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 Shamshad Akhtar, IBs have illustrated a degree of stability to the recent crisis but have been impacted because of their higher exposure to

volatility increase during that period. Although this increase remained very moderate.

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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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 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 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]:

\[ h_t = \omega + \alpha \xi_{t-1} + \beta h_{t-1} \]  

(GARCH)

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

[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 \( \xi_t \) is the innovation at time \( t-1 \), \( I \) is a dummy variable and \( I=1 \) if \( \xi_{t-1} < 0 \), \( I=0 \) otherwise.

\( \gamma \) 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]

\[ h_t = \left(1 + \lambda D_t \right) \omega + \alpha \xi_{t-1}^2 + \gamma I[\xi_{t-1} < 0] \xi_{t-1}^2 + \beta h_{t-1} \]

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 \( \lambda \) 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:

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

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

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

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

![Figure 1: A time series plot of GCC countries.](image-url)
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%, *Significant at 10%.

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

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

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

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

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

<table>
<thead>
<tr>
<th>Region</th>
<th>Returns Islamic</th>
<th>Conventional</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCC</td>
<td>GJR-GARCH</td>
<td>GJR-GARCH</td>
</tr>
<tr>
<td>Selected model</td>
<td>ω 0.000005***</td>
<td>0.00011**</td>
</tr>
<tr>
<td></td>
<td>(3.4051)</td>
<td>(1.8089)</td>
</tr>
<tr>
<td>α 0.0434***</td>
<td>0.1396***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.6326)</td>
<td>(2.8965)</td>
</tr>
<tr>
<td>β 0.8568***</td>
<td>0.6954***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(31.6477)</td>
<td>(5.196)</td>
</tr>
<tr>
<td>γ 0.1133***</td>
<td>-0.0490</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.7983)</td>
<td>(-9.6592)</td>
</tr>
<tr>
<td>λd 0.0579 **</td>
<td>-0.0797 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.1382)</td>
<td>(-1.8294)</td>
</tr>
</tbody>
</table>

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 taking 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, ***Statistical significance at the 1% level.

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

<table>
<thead>
<tr>
<th>Returns banks</th>
<th>Islamic bank</th>
<th>Conventional bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance criteria: Log L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GARCH</td>
<td>898.8988</td>
<td>2629.8963</td>
</tr>
<tr>
<td>E-GARCH</td>
<td>889.4031</td>
<td>2613.5346</td>
</tr>
<tr>
<td>GJR-GARCH</td>
<td>900.7155</td>
<td>2630.6737</td>
</tr>
</tbody>
</table>

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

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.

References