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Political Uncertainty and Stock Bank Volatility in the Golf Countries

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Abstract

This paper examines the impact of political uncertainty (caused by the civil uprisings in the Arab World i.e., "Arab Spring") on the volatility of returns for 8 Islamic banks and 11 conventional banks in the Golf Countries (GCC).By distinguishing between Islamic and conventional banks, we find that these two groups of banks react heterogeneously to the recent political turmoil.

Our main finding is as follows. We document a significant small increase in the volatility of Islamic and conventional banks during the period of political unrests. Such difference is confirmed by further analysis in a various GARCH models. In general, the findings are important for the understanding of the role of the Arab spring on the financial stability of Islamic banks (IBs) and conventional banks (CBs), suggesting that they are of great significance to investors.

Keywords: Islamic banks; Conventional banks; Arab spring; Political uncertainty; Financial stability

Introduction

The economy was affected by the global credit crisis followed by the political crisis of 2010. The widespread protests of 2010 and demands for reforms (the so-called "Arab Spring" movements) have led to varying degrees of political changes with rulers being forced from power in some countries along with changes of domestic and foreign policies in many governments. However, a major political event like this can also have an explosive effect on the financial market volatility because of its economic and social implications. Although the political crisis severely affects stock returns of banks, we assume that the crisis has impact on financial stability of banks. Political uncertainty caused by unrest could manifest itself in stock market cycles and volatility reactions shaking international investors' confidence in the region. Furthermore, the financial crisis also draws the attention to Islamic finance.

Khan [1] argues that the theoretical model of Islamic banks can successfully fill the failure of conventional banks in maintaining stability.IBs are different from CBs because they operate upon the principles of the Islamic law which prohibits the payment or receipt of interest and encourage risk sharing [2].

More precisely, since Islamic financial products are based on the idea of sharing profit and loss, they are very attractive to the people who require financial services consistent with their religious beliefs. The financial crisis is an opportunity to test and compare financial stability between Islamic banks and their conventional counterparts. According to Shamshad Akhtar, IBs have illustrated a degree of stability to the recent crisis but have been impacted because of their higher exposure to real estate and limited reliance on risk sharing. To our knowledge, the only articles that analyzed the financial stability of IBs and CBs are Cihak and Hesse [3], Boumediene and Caby[4] and Al Ali and Yousfi [5]. These authors conclude that IBs were more stable than CBs during the financial crisis.

This paper attempts to analyze the effects of Arab Spring on the financial stability of IBs and CBs. Given the growing importance of all the GCC region in the world economy, in general, and the Islamic financial assets in particular, there is a pressing need for a rigorous research to examine the effects of the Arab Spring uprising in order to better understand the relationship between the political uncertainty and financial stability.

Furthermore, this paper adds to the growing literature studying the determinants of financial stability. Several studies have examined financial stability during the financial crisis and no research has studied the effects of the political crisis on the financial stability of IBs and CBs for GCC region. In this paper, we attempt to fill this gap by examining the relationship between political uncertainty and volatility of return of Islamic and conventional banks in GCC region. However, we consider a matched sample of 8 IBs and 11 CBs for GCC region separately covered during the period 17/12/2010 to 09/12/2013. Secondly, we use not only the various GARCH models as done by Boumediene and Caby [4] and Al Ali and Yousfi [5], but also a multiplicative dummy variable in the best volatility model that assesses the impact of political crisis on two groups of banks.

Our major finding is as follows. We find that during the political uncertainty; Islamic and conventional banks saw their initially-low volatility increase during that period. Although this increase remained very moderate.

Literature Review Related to Financial Stability

The stability of the banking system is important and therefore more attention should be given to the Islamic and Conventional banks after the period of the global financial crisis.

Therefore, the literature that treated these issues is presented as follows (Table 1) [6-8]:

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Authors	Methodology	Objective	Results
Čihák and Hesse [3]	Model: Z-score Period: 1993 to 2004 Frequency:77 Islamic banks and 397 commercials banks in Bahrain, Bangladesh, Brunei, Egypt, Gambia, Indonesia, Iran, Jordan, Kuwait, Lebanon, Malaysia, Mauritania, Pakistan, Qatar, Saudi Arabia, Sudan, Tunisia, United Arab Emirates, West bank and Gaza, and Yemen.	Studied the financial stability of Islamic and conventional banks	The researchers found that (i) large commercial banks were financially more solid than large Islamic banks; (ii) small Islamic banks were financially more solid than conventional banks of the same size; and (iii) small Islamic banks tend to be financially stronger than large Islamic banks, which may reflect challenges of credit risk management in large Islamic banks.
Boumediene and Caby [4]	Model: GARCH, E-GARCH and GJR-GARCH Period: 2007-2009 Frequency: 14 Islamic banks and 14 commercials banks in UAE, Saudi Arabia, Bangladesh, Bahrain, Egypt, UK Bretagne, Kuwait, Pakistan, and Qatar	Examine the financial stability of Islamic banks during the subprime crisis.	The researchers showed that conventional banks were highly volatile than Islamic banks, and that Islamic banks were at least partially immune to the subprime crisis. These banks are not subject to the same risks as conventional banks.
Hasan and Dridi [5]	Model: Z-score. Period: 2005 to 2009 Frequency: 85 Conventional banks and 37 Islamic banks in five GCC countries (Bahrain, Kuwait, Qatar, Bahrain, Saudi Arabia, and the UAE), three non-GCC countries, (Jordan, Turkey, and Malaysia)	compared the crisis effect on the Conventional and Islamic banks in eight countries	The researchers show that in the aspect of profitability, Islamic banks experienced a significant decline in profitability during the crisis period, although on average still relatively similar to conventional bank profitability. In terms of assets and loans, Islamic banks showed much higher growth compared to the conventional banks in times of crisis and the assessment of external rating agencies indicates relatively stable ratings for Islamic banks.
Al ali and Yousfi [6]	Model: GARCH, E-GARCH and GJR GARCH Period: 2005 to 2010 Frequency: ten conventional banks and one Islamic bank in Jordan	Investigated, measured and compare the financial stability of Jordanian Islamic and conventional banks in pre and post the financial crisis.	The researchers showed that Islamic bank were more stable than conventional banks, which may due to their links with the real economy. They recommended that Islamic banks in Jordan need to improve the branch network throughout the country, and conventional banks must open Islamic branches, to benefit from this worthy system and to diversify their risks.
Rahim, Hassan and Zakaria [7]	Model: Z-score. Period: 2005-2010 Frequency: 17 Islamic banks and 21 commercial banks in Malaysia	Studied the difference in the level of financial stability of Islamic banks as compared to commercial banks of Malaysia	They showed that Islamic banks are more stable than commercial banks.
Selfsame, Shahid and Abbas	Model: Z-score. Period: 2005-2010 Frequency: 55 banks which 5 Islamic banks in Pakistan	Analyze the financial stability of Islamic banks and its comparison with conventional banks in Pakistan.	They found in Pakistan that the (i) small Islamic banks tend to be financially stronger than small conventional banks, (ii) large conventional banks tend to be financially stronger than large Islamic banks, (iii) small Islamic banks were financially more solid than large Islamic banks, which may reflect challenges of credit risk management in large Islamic banks; and (iv) the market share of Islamic banks had a significant impact on the financial strength of other banks.
Abdul kadhim Altaee, AnisTalo and Mohammad Adam [8]	Model: Z-score. Period: 2003-2010 Frequency:42 IBs and 55 CBs in Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates	studied the stability of Islamic and conventional banks in the gulf countries and They compared changes in certain aspect pre-and post-crisis	These researchers found that there was no significant difference between the financial stability of conventional and Islamic banking for the periods 2003-2010, 2003-2007, and 2008-2010. Conventional banks tend to be financially stronger than Islamic banks to pre-financial crisis.

Table 1: The studies that studied the financial stability of Islamic and conventional banks.

This study aims to study the negative effect between political uncertainty and volatility of return.

Econometric Method and Data

Data

Our dataset consists of daily prices for 11 conventional and 8 Islamic banks from GCC region over the period from 17 December 2010 to 09 December 2013. The dataset was gathered via DataStream. The stock returns used to investigate banks' stability are calculated using the following formula: [4]

$$R_t = \ln(P_t / P_{t-1}) \quad (1)$$

Where, P_t and P_{t-1} are the daily closing prices of the stocks index at time t and t-1.

This choice is justified by the importance of shocks for the banking during this period.

Econometric method

We adopt an empirical methodology within the generalized autoregressive conditional heteroscedasticity (GARCH) framework to examine whether, and to what extent, the political turmoil has affected the financial stability of both banks in the GCC countries. First, we carry out an extensive model selection procedure for the most appropriate GARCH specification for each return series. Then, we examine the impact of Arab Spring on volatility return for Islamic and conventional banks using the carefully selected GARCH models.

Model specifications

We use a specification test model to see which form of the equation of conditional volatility best fits the series. The three models used to capture the common characteristics of the financial asset return variance are; the standard symmetric GARCH model, the asymmetric GARCH (GJR-GARCH) model of Glosten et al. [9]and the exponential GARCH (EGARCH) of Nelson [10]:

$$h_t = \omega + \alpha \xi_{t-1}^2 + \beta h_{t-1} \quad \text{(GARCH)}$$

$$log(h_t) = \omega + \alpha \frac{|\xi_{t-1}|}{\sqrt{h_{t-1}}} + \gamma \frac{\xi_{t-1}}{\sqrt{h_{t-1}}} + \beta \log(h_{t-1}) \quad \text{[EGARCH]}$$

$$h_t = \omega + \alpha\xi_{t-1}^2 + \gamma I[\xi_{t-1} < 0]\xi_{t-1}^2 + \beta h_{t-1} \quad \text{[GJR-GARCH]}$$

Where ξ_{t-1} is the innovation at time t-1, I is a dummy variable and I=1 if $\xi_{t-1}<0$, I=0 otherwise.

(γ) determines the effect of negative return shocks on the conditional variance and indicates that a negative shock has a greater impact on future volatility than a positive shock; therefore it has a greater influence on the conditional variance. To select the best model for each individual series, we use the log-likelihood function (log L) criterion.

Volatility effect of the political uncertainty on the financial stability of IBs and CBs

To determine whether the political crisis have led to an increase or decrease in the volatility of stock prices in the Golf Countries (GCC), we include a multiplicative dummy variable in the best equation of the conditional variance according to the procedure described above. In this paper, the best model is the GJR-GARCH conditional volatility equation: [11-13]

$$h_t = (1 + \lambda_d Dt)\ \omega + \alpha\xi_{t-1}^2 + \gamma I[\xi_{t-1} < 0]\xi_{t-1}^2 + \beta h_{t-1}$$

Where D_t is an event dummy variable which takes a value of the unity after the financial crisis, and zero otherwise, and that of the unity after the Arab Spring, and zero otherwise. A significant estimate for parameter λ_d would indicate an increase in stock returns bank in the three regions during these crises [11].

Empirical Results

Preliminary analysis

First, we applied the unit root test (augmented dickey fuller test). This test indicates that all the return series for both types of banks are not stationary during the period of the study. The analysis of their graphs is reported in Figure 1.

We notice the volatility between conventional and Islamic banks suggesting a comparable stability. In addition, the stock returns of conventional and Islamic banks appeared to be volatile during the recent crisis, reflecting the effect of the political uncertainty and further ARCH effects for returns in the data over the last crisis (Figure 2).

We also computed the descriptive statistics of the daily stock returns for Islamic and conventional banks for the Gulf Cooperation Council (GCC) during the Political uncertainty. These statistics are calculated and reported in Table 2.

The Jarque-Bera normality test for conventional and Islamic banks during this period of the study strongly rejects the null hypothesis of normality distribution at 1% significance level. We also noted that conventional and Islamic banks in the GCC during the Arab Spring have a positive Skewness, which indicates that the right tail of the distribution is longer. However, the other series have a negative Skewness, which means that the return distribution is highly skewed to the left. The kurtosis is higher than 3 for both types of banks during the political uncertainty. This is said to be a leptokurtic distribution. All the Ljung-Box (LB) statistics for the returns of both types of banks for this region during the period are statistically significant, indicating that our return series are longer serially correlated.

Effects of the Arab spring on the financial stability of IBs and CBs

In this paper, we attempt to examine the impact of the recent political crisis in the Arab countries (i.e.; Arab Spring) on the financial stability of the IBs and CBs in the GCC region [14-17].

We demonstrated the performance of a model using the specification test reported in Table 3 which indicates that (according to log L), the best model for IBs and CBs during this period of the study is the GJR-GARCH.

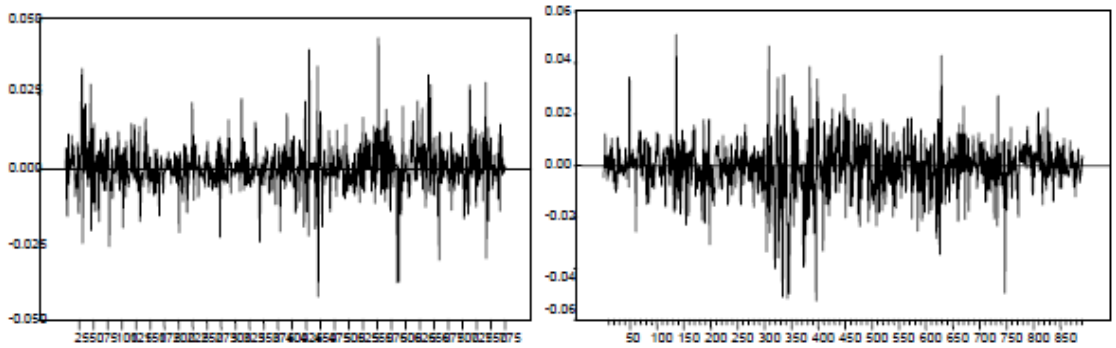
The standard GARCH model is compared with the asymmetric GJR-GARCH and the EGARCH:

$$h_t = \omega + \alpha\xi_{t-1}^2 + \beta h_{t-1} \quad \text{[GARCH]}$$

$$log(h_t) = \omega + \alpha\frac{|\xi_{t-1}|}{\sqrt{h_{t-1}}} + \gamma\frac{\xi_{t-1}}{\sqrt{h_{t-1}}} + \beta\log(h_{t-1}) \quad \text{[EGARCH]}$$

$$h_t = \omega + \alpha\xi_{t-1}^2 + \gamma I[\xi_{t-1} < 0]\xi_{t-1}^2 + \beta h_{t-1} \quad \text{[GJR-GARCH]}$$

The best-performing model is chosen on the basis of several information criteria, including the log- likelihood function (log L). The best model according to each criterion is highlighted in bold while



Notes: this figure presents a time series plot of conventional and Islamic banks returns for GCC countries during the entire sample period from 17/12/2010 to09/12/2013.

CBR: Commercial bank returns

IBR: Islamic bank returns

Figure 1: A time series plot of GCC countries.

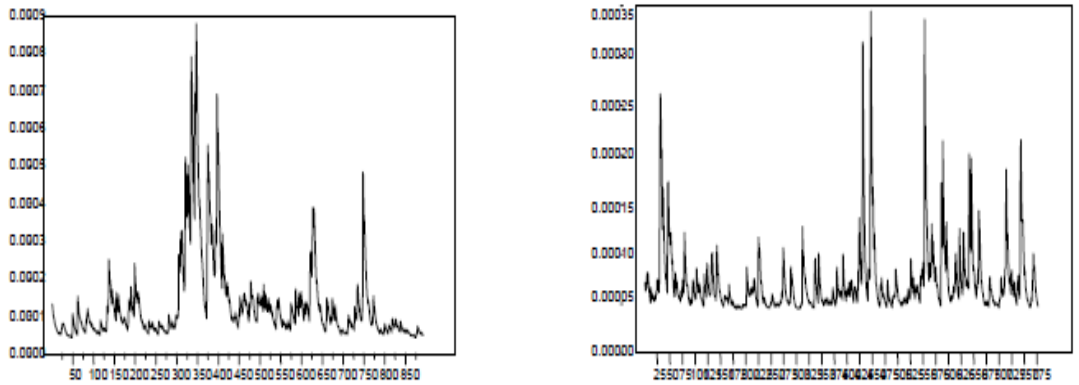


Figure 2: A time series plotof Islamic and conventional banks volatility in the GCC region during the Arab Spring respectively.

Returns banks	Panel A: Islamic bank	Panel B: Conventional bank
Mean	0.0011	0.0004
Std.dev	0.0146	0.0084
Skew	0.2731	0.1599
Kurt	6.1116	4.5016
ADF	-14.6765	-21.2361
LB(12)	13.254**	10.231**
	(0.03)	(0.02)
ARCH(12)	247.2954***	28.8279***
JB	(0.0000)	(0.0041)
	1217.3651***	659.345***
	(0.0000)	(0.0000)

Note: Std.dev indicate standard deviation, Skewness measures the asymmetry series' distribution around the mean, Kurtosis measures the flatness of series' distribution.

For a normal distribution, the value of the skewness coefficient is zero and that of kurtosis is 3.

LB (12) is the Ljung-Box test of serial correlation for the return, ARCH (12) is the Lagrange multiplier test for ARCH effect. ***Significant at 1%, **Significant at 5%, and *Significant at 10%.

Table 2: Summary statistics of stock returns of IBs and CBs.

Returnsbanks	Islamicbank	Conventionalbank
Performance criteria: Log L		
GARCH	898.8988	2629.8963
E-GARCH	889.4031	2613.5346
GJR-GARCH	**900.7155**	**2630.6737**

Note: This table summarizes the results from an extensive GARCH model specification test.

Table 3: Results of specification tests for various GARCH models.

the selected specifications used in our analysis are reported in the final column.

To investigate the impact of the Arab Spring on the financial volatility of IBs and CBs, as in equation 3, we first showed the results of returns for the conventional banks during the Arab Spring (Table 4). Concerning the effect of political uncertainty on the volatility of conventional bank returns; in all cases, with the exception of γ, the coefficients in the variance equation are significant at 1%, and 10%. Moreover, γ is negative and insignificant, which indicates that bad news has no impact on the volatility of conventional bank returns, which may be explained by the confidence of investors. The estimated coefficient obtained for the dummy variable λd is significant at 10%.

Region Returns Islamic Conventional	**GCC**	
Selected model	GJR-GARCH	GJR-GARCH
ω	0.000005***	0.00001 *
	(3.4051)	(1.8089)
α	0.0434***	0.1396 ***
	(2.6326)	(2.8965)
β	0.8568***	0.6954 ***
	(31.6477)	(5.196)
γ	0.1133***	-0.0490
	(3.7983)	(-0.9592)
λ_d	0.0579 **	-0.0797 *
	(2.1382)	(-1.8294)

Notes: This table reports the parameter estimates for each of the selected best-performing GARCH model with a multiplicative dummy; where Dt is a dummy variable takes on a value of unity after the start of Arab Spring and zero otherwise. A significant and positive estimate for λd would indicate an increase in GCC stock market volatility during the period of political uncertainty. The heteroscedasticity-consistent t-statistics are shown in parentheses. *Statistical significance at the 10% level, **Statistical significance at the 5% level, and***Statistical significance at the 1% level.

Table 4: Effects of the Arab Spring on returns volatility for IBs and CBs.

The evidence suggests that the conditional variance for the Gulf Cooperation Council (GCC) had a significant change in their volatility during the period of the Arab spring. This change was induced in the recent revolution. Similarly, the results of Islamic bank returns indicate that the relevant coefficients in the variance equation are significant at 1% and 5%. Parameter γ is positive and significant, which indicates that the bank return volatility is highly persistent and asymmetric. In that period, the dummy variable λd is significant at 5% in the Gulf Cooperation Council (GCC); the λd indicates that the volatility of Islamic bank returns had a significant change in the GCC around that period. This change is explained by the recent revolution and political instability.

Therefore, the coefficient on Arab Spring is negative and statistically significant at the 5% and 10% level. These results are equivalent with prior evidence which suggests that political uncertainty adversely affects bank performance [18-20] and not conform to prior evidence which suggests that no difference affect of the political uncertainty an stability of Islamic banks [21-23].

Our findings for Islamic bank returns are more relevant than for

conventional banks during political uncertainty. This can be explained by the specificities of Islamic finance which prohibits speculation. In addition, during political uncertainty, Islamic banks saw their volatility -initially low- increase during the crisis whereas that of their conventional counterpart remained low during the crisis because of the panic. Therefore, the major stock markets were affected, at the same time, by the Arab spring uprising and the instability in the stock markets in the MENA region [22]. Finally, these results confirm both the hypotheses that Islamic banks were at least partially immune to the political crisis than conventional banks and Islamic banks were not subject to the same risks as conventional banks, which suggest that in general, the Islamic market provides further investment opportunities.

Conclusion

In this paper, we have examined the effect of civil uprisings in the Arab World ie, "Arab Spring" (and the associated political uncertainty) on the volatility of Islamic and conventional banks in the GCC region. We begin our analysis by modelling the returns of both conventional and Islamic banks using various GARCH models. Our result indicates that a significant small increase in the volatility of Islamic and conventional banks during the period of political crisis. Therefore, the impact of a political crisis on stock prices largely arises due to the psychological reactions. This stability seems to be partially due to the different types of risks, the management methods and the governance of both types of banks. Overall; the results are consistent with our hypotheses. This in turn suggests that bank returns volatility is driven by financial and economic factors, and to a lesser extent, by political, events.

Overall, these findings complement the literature on the relationship between political crises, and volatility of bank returns, providing evidence on the financial impact of Arab Spring movements. Our results are very important in understanding the role of the Arab spring on the financial stability of both types of banks. Therefore, they are of a great significance to international investors.

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