The impact of economic blockade on the performance of Qatari Islamic and conventional banks: a periodand-group-wise comparison

The impact of economic blockade

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Abstract

Purpose – This paper aims to empirically assess the performance of Islamic banks (IBs) and conventional banks (CBs) in Qatar before and after the imposition of the economic blockade on Qatar and the significance of the blockade's subsequent impact.

Design/methodology/approach — This study focuses only on the domestic commercial banks comprising four IBs and five CBs operating in Qatar. The banks' financial reports are used as a secondary source to generate data. A study period from 2015 to 2019, separated into pre-blockade and post-blockade periods and comprising data on a semi-annual basis, was examined. Financial ratios and *t*-tests are used to compare bank performance and test the significance level of the blockade, respectively.

Findings – Generally, the findings show that IBs slightly outperformed CBs. Solvency ratios show strong capitalization (measured by capital adequacy ratio, CAR) and external fund (measured by equity multiplier ratio, EMR) reliance of the banks, despite minor fluctuations. Yet, only the CAR of CBs has been significantly affected by the blockade. Profitability (measured by return on assets, ROA and return on equity, ROE) of both bank groups grew unsteadily over the period, but IBs remained more efficient (measured by operating efficiency, OEOI) than CBs. Liquidity ratios indicate almost similar depositor fund utilization (measured by loans to deposit ratio, LDR) and credit offering (measured by loans to assets ratio, LAR) by the banks. All three metrics were weakly impacted. In terms of asset quality, bad loans (measured by non-performing loans ratio, NPL) and provisions (measured by loan loss provisions, LLP) surged moderately post-blockade. The blockade affected both groups' asset quality.

 $\label{eq:comparative} \textbf{Originality/value} - To the author's knowledge, this is the first study to comparatively examine the performance of Qatari IBs and CBs during the latest economic embargo and their exposure to the crisis.$

Keywords Banking sector, Economic blockade, Financial ratios, Performance

Paper type Research paper

Introduction

Since their establishment in the 1950s, Qatari banks have emerged as the cornerstone of the country's economy, with their importance being fuelled by expanding domestic and regional growth (Qatar Financial Center, 2017). Alongside local and foreign conventional banks (CBs)



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ISRA International Journal of Islamic Finance Vol. 12 No. 3, 2020 pp. 419-441 Emerald Publishing Limited 0128-1976 DOI 10.1108/IJIF-04-2020-0083 existing in the state, there are Islamic banks (IBs) as well. From 2012 to 2016, the Islamic banking sector of Qatar has seen a remarkable asset growth of 11% compound annual growth rate (CAGR) against the 9% CAGR of the entire finance industry (Qatar Financial Center, 2017). More recently, in 2019, the assets of Qatari IBs registered a substantial 11.4% growth against the previous year, while the assets of CBs saw a decrease of 0.2% (Kumar, 2020). Considering the unchallenged role played by the banking industry of Qatar, the smooth and stable running of this industry is crucial, especially with the ongoing blockade on Qatar and the mega projects in place. Having a continuous assessment of bank performance is essential for the entire financial system of an economy to protect bank operations from inherent risks or weak management practices that can harm their operations (Ibrahim, 2015). However, studies on Qatari banks' performance have been limited, with the study of Elsiefy (2013) being the latest one focussing on the performance of banks in Qatar following the global financial crisis (GFC) in 2007–2008. There has been, to the author's knowledge, no research on the topic after the onset of the economic blockade on Qatar.

Hence, this study aims to evaluate and compare the performance of Qatari's IBs and CBs from 2015 to 2019 using the financial ratio analysis (FRA) method. The banks were assessed in terms of the following aspects: solvency, profitability, efficiency, liquidity and asset quality. This study answers the following two questions:

- Q1. How did the IBs and CBs perform before and after the blockade?
- Q2. Is there varying performance of each bank type due to the blockade?

FRA was used to answer the first question; and to assess the significance of the crisis on the performance of both types of banks, a student's *t*-test was used.

The rest of the study is organized as follows: the second section examines the impact of the Gulf Cooperation Council (GCC) blockade on Qatar's banking system. The third section discusses previous research studies. In the fourth section, the research methodology is presented, while in the fifth section, the performed results are presented. In the last section, the conclusion is provided.

Qatar's banking system and the blockade

In the midst of 2017, a number of GCC (Saudi Arabia, Bahrain and the United Arab Emirates) and non-GCC (Egypt) states cut all relations with Qatar and imposed an economic blockade (hereby referred to as "the GCC blockade" or "the blockade"). One of the sectors hit hard by the economic embargo was the banking sector. In the aftermath of the blockade till the end of 2017, the commercial banks in Qatar witnessed bank runs whereby the percentage of non-resident deposits to total customer deposits dropped from 25% to 17%. Deposits from the blocking countries were entirely withdrawn, and other non-blockade depositors demanded higher interest rates. Moreover, the foreign interbank funding to Qatari banks plunged to nearly US\$30bn within six months of the crisis (Wheatley, 2018). Such withdrawals left the Qatari banking sector in a liquidity limbo, at least in the short run. The rating agency Moody's lowered the investment status of Qatari banks from stable to a negative score, citing weaker operational conditions in the banks and continued foreign fund withdrawals amounting to 36% of total liabilities (Shaffer, 2017). Reliance on confidencesensitive external funds left the Qatari banking sector severely susceptible to liquidity issues in cases where investor sentiments shift. The impact of such large foreign money outflows on the economy was substantial such that Qatar's gross domestic product (GDP) witnessed a decline of 15% (IMF, 2019). Unsurprisingly, the S&P Global marked Qatari banks as the "most vulnerable" in the region because of the ongoing deterioration fuelled by the boycott, decline in real estate prices and hotel occupancy rates along with serious performance decline over the years before the blockade (Spong, 2018). Despite their unique banking operations, Qatari IBs are not expected to be immune from the liquidity conundrum in the state. Belton and Mehmood (2017) stated that this sector would face similar complications, as nearly a quarter of their borrowings come from the Gulf states.

Nonetheless, in spite of the funding crunch, within a short period of time, Qatari banks and the economy, in general, emerged as a survivor or even in better shape than before. This was because of funds injected by the state into the economy and the pouring of deposits from the public sector, outweighing non-resident withdrawals. Within a month of the embargo, in July 2017, the Qatari Government injected more than US\$10bn into the domestic banks so as to offset the impact of foreigners' withdrawals from the sector (Torchia and Evans, 2017). Kerr (2017), citing Moody's and Fitch, stated that two months after the blockade the money injected into the economy by the government amounted to about US \$40bn from its US\$340bn sovereign fund to support the economy and the financial system. Also, the public sector and central bank deposited around US\$19bn and US\$9bn. respectively. A year after the crisis, non-resident deposits amounting to US\$9bn returned to the country, further easing the pressure as Wheatley (2018) said. Quite remarkably, the banks witnessed a positive trend a few months after the blockade. Qatari commercial banks' assets grew by about 11% on a year-on-year basis, credit portfolio by 13%, domestic loans by 15%, service sector loans by around 3%, consumption loans by near 8% and bank cash and precious metals grew by a whopping 42% (Perumal, 2017). All these developments resulted in growing confidence in Qatar's financial system, leading Moody's to upgrade the rating of the state to a stable Aa3 notch, accentuating that the blockade will have an insignificant impact on Qatar's credit status (Jivrai, 2018).

Literature review

The number of studies covering bank performance is vast, and the subject has received growing attention over the past years – particularly post the global financial crisis (GFC) of 2007–2008. Empirical studies that conducted a comparative investigation on IBs and CBs generally demonstrate that IBs outperformed CBs during the 2007–2008 crisis. The reason for the good performance of IBs is said to originate in the IBs' compliance with Sharī'ah (Islamic law). The Sharī'ah renders most of the conventional debt-based financial instruments impermissible (haram) and promotes the equity-based financing structure of IBs. In this section, studies comparing the performance of both types of banking systems will be reviewed.

Abu Loghod (2010) compared the performance of IBs and CBs in the GCC from 2000 to 2005 and found similar profitability trends for both types of banks, but larger liquidity base for IBs, thus lowering their liquidity risks. Interestingly, the study indicated that customers in all the GCC states prefer Islamic financial instruments over conventional ones, and growth was a matter of management style and the general performance of individual banks.

Elsiefy (2013) conducted a comparative study on the financial performance of both IBs and CBs in Qatar before, during and after the GFC. The study, ranging from 2006 to 2010, examined bank performance on five metrics, namely, profitability, asset quality, efficiency, liquidity and risk and solvency. The author concluded that IBs maintained stronger asset, credit and deposit growth but registered weaker profitability before and after the crisis. IBs also maintained favourable efficiency in terms of asset utilization, higher capital and lower leverage as compared to CBs. Yet, the study found that CBs had larger liquid assets than IBs, which contradicts the general view of excessive liquidity of IBs.

Istaiteyeh and Milhem (2015) investigated the performance of IBs and CBs in Jordan during 2009–2013 using FRA. Using t-tests, the authors found that the two sectors performed differently over the period of study. IBs were found to be less profitable, highly liquid, less risky and less efficient than CBs. Nonetheless, the difference between both sectors' profit ratios was very insignificant, unlike the other ratios. Also using financial ratios, Khaskhell (2015) performed a comparative study running from 2007 to 2010 on the sixth largest CB and the first established IB in Pakistan. The study revealed that IBs in Pakistan suffered far less from the GFC due to their investments in real assets, unlike their conventional counterparts, which invested highly in cash instruments. The CBs in Pakistan exposed themselves to vast regulatory pressures, which badly affected their profits.

Maradin *et al.* (2017) also examined the historical stability and performance of IBs and CBs before, after and during the financial crisis of 2007. In terms of stability and efficiency before and during the crisis, IBs were found to be more stable and more efficient than CBs as IBs follow interest-free, risk-sharing, partnership promotion, religious codes and the social responsibility business model in contrast to CBs. However, post-crisis, CBs were found to show higher stability and efficiency due to adjustments in regulations.

Rod Erfani and Vasigh (2018) studied the financial performance of eight IBs and 11 CBs from both Muslim and non-Muslim countries housing some of the biggest banks in the world. The study, covering 2006–2013, used ratio analysis, Altman Z-score model, data envelopment analysis (DEA) and seemingly unrelated regression (SUR) models to perform the tests. The study found that CBs suffered from operating inefficiency while IBs maintained positive efficiency indicating the resilience of IBs against crises. Also, the DEA and SUR models showed that IBs maintained a strong solvency level with higher capital ratios, further reflecting their endurance to financial crises.

Hashem and Sujud (2019) studied the performance of three IBs and 22 CBs in Lebanon from 2012 to 2016, using a return on assets (ROA) and return on equity (ROE) as yardsticks. The study found that CBs were more profitable and maintained better liquidity levels, but IBs were more solvent. Deposit to total assets, total equity and total loan levels were found to influence the profitability of CBs only. The lack of a significant effect on IBs is believed to be due to IBs' relatively few numbers and younger age.

Zain ul Abideen (2019) examined the performance of Pakistani IBs and CBs to compare their differences. The study ranged from 2015 to 2017 and included only one IB and one CB. After running the FRA, the author concluded that both the performance of IBs and CBs was equal in terms of profitability, where the IB's ROA and net profit margin (NPM) and CB's ROE and earnings per share (EPS) showed above-average results.

All in all, there is an obvious lack of studies that examine the comparative performance of the Qatari banking sector in light of the ongoing blockade. Even though very few researchers conducted such types of research, they confined their effort to the GFC only. This paper will try to shed some light on the performance of banks when a crisis affects an individual state rather than the whole globe or a region as a whole.

Methodology

Research design

The GCC blockade was imposed upon Qatar in June 2017. Periods before the announcement of the blockade will be referred to as "pre-blockade". The blockade happened to coincide with the end of the first half of the financial year when banks prepare their consolidated interim financial statements. This study starts from the first half of 2015 (1H15) and continues to the end of the second half of 2019 (2H19), representing a semi-annual study. Periods (1H15–1H17) and (2H17–2H19) refer to pre-blockade and post-blockade periods,

respectively. It should be carefully noted that "post-blockade" does not imply that the blockade is over; it is still ongoing as this paper is being written. It simply refers to the periods following the imposition of the embargo on Qatar.

Firstly, an FRA is used to measure, describe and analyze the performance of the examined Qatari banks in terms of solvency, profitability, efficiency, liquidity and asset quality from 1H15 to 2H19. FRA is hailed for its effectiveness in distinguishing poorly performing banks from well-performing banks while it also accounts for and controls the effect of bank size on the examined variables of the study (Islam, 2014). FRA is performed on the averages of each ratio of both IBs and CBs in every period.

Secondly, to assess the magnitude of the blockade on the performance of the banks, a t-test is used to test whether differences between pre-blockade and post-blockade means are statistically significant or not. T-tests are widely used to compare the means of a particular variable generated from different sample groups. In this study, the paired t-test is used on a sample of data to measure the means of a variable before the blockade and after the blockade. Such a method produces more precise data as stated by Al-achi (2019). To approve or disapprove the t-test outcome, a critical p-value associated with the means is used. The null hypothesis indicates that the pre-blockade means and post-blockade means are equal $(\mu_1 = \mu_2)$; i.e. the impact of the blockade on bank performance is insignificant.

Study population

Operating banks in Qatar are 18, including seven domestic CBs, four domestic IBs and seven foreign CBs. However, the foreign banks are excluded from this study as it is believed that their exposure to the blockade is minimal, as their parent banks offer them rescue packages. From the seven domestic CBs, Qatar Development Bank (QDB) and International Bank of Qatar (IBQ) are also excluded. This is because QDB is a development bank rather than a commercial bank, and IBQ has been dissolved to merge into another bank – Barwa Bank (BBK) – to form an IB and, IBQ reports are unavailable. Hence, banks selected for this paper are five domestic CBs and four domestic IBs operating in Qatar throughout the study period.

Data collection

To measure the performance of the banks, this study gathers financial data from the banks' interim financial statements (secondary source) and then converts them into ratios so as to produce a comparable data set. The data of the banks, which cover 1H15 to 2H19, are accessed through the Qatar Stock Exchange (QSE) database, except for BBK which is not listed on the QSE. For BBK data, the bank's own website is accessed.

Variables

For the purpose of this study, nine financial ratios are used, which are categorized into five sub-categories:

- (1) solvency;
- (2) profitability;
- (3) efficiency:
- (4) liquidity; and
- (5) asset quality.

The ratios are in percentage terms.

Solvency. Solvency ratios measure a bank's long-term healthiness by measuring its ability to settle long-term financial obligations. A higher solvency ratio indicates that a bank is capable of settling its financial obligations (Rod Erfani and Vasigh, 2018). A highly leveraged bank's reliance on short-term financing would lead to solvency and liquidity issues (Georgescu and Laux, 2015). Hence, the more debt a bank takes, the more funds it should set aside as a cushion. Two measures of solvency ratios are as described below:

 Capital adequacy ratio (CAR): It is a universal metric that measures the ability of banks to absorb unexpected financial losses. It measures the number of regulatory capital banks must maintain to withstand risk exposures from risky assets. CAR is the main indicator of bank stability and safety, and sufficient capital can effectively protect banks from failure due to loss absorption (Hadjixenophontos and Christodoulou-volos, 2018).

 $CAR = regulatory\ capital/risk\ weighted\ asset\ (RWA).$

• Equity multiplier ratio (EMR): It measures the amount of banks' total assets financed by their shareholders in the form of a fraction. A higher equity multiplier (EM) indicates that larger volumes of a bank's assets are financed or purchased through debt (Nyoka, 2017). A higher EM is a signalling indicator for failure risk, hence a lower EM is preferred (Attefah and Darko, 2016). For the purpose of this study, EM is converted into a ratio as done by Khan and Akhtar (2020). Hence, a higher EM translates into a lower EMR and vice versa. For example, a 1.68EM converts to 60% EMR (1/1.68) whereas a 4.12EM converts to 24% EMR (1/4.12).

$EMR = 1/(total\ assets/total\ equity).$

Profitability. Profitability ratios measure the ability of banks to generate profits. Generating profits is fundamental for banks as profitability nurtures a competitive banking system. Moreover, it makes available cheaper funds at the micro-level and creates the ability to absorb financial shocks and stabilize the financial system at the macro-level (Kakilli and Ertuğrul, 2013). The following are two profitability ratios:

Return on assets (ROA): It measures the percentage of net income generated from
the total assets of banks. ROA is a common bank profitability metric that
demonstrates a bank's ability to generate returns from its resources (Alper and
Anbar, 2011). The greater the ROA, the more profitable the bank is.

ROA = net income/total assets.

 Return on equity (ROE): It measures the number of returns yielded from the shareholders' equity or money. ROE indicates how effectively bank management handles shareholders' money and how much profit it generates for them. Investors prefer buying the stocks of firms with high ROE as it raises firms' stock prices (Saragih, 2018). Thus, a higher ROE is preferred.

ROE = net income/total equity.

Efficiency. Efficiency refers to generating maximum output from minimum input. Banks that are capable of producing a certain output level from a lesser level of input are considered highly efficient (Miah and Uddin, 2017). Efficiency ratios simply measure how efficiently banks are in managing costs to generate favourable profits. The following is one indicator of efficiency:

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Operating efficiency (OEOI): This ratio measures the number of operating expenses
or costs incurred by banks to generate operating income measured in terms of a
percentage. The term "operating" signifies the exclusion of all non-operating costs
and income like interest expense, interest income, bad loan expenses, etc. This ratio
is arguably the most accessible option to measure the cost efficiency of banks
(Pancheva, 2013). Generally, a 50% or lower rate of OEOI is desired.

OEOI = operating expense/operating income.

Liquidity. Liquidity measures the level of liquid assets or easily cashable funds available to banks. Situations, where a firm is unable to finance assets or settle its financial obligations at a reasonable cost or is even incapable of selling or exchanging its financial assets at market value, are called liquidity risks (Tarbert, 2000). Thus, higher liquidity ratios imply fewer liquid assets available and greater liquidity risk. The following are key liquidity ratios:

Loans to deposits ratio (LDR): It measures the portion of customer deposits that
banks utilize in the form of loans to borrowers or in the form of financing projects
by IBs. As the primary activity of commercial banks is to effectively use deposits
through lending, LDR indicates the level of deposits used and the generation of
profit from such loans (Rengasamy, 2014). It is noteworthy that IBs use the term
"financing" instead of loans in their reports. LDR in the range of 80% to 95% is
considered optimal for banks (DiSalvo and Johnston, 2017).

LDR = loans (financing)/deposits.

Loans to assets ratio (LAR): This ratio indicates the amount of a bank's total
resources loaned (financed) to bank customers. LAR is an indicator of bank income
sources as it is normally expected to favourably improve profitability while taking
acceptable risk levels (Alper and Anbar, 2011). A higher LAR implies less liquid
assets or higher liquidity and solvency risks but also better profitability for banks
(Khaskhell, 2015).

LAR = loans (financing)/total assets.

Asset quality. Asset quality refers to the assessment of credit risks associated with a particular bank asset, and it usually relates to loans and leases offered by banks (Wasiuzzaman, 2018). Loans comprise the majority of bank assets and represent the highest level of risk to bank capital (Federal Deposit Insurance Corporation, 2011). Asset quality also shows the ability of bank management to assess and manage credit risks. The following are important measures of asset quality:

Non-performing loans (NPL): It measures how many loans are not performing or are
impaired as uncollectable or bad loans. Bad loans occur when a creditor fails to pay
the loan for some time. Risky assets that do not generate income or upon which the
principal or interest (specific to CBs) remains unpaid for 90 days or more are called
NPL (Ugoani, 2016). The lower the NPL ratio, the better the quality of the asset
(loan).

NPL = impaired loans/net loans.

Loan loss provisions (LLP): It measures the proportion of provisions (reserves) a
bank sets aside for its NPL portfolios. The percentage of LLP is an essential
quantitative indicator of the banking sector's health, and banks are normally
required to earmark provisions for loans to prepare for the likelihood of some loans

going unpaid (ECB, 2012). As the likelihood of non-repayment of a loan becomes higher, banks increase loss reserves to account for possible losses (Walter, 1991). An LLP ratio of a minimum of 100% is preferred to indicate that every bad loan is covered.

 $LLP = loan\ loss\ provisions/non-performing\ loans.$

Figure 1 illustrates the various indicators measuring solvency, profitability, efficiency, liquidity and asset quality.

Results and discussions

In this section, periodic and group-wise comparative performance of IBs against CBs is presented first using FRA while the significance of the blockade on the banks is tested afterwards. For each ratio, relevant calculations of every period are performed for all banks and then the average of the calculated ratio is taken to derive a comparative outcome.

Description of the data

To provide a general display of our data set, descriptive statistics are performed. As shown in Table 1 the observation number (Obs) of IBs totaled 40 on all ratios. However, due to missing values, the numbers changed, particularly CAR with 9 missing values. This is mainly due to the lack of 1H16 period related data from IBs. The total Obs of CBs is 50 with one missing value. The mean CAR and EMR of IBs are slightly higher than that of CBs, implying a better solvency approach being adopted by IBs with 17.49% CAR and 13.98% EMR. The average ROA and ROE of IBs show slightly higher profitability, but CBs have the highest ROE of 18.26%. The average expenditure of IBs is substantially lower than that of CBs with a 26.5% OEOI. However, a standard deviation (St.D) of 16.5% shows a broad difference among CBs. The average LDR and LAR of both types of banks are quite similar at 104.28% and 107.42% and 67.30% and 64.33%, respectively, but CBs' lending approaches vary widely (St.D 16.01% and 9.99%). The average NPL indicates that CBs have on average more bad loans than IBs with 2.84% and 1.39%, respectively. Yet, CBs have a larger LLP ratio than IBs, indicating a larger cushion for absorbing default risks.

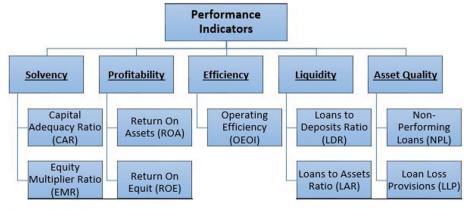


Figure 1. Financial performance indicators

Source: Author's own

Statistical measures	CAR	EMR	ROA	ROE	OEOI	LDR	LAR	NPL	LLP	The impact of economic
Islamic banks										blockade
Observation number (Obs)	31	39	39	39	39	39	39	38	38	.0_0 0000
Mean	17.76	13.98	1.33	9.53	26.64	104.28	67.30	1.40	92.50	
Standard deviation (St.D)	1.57	1.02	0.53	3.75	5.34	12.29	5.17	0.95	34.04	
Minimum	14.10	12.33	0.42	3.04	17.32	55.85	55.69	0.09	44.17	
Maximum	20.27	16.33	2.43	16.40	38.01	121.55	76.92	3.71	178.13	427
Conventional banks										
Observation number (Obs)	49	50	50	50	50	50	50	50	50	
Mean	16.32	12.98	0.97	7.79	49.40	107.42	64.33	2.84	127.71	
Standard deviation (St.D)	1.34	1.88	0.48	4.23	16.38	16.01	9.99	1.78	44.40	
Minimum	13.51	9.61	0.13	0.85	26.83	10.53	6.67	0.83	55.98	m 11 1
Maximum	19.10	15.90	2.10	18.26	94.73	126.42	75.55	6.35	267.24	Table 1.
Source: Author's own										Descriptive statistics of financial ratios

Performance of Islamic and conventional banks in Qatar

As seen in Table 2, before the blockade IBs were having slightly fluctuating CAR whereas the CAR of CBs was improving steadily. The EMRs of both types of banks were somewhat close and less fluctuating. After the onset of the blockade, IBs continued maintaining slightly fluctuating CAR and EMR, finishing with 19.0% and 14.0%, respectively in 1H19. On the other hand, CBs continued improving their CAR and had floating EMR, finishing with 18.0% and 12.7%, respectively.

This finding contradicts those of Elsiefy (2013), who found that IBs in Qatar faced declining CAR due to declining profitability and rising risk-weighted assets after the 2007–2008 GFC crisis. Yet, our result confirms that the equity-based financing nature of IBs where investors and banks share risks and rewards provides IBs with additional capital buffers during crises (Rod Erfani and Vasigh, 2018). Profit and loss sharing investors provide a certain proportion of capital coverage to their investments, hence lowering the burden on banks during the crisis.

The EMR of both sectors is quite in the same range, indicating that around 12% to 15% of their assets are financed with shareholders' money; implying greater reliance on external funds and increased risks. Yet, from a banking perspective, financing with external funds like deposits, which are cheaper than equity, is considered a better cost management approach (Miah and Uddin, 2017). The outcome contradicts Elsiefy's (2013) finding that CBs increase internal funding of assets after a financial crisis whereby IBs increase external financing in the same period.

Our result also disproves the notion that IBs generally maintain a higher asset-to-equity ratio (low EM) than CBs as shown in prior studies (Babatunde and Olaitan, 2013; Istaiteyeh and Milhem, 2015; Rod Erfani and Vasigh, 2018). The overall values – a cumulated average of the means throughout all the periods – indicate that IBs are slightly more solvent than CBs in Qatar.

As shown in Table 3, both IBs and CBs maintained quite similar profitability trends before and after the imposition of the blockade, with IBs reporting higher ROA ratios than CBs in most periods. In terms of ROE, the mid-year ratios of IBs were substantially lower than year-end ROE ratios, indicating a different profit generation approach than CBs. The mid-year ROE fluctuations were only visible during the pre-blockade period for CBs, yet the

2H19 19.0 18.0 14.0 12.7 1H19 17.6 17.7 12.9 13.0 Post-blockade period 2H18 17.9 17.3 14.0 12.8 1H18 16.9 16.0 13.2 12.7 2H17 18.0 16.8 14.3 13.3 1H17 18.5 15.9 14.2 13.3 Pre-blockade period 1H16 2H16 17.6 15.6 15.0 12.8 -15.4 13.5 13.1 2H15 16.5 15.1 14.3 13.2 Note: Financial ratios are presented in terms of percentages Source: Author's own 1H15 18.7 15.1 14.2 12.9 Bank type GBs GBs GBs GBs Capital adequacy ratio (CAR) Equity multiplier ratio (EMR)

Overall

17.7 16.1 13.9 13.0

Table 2. Period-and-groupwise comparison of bank solvency ratios

				Pre-blocks	ide period			Post-block	ade period			
Ratio	Bank type	1H15	2H15	1H16 2H16	2H16	1H17	2H17	1H18 2H18	2H18	1H19	2H19	Overall
Return on assets (ROA)	Bs	0.5	1.9	1.0	1.8	6.0	1.7	1.0	1.9	1.0	1.6	1.3
	CBs	0.5	1.2	8.0	1.0	6.0	1.0	1.0	1.0	1.1	1.3	6.0
Return on equity (ROE)	IBs	3.8	13.3	7.2	12.2	6.7	12.0	7.3	13.2	7.5	11.7	9.2
	CBs	3.7	0.6	6.5	8.2	8.9	8.4	8.2	8.3	8.7	10.2	2.2
Note: Financial ratios are J Source: Author's own	presented in tern	ns of perce	ntages									

Table 3. Period-and-groupwise comparison of bank profitability ratios

banks kept a steady ROE ratio after the blockade. Despite the variations, IBs outpaced CBs in terms of profitability.

Our results confirm Elsiefy's (2013) finding that CBs in Qatar maintained steadier and more sustainable profit growth than IBs before and after the GFC even though IBs' profitability was higher. However, they contradict Babatunde and Olaitan's (2013) conclusion that IBs' generate lower profits than CBs due to their larger operational costs and bad loan expenses. In 2018, IBs in Qatar saw an 8.5% profit growth as they moved to the application of FAS 30 at the discretion of the Qatar central bank's (QCB) governor (Gulf Times, 2019). FAS 30 better measures expected credit risks. Qatar's IBs have also registered a significant growth in assets and revenues that was mainly due to the 37.7% growth in Islamic bonds despite the imposition of the embargo (Gulf Times, 2018). The overall profitability of IBs stood at 1.3% ROA and 9.2% ROE while those of CBs stood at 0.9% ROA and 7.5% ROE, implying better profitability for Islamic banks.

Table 4 provides the results of bank efficiency ratios. Operating efficiency of both banking sectors witnessed fairly steady trends during both periods – particularly IBs – with IBs incurring significantly less operating expenses (24.7%) than CBs (40.5%). This shows that at least one-third of IBs' operating income went to operating expenses they spent to generate such income while CBs allocate minimally two-thirds of their income on similar expenses. This shows that IBs are more efficient than CBs in Qatar, supporting the findings of many studies that used similar ratios (Ansari and Rehman, 2015; Istaiteyeh and Milhem, 2015; Rod Erfani and Vasigh, 2018). The view of Elsiefy (2013) — that IBs tend to reduce staff costs during a crisis and incur higher costs afterwards to prioritize gaining larger market share as compared to CBs, which tend to lower staff costs over the course — is not supported. The higher profitability of Qatari IBs is the key reason for their substantial efficiency, backed by less funding pressures as they mainly rely on retail deposits (Perumal, 2019a). However, Miah and Uddin (2017) found substantial inefficiency with large variations among IBs in the GCC as compared to CBs' efficient cost-to-income ratios; the authors linked a larger capital base to the inefficiency of the banks. The overall efficiency (OEOI) averages are 26.5% and 50.0% for IBs and CBs, respectively, implying better cost management by IBs. IBs in Qatar are labelled as the most efficient banks in the entire Islamic finance industry (Perumal, 2015), as well as the most efficient banks in Qatar (Statista, 2019).

The LDR and LAR of the banks are almost equal in most periods but differed in a few periods (Table 5). Both bank groups experienced their least lending activities (lowest liquidity) levels in 2H15 – a period of recovery from the oil price crash in the region. LDR indicates that Qatari IBs and CBs face similar liquidity risks as opposed to other studies, which expressed greater liquidity risk exposures to CBs than IBs as the latter rely less on borrowed funds (Abdulle and Kassim, 2012; Ansari and Rehman, 2015; Rod Erfani and Vasigh, 2018).

Elsiefy (2013) found contrasting results, stating that IBs in Qatar held less liquid assets than CBs during the GFC, and thus were exposed to greater liquidity risk and bank runs. IBs had slightly higher and stable LAR than CBs, which suffered from a declining lending capacity from 66.7% to 62.8% after the onset of the blockade.

The liquidity outcome contradicts Elsiefy's (2013) findings that IBs consistently violated the QCB's 90% LDR limit and were more heavily engaged in lending than CBs in Qatar. Such behaviour would pose significant liquidity risks on banks on one end but larger returns on the other. On the other hand, Abdulle and Kassim (2012) and Istaiteyeh and Milhem (2015) revealed that IBs had lower LAR than CBs during the GFC, which lowered their exposure to liquidity risks. The overall average LDR and LAR of IBs are 103.5% and 67.2%, respectively, while those of CBs are 107.3% and 64.5%, respectively. This implies

				Pre-blocka	de period			Post-blocka	ade period			
Ratio	Bank type	1H15	2H15	1H16 2H16	2H16	1H17	2H17	1H18 2H18	2H18	1H19	2H19	Overall
Operating efficiency (OEOI)	IBs CBs	26.8 43.7	26.6 49.1	27.6 57.3	25.5 52.4	24.7 56.0	26.3 45.8	27.7 45.8	27.7 43.1	25.8 57.3	27.5 40.5	26.5
Note: Financial ratios are pres Source: Author's own	re presented in terms o	terms of percenta	ges									

Table 4.
Period-and-groupwise comparison of bank efficiency ratios

109.0 109.1 68.3 66.7 2H17 1H17 107.8 109.5 68.9 66.1 105.3 107.1 68.2 65.2 1H16 105.7 110.3 68.6 65.5 2H15 89.2 88.9 67.1 54.9 Note: Financial ratios are presented in terms of percentages Source: Author's own 1H15 101.4 110.4 66.4 66.2 Bank type BS BS CBS CBS Loans to deposits ratio (LDR) Loans to assets ratio (LAR) Ratio

Overall

2H19

1H19

Post-blockade period

Pre-blockade period

1H18

103.5 107.3 67.2 64.5

110.8 108.7 68.1 62.8

103.3 107.4 66.7 63.7

104.9 112.0 65.5 64.9

105.4 1111.0 65.0 67.4

Table 5. Period-and-groupwise comparison of bank liquidity ratios

broader liquidity issues in the banking industry and infringement of the QCB's guidance on a 100% limited LDR (IMF, 2019).

In regard to asset quality depicted in Table 6, it is evident that the bad loans (NPL) backed by loan reserves (LLP) of IBs are less than those of CBs, implying that IBs have less risky and better asset quality. These results are similar to Abdulle and Kassim's (2012) findings. IBs' NPL grew steadily, reaching 2.1% at the end of 2019. Provisions for such loans fluctuated disproportionately over the periods, despite the fact that they grew heavily post-blockade. Similar to IBs, bad loans of CBs grew constantly over the period, supported by the similar accumulation of LLP. Both banking sectors experienced significant LLP expansion from 1H18 to 2H19, indicating prudent approaches taken by the banks.

These trends contradict Elsiefy's (2013) discovery that IBs in Qatar managed to decrease bad loans during and after the GFC as compared to CBs which experienced higher levels of bad loans (NPL). However, this research supports the author's revelation that CBs maintained more adequate coverage for impaired loans as compared to IBs. One attributable motive can be the debt-based business structure of CBs.

In terms of LLP, Miah and Uddin (2017) discovered similar results to our findings and attributed higher LLP ratios to the lower profitability of CBs in the GCC. The overall NPL of IBs is 1.3%, less than half the 2.8% NPL of CBs. On the other hand, the overall LLP of CBs is 126.7%, being substantially higher than IBs' 90.1% LLP.

Qatar's banking industry, thus, maintained high asset quality (determined by low NPL and adequate LLP) and was capable of withstanding larger bad loans (IMF, 2019).

Significance of the blockade

To test the significance of the blockade on the Qatari banking sectors, a statistical *t*-test is performed. As shown in Table 7, the impact of the crisis on IBs' stability was insignificant as the *p*-value does not meet the significance levels on both CAR and EMR. This can be attributed to IBs' slightly higher solvency levels in both periods. As for CBs, the impact was insignificant in terms of EMR but significant in terms of CAR at 0.000% *p*-value, evidenced by the CAR jump after the blockade. This could be due to the QCB's imposition of new rules on CBs. From 2017 onwards, CBs in Qatar were required to switch from IAS 39 guidelines to IFRS 9, which determines CBs' classification and measurement of assets, liabilities and derivatives (QCB, 2018). Due to a possible rise in impairment volatility stemming from IFRS 9, banks tend to raise capital buffers (Deloitte, 2016). Regardless of the stability trends of both sectors, the overall Qatari banking system is stable. Only a very severe economic downturn would be expected to put immense pressure on the capital of banks (IMF, 2018).

In terms of profitability, the impact of the crisis on IBs and CBs is insignificant, implying that these banks managed to maintain their ability to generate profits despite the rift. Ibrahim (2015) found significant profitability for IBs in Qatar in terms of ROA against CBs during 2010–2014, possibly due to high net financing on the IBs' side. However, our finding is in line with other studies stating differences in profitability between banks is insignificant during financial meltdowns (Ansari and Rehman, 2015; Istaiteyeh and Milhem, 2015). One way that the banks limited the effect of the crisis was through the domestic interbank market. In the aftermath of the crisis, the volume and depth of liquidity increased substantially, offering banks liquidity to optimize returns and enhance profitability (QCB, 2018). Qatari IBs – a sector considered by analysts as the most vulnerable to the crisis – focussed on the domestic market to limit exposure from the diplomatic rift and achieved a 14.5% profit growth one year after the embargo (Group Oxford Business, 2020). Nonetheless, the profitability trends of the overall Qatari banking industry remained strong amidst the crisis, enjoying constant profit growth post-blockade (IMF, 2019).

Pre-blockade period 1H16 2H16 2H15 1.0 2.1 85.2 111.0 1H15 Bank type CBs CBs Non-performing loans (NPL) Loan loss provisions (LLP) Ratio

Note: Financial ratios are presented in terms of percentages Source: Author's own

Overall

2H19

1H19

Post-blockade period 1H18 2H18

2H17

1H17

1.3 2.8 90.1 126.7

1.4 3.3 93.6 150.4

1.9 3.6 133.7 142.1

1.9 3.1 119.0 175.5

1.6 2.9 63.9 115.7

1.2 2.6 83.2 114.6

Table 6. Period-and-groupwise comparison of bank asset quality ratios

		Islamic			Conventional	
Ratio	Pre-blockade mean	Post-blockade mean	<i>p</i> -value	Pre-blockade mean	Post-blockade mean	p-value
Capital adequacy ratio (CAR)	17.558	17.881	968.0	15.438	17.166	0.000***
Equity multiplier ratio (EMR)	14.228	13.729	0.119	13.058	12.894	0.545
Return on assets (ROA)	1.227	1.444	0.296	0.861	1.086	0.119
Return on equity (ROE)	8.616	10.502	0.194	6.815	8.755	7.544
Operating efficiency (OEOI)	26.239	27.059	0.371	51.693	47.102	47.555
Loans to deposits ratio (LDR)	101.842	106.845	0.187	105.213	109.630	0.301
Loans to assets ratio (LAR)	67.843	66.719	0.180	63.568	65.092	0.538
Non-performing loans (NPL)	1.039	1.758	0.001***	2.387	3.287	***0000
Loan loss provisions (LLP)	80.143	104.854	0.002***	111.327	144.088	0.006***
Notes: ***, ** and * indicate sign Source: Author's own	gnificance level of 1, 5 and 10%	110%, respectively				

Table 7.
Impact of the blockade on bank performance

As per the *t*-test, the blockade failed to significantly impact both banking groups' efficiency levels (OEOI), thus accepting the null hypothesis of no impact. The outcome is supported by previous studies that found similar results (Ansari and Rehman, 2015; Istaiteyeh and Milhem, 2015), but it contradicts the notion that financial crises influence the operating costs of banks as presented by others (Babatunde and Olaitan, 2013; Elsiefy, 2013). Rod Erfani and Vasigh (2018) found fluctuations in CBs' efficiencies preand-post GFC, but stable efficiency in IBs in the same periods – which is quite the same in our case. Remarkably, the efficiency of the banking sector was higher (i.e. lower inefficiency index) in 2018 compared to the two previous years, due to reduced administrative costs and improved profitability (QCB, 2018). The sector further displayed superior efficiency in 2019 to that of GCC competitors because of core earnings growth and better cost management (Perumal, 2019b).

The liquidity *t*-test reveals, with insignificant p-values, that the blockade had no tangible effect on both bank groups' LDR and LAR. Our finding is contrary to Elsiefy's (2013) findings, which showed that the GFC impacted the credit growth of banks in Qatar, it is lower after the crisis than before it. IBs generally face more liquidity challenges than CBs as they are mostly exposed to scarce liquidity risk management instruments along with uncertain returns offered to profit-and-loss sharing investors, thus limiting investor preferences (Hasan and Dridi, 2011). The credit growth of Qatari IBs took a hit in 2017 with a decline in assets, deposits and net financing (loans), pushing the sector to switch credit channels (Gulf Times, 2019). Remarkably, however, IBs outpaced their conventional peers with credit growth of 13% in mid-2019 against 4% for the latter (Perumal, 2019c). The impact on the lending capacity (LAR) of Qatar banks was very minor given the swift injection of funds into the system by the State. In 2018, Qatari banks raised a combined amount of US\$1.8bn in bonds, of which US\$800m was raised by IBs from private and public bonds (*sukūk*) and US\$1bn by CBs from private sources (Barbuscia and Arnold, 2018).

The tests of NPL and LLP show that the blockade significantly affected the quality of both bank groups' assets, despite the dissimilar operational nature of IBs and CBs. According to Hasan and Dridi (2011), IBs' and CBs' exposures to various economic segments are similar with few exceptions. Our significant outcome is supported by Elsiefy (2013), who presented a significant change in the asset quality of both bank groups in Qatar before and after the GFC in 2007–2008. The asset quality of IBs (in the entire GCC) is slightly weaker than CBs as they are more prone to risks from the real estate sector due to the asset-backing principle of Islamic finance (Augustine, 2018). According to Abdalla et al. (2019), an oversupply of real estate in Qatar, accompanied by reduced tourism and occupancy rates due to the blockade, created real pressure on the assets of banks, as property prices plummeted and contractors increasingly delayed their payments to banks. As per the authors, banks (largely CBs) with the highest exposures to real estate reported the highest NPL ratios, Hasan and Dridi (2011) found similar significant exposures of Qatari banks to the real estate and construction sectors during the GFC, unlike other regional neighbours. Unlike in the case of the GFC, however, the real sector underwent swift recovery as Ataullah (2017) asserted that less than 100 days after the blockade, this sector was performing stronger than before. Other factors that worsened bank asset quality (higher NPLs) include: deteriorated debtor creditworthiness and tightened liquidity conditions, partly due to an outflow of non-resident funds, escalating investors' concerns over the financial sector's health (IMF, 2018). But the return of non-resident and foreign bank funds enabled the banks to boost private-sector lending and geographical diversification of foreign deposits (IMF, 2019).

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Conclusions and recommendations

The objective of this paper is to examine the performance of IBs and CBs in Qatar and investigate whether the blockade imposed on Qatar was impactful enough to disrupt bank performance. The study reveals the following:

- In terms of solvency, IBs and CBs maintained quite similar and improved CAR above the required minimum. The EMRs of both types of banks were also quite similar, indicating the asset composition of mainly external sources. The t-test shows that the level of CAR of CBs was strongly impacted by the blockade as the banks boosted their capital base post-blockade.
- In terms of profitability (ROA and ROE), IBs were more profitable than CBs over the entire period. Such profit expansion is attributable to a number of factors, including growth in Islamic bonds and the implementation of different accounting standards. The t-test fails to demonstrate any significant effect of the blockade on the banks' profit-generating ability as both bank groups maintained steady profit growth.
- Operating efficiency (OEOI) shows that CBs incurred double the costs incurred by IBs, making them less efficient than IBs. The profit growth of IBs could be attributed to accounting changes and their lower costs due to economies of scale and better cost management. The t-test indicates no tangible impact of the blockade on the banks' operating efficiency as both bank groups maintained similar efficiency trends before and after the embargo due to well-managed costs and sufficient returns.
- The liquidity ratios of LDR and LAR indicate that both IBs and CBs designated very large portions of deposits to lend (financing) channels, while loans or financing in the case of IBs represented the largest segment of both bank groups' assets. However, banks differed in terms of lending/financing sectors. The liquidity test indicates no statistical significance of the blockade on both types of banks. Money injection by the government and the banks' tapping into the bond market managed to boost credit expansion.
- Asset quality performance shows that CBs had not only more bad assets (higher NPLs) than IBs but also more loan provisions (higher LLP) than the latter. Asset quality declined (rising NPLs) post-blockade with a proportional rise in provisions (rising LLP) for both bank groups. The test indicates a significant impact by the blockade on both groups' assets (loan or financing). The decline in real estate performance was seen as the main cause for the asset quality deterioration, but recovery was swift due to a number of factors. The overall asset quality of IBs was better than CBs in Qatar.

The general conclusion of this paper is that the blockade imposed on Qatar had very little to no impact on the performance of the banking sectors. Unlike the GFC, which was a global crisis, Qatar managed to limit the negative impact of the embargo on its banking industry. Also, the wealth and ongoing ambitious mega projects in the country eased the concerns of investors who maintained their transactions with the banks.

The outcome of this paper is expected to provide regulators, bank management and investors with insights regarding the performance of both banking groups during a period of isolated crisis and their endurance against it; also, to direct their attention to problematic areas. This paper covers only the commercial banks in Qatar over a short-term period. Future studies might consider including other financial institutions of the Qatari financial system or extending the study period by using quarterly data.

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