	3.685918	16.09179	0.0000
New Cases (NC)	-0.000386	0.000188	-2.048352	0.0448
Cumulative Cases (CC)	-6.93E-06	3.08E-06	-2.248703	0.0282
New Deaths (ND)	0.031556	0.023253	1.357043	0.1798
Cumulative Deaths (CD)	0.001625	0.000547	2.970947	0.0042
R-squared = 0.502331				

Source: Output of data processing using EViews V13.

Table (6): The Effect of Coronavirus Spread on Earnings using Panel Analysis

Panel (4): Determinants of E1 using Panel Regression according to GMM technique				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.600929	0.096794	6.208349	0.0000
New Cases (NC)	-5.05E-07	4.44E-06	-0.113532	0.9099
Cumulative Cases (CC)	4.49E-07	7.85E-08	5.728570	0.0000
New Deaths (ND)	-0.000548	0.000564	-0.971631	0.3340
Cumulative Deaths (CD)	-5.06E-05	1.32E-05	-3.831820	0.0002
R-squared = 0.719680				
Panel (5): Determinants of E2 using Panel Regression according to GMM technique				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	2.055741	0.785768	2.616220	0.0105
New Cases (NC)	1.69E-06	3.61E-05	0.046797	0.9628
Cumulative Cases (CC)	3.67E-06	6.37E-07	5.769450	0.0000
New Deaths (ND)	-0.006774	0.004581	-1.478484	0.1430
Cumulative Deaths (CD)	-0.000487	0.000107	-4.541970	0.0000
R-squared = 0.791391				
Panel (6): Determinants of E3 using Panel Regression according to GMM technique				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	287.6482	50.75560	5.667319	0.0001
New Cases (NC)	-2.56E-05	0.000734	-0.034919	0.9728
Cumulative Cases (CC)	-7.55E-05	1.54E-05	-4.919950	0.0005
New Deaths (ND)	0.017096	0.151826	0.112604	0.9124
Cumulative Deaths (CD)	0.025548	0.004690	5.447179	0.0002
R-squared = 0.352114				

Source: Output of data processing using EViews V13.

Table (7): The Effect of Coronavirus Spread on Liquidity using Panel Analysis

Panel (7): Determinants of L1 using Panel Regression according to GMM technique				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	20.62769	1.837939	11.22327	0.0000
New Cases (NC)	-0.000109	8.64E-05	-1.259464	0.2120
Cumulative Cases (CC)	-3.35E-06	1.90E-06	-1.760021	0.0827
New Deaths (ND)	0.013329	0.011409	1.168197	0.2466
Cumulative Deaths (CD)	0.000694	0.000324	2.142773	0.0356
R-squared = 0.661967				
Panel (8): Determinants of L2 using Panel Regression according to GMM technique				
C(1)	23.68595	3.655357	6.479789	0.0000
New Cases (NC)	-0.000142	0.000164	-0.862902	0.3916
Cumulative Cases (CC)	-5.17E-06	3.96E-06	-1.305772	0.1965
New Deaths (ND)	0.014048	0.021050	0.667342	0.5071
Cumulative Deaths (CD)	0.001151	0.000681	1.690910	0.0960
R-squared = 0.867915				

Source: Output of data processing using EViews V13.

5. Summary and Concluded Remarks

The purpose of this article is to examine how the spread of COVID-19 has affected Middle Eastern banks. New Cases, Cumulative Cases, New Deaths, and Cumulative Deaths have been used to quantify COVID-19 spread. The CAMELS approach, which takes into account capital adequacy, asset quality, management, earnings, liquidity, and sensitivity to market risk, has also been used to measure banking performance.

This has been conducted on Bahrain, Cyprus, Egypt, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Turkey and United Arab Emirates, using panel data analysis according to GMM technique, during the period from 2017 to 2022. Results indicate that each of Cumulative Cases, New Deaths and Cumulative Deaths may significantly affect banking performance of MENA countries.

The findings may shed lights for policymakers and regulators of banking industry, where the responsibility of banks' management should be reassessed in terms of the possible best practice during the crisis periods.

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