
MARKET RISK IN ISLAMIC AND CONVENTIONAL BANKS

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ABSTRACT

This empirical study examines Islamic banking market risk, conventional banks and the relationships that may exist between the two. The results show that the dynamic conditional beta of Islamic and conventional banks follows the same trends. The results indicate that there is a slight difference between the two banking systems in terms of systematic risk. Both banking systems react the same way to the market. The sensitivity of the stock prices of Islamic and conventional banks to the market increased significantly during the subprime crisis. This result proves that the two banking industries are sensitive to market risk and that the subprime crisis has caused distress in the Middle East. We also find that there is a positive dependence. This relationship verifies the existence of impact between the two banking industries.

JEL Classification: G21, G32, G33

Keywords: Islamic bank, Conventional bank, Financial Stability, Systematic risk, copula

1. INTRODUCTION

Financial stability has become a worldwide concern of policy makers and financial organizations. The reasons for this concern are the successive financial crises since the late 80s up to today including the 1997-1998 Asia crisis, crises in Latin America and the 2008-2009 global financial crisis, as well as the 2010-2011 European sovereign debt crisis.

The increasing interconnectedness of different components of the financial system and the acceleration of financial innovation have increased risks. Indeed, institutions that provide credit (loans) are most subject to the impact of crises, particularly regarding the narrowness of and increasing links between the institutions on the one hand and the financial markets on the other hand. Because of this, the international financial community and central banks pay more attention during financial and economic crisis periods.

The crises' damages have pushed various stakeholders to find remedies or alternatives to financial failures (Abu-Tapanjeh, 2009). In this framework, a great deal of attention has been paid to the Islamic finance industry as a remedy for a system that continues to present difficulties by checking its strength and ability to absorb the turbulence which is dominating the financial landscape (Garas, 2012). The series of crises faced by international financial institutions have raised several questions about the contribution of Islamic finance to financial stability.

Islamic finance is a crucial part of the economy today and is a key player in global finance. It is growing rapidly thanks to the opportunities of which it might take hold. According to estimate, the total assets of Islamic finance represented \$ 1.6 trillion at the end of 2012, \$ 1.8 trillion at the end of 2013 and can be expected to reach \$ 6.5 trillion dollars by 2020 (Shawkatet al, 2014). Islamic financial institutions have become an increasingly important player in the international financial system and encompass more than 300 financial institutions operating in over 75 countries worldwide (Ayub, 2007).

With the emergence and development of the size of the Islamic banking sector, which is becoming more and more important in increasing the level of competition between the two types of banking industry with different characteristics in the foundations. The issue of risk in both kinds of banking is of major importance. The financial crisis is a good experiment to test the relationship that may exist between these two industries during times of financial distress. Previous studies have been based on comparisons between Islamic and conventional banking sectors separately, assuming that there is no interaction between Islamic finance and conventional finance.

In this study, we analyze the market risk of Islamic and conventional banks to Islamic banks; whether they are riskier than the conventional banks. We also analyzed the dependency relationship that can exist between the two banking industries in terms of risk. The article is organized as follows. Section 1: Introduction. Section 2 provides a brief literature review. Section 3 presents the methodology. Section 4 presents the empirical results and finally section 5: Conclusion

2. LITERATURE REVIEW

After the financial crisis period, the issue of financial stability supervision and the soundness of the banking system has become a key priority for the banking system. With the existence of two types of banking industries, Islamic and conventional, which have different characteristics, a better understanding of bank policies requires a thorough understanding of behaviors and their risk levels, which must be given more attention.

The purpose of the Islamic financial system, like the conventional financial system, is the mobilization of financial resources and their allocation among various investment projects. However, there are some differences between the two systems on one basic point. Classic banking intermediation is based on generating interest bearing debt and allows the transfer of risk, whereas, in Islamic banks it based on the principle of sharing profits and losses (Hassan and Dridi, 2010). Similarly, Islamic law also prohibits speculation which is defined as the sale of goods in existence and characteristics are not certain; speculation is a central element in the outbreak of the global financial crisis.

In Islamic literature, the principle of sharing profits and losses is considered the ideal basis for all financial transactions. But in practice, the evidence indicates that most financial operations offered by Islamic banks are not shaped on the principle of sharing profits and losses. Similarly, their contribution to the Islamic banking net revenue is very low (Aggarwal and Yousef, (2000); Chong and Liu(2009); Humayon and John(2000); Kaleem and Isa(2003)). Beck et al (2010) concludes that the differences between Islamic and conventional banks are smaller than assumed in the literature.

According to Solé (2007), a better understanding and a deepened analysis of the Islamic banking industry from the financial stability perspective is of major importance. As Islamic banks are becoming systemically important and they are rapidly increasing in terms of size and interaction with conventional banks that are systemically important. Similarly, the absence of Islamic hedging instruments can worsen the situation of Islamic banks and make them subject to shocks.

The resilience of Islamic finance has become an interesting topic. However, there are a very limited number of empirical studies which examine the resilience of Islamic finance against the financial crisis. Khan (1985), Kia and Darrat (2003), Abduh et al (2011) found that the Islamic financial system was more stable during the financial crisis than the conventional system. However, these results are not in line with Kassim and Majid (2010), Kaleem and Isa (2006) who found that Islamic and conventional banking systems are both vulnerable to financial shocks.

Boumediene and Caly (2009) showed that the volatility of the performance of Islamic banks is relatively lower than that of conventional banks which allows us to conclude that Islamic banks have withstood more than conventional banks. By the same logic, Hassan and Dridi (2010) conducted a study to analyze the impact of the financial crisis on Islamic banks and conventional banks. They used bank data of from eight countries and 120 banks. They extended the effects of the crisis to profitability, credit and asset growth. The authors found that Islamic banks have shown strong resistance, chiefly, during the early stages of a crisis.

According to Boumediene and Caly (2009), Hassan and Dridi (2010), three factors contributed to the fact that Islamic banks remained stable during the crisis period. The first factor is that, Islamic banking activities are related to the real economy. The second is that Islamic banks are not exposed to the risks of toxic products. Third is that Islamic banks have kept much more of their assets in liquid form than conventional banks.

Among the studies that have examined the financial stability of Islamic banks we can cite as an example the work of Cihák and Hesse (2010). They analyzed financial stability for 19 banking systems; the sample consists of 77 Islamic banks and 397 conventional banks for a period which runs from 1993 to 2004. The authors found that small Islamic banks tend to be more financially stable than conventional small banks, Conventional large banks tend to be financially more stable than large Islamic banks, and small Islamic banks tend to be more financially stable than large conventional banks. It also showed that Islamic banks are more exposed to management difficulties and the increase in the share of the Islamic banking market has not had significant influence on the stability of other banks.

Using the same logic, Turk(2010), tried to analyze the conditions of competition between Islamic banks and commercial banks using a sample of 59 Islamic banks and 192 commercial banks in 13 different countries. The different measurement techniques and the level of competition adopted, such as the Lerner index and H-statistic showed that the Islamic banking market is dominated by a few institutions. Further empirical results showed that Islamic banks are less competitive than commercial banks and that profitability increases significantly with the increase of market power in the case of commercial banks, but does not in the case of Islamic banks.

In addition, the work of Thorsten Beck et al (2012), developed a comparative analysis in terms of efficiency and stability between conventional banks and Islamic banks for a period which runs from 1995 to 2009. Their results showed that Islamic banks are less profitable than conventional banks but with intermediation ratios, asset quality and capital ratios that are higher than conventional banks. The better performance of the share price of Islamic banks during the crisis period is also due to their high capitalization and improved asset quality.

Similarly, Rajhi and Hassiri (2013) analyzed the financial stability of a total of 467 conventional banks and 90 Islamic banks in 16 countries, including 10 countries in the MENA region and six countries in South Asia, for a period which runs from 2000 to 2008. The empirical results showed that Islamic banking stability levels measured by the proxy Z-scores are higher than conventional banks except for the case of small Islamic banks. These results contradict the results found by Cihák and Hesse (2010). The results also show that credit risk and diversity of income are the most common causes of insolvency for Islamic banks.

Several authors' studies, such as Hakim and Rashidian (2002) or Hussein (2004), have been became interested in the performance of Islamic indices by asking the question of whether they were more or less profitable than conventional indices. Most comparative studies found on this topic in the literature implicitly assume that there is no interaction between Islamic finance and conventional finance. In addition, the authors are often limited to the description of the principles and mechanisms of the Islamic financial system or the comparison of a particular financial product.

3. EMPIRICAL METHOD

Our goal is to analyze the market risk of Islamic banks and conventional banks and the relationship that may exist between these two during the period which runs from 04/09/2006 to 04/12 / 2013. To do this, we calculate the yields for each country's representative economic index and the yields of each bank.

$$R_{i,t} = \log \left(\frac{P_{i,t}}{P_{i,t-1}} \right); \quad (1)$$

With $R_{i,t}$ = Daily performance of the title (i) to (t); $P_{i,t}$ Title (i) to (t)

In the following, we try to apply analytical tools, recently introduced in applied finance. The family of DCC models (Dynamic Conditional Correlations) allows the correlation matrix to be dynamic over time while maintaining low parameters. DCC-MGARCH introduced equations describing the evolution of the correlation coefficients, similar in design to those of conditional variances.

The choice of p and q parameters of a particular series is obtained by taking the model of Bayesian Information Criterion (BIC) the smallest.

This model was proposed by Engle (2002) and Tse and Tsui (2002) and is written as follows:

$$\begin{cases} H_t = D_t R D_t \\ D_t = \text{diag} (\sqrt{h_{11t}}, \sqrt{h_{22t}}, \dots, \sqrt{h_{NNt}}) \\ R_t = (\text{diag} Q_t)^{-\frac{1}{2}} Q_t (\text{diag} Q_t)^{-\frac{1}{2}} \end{cases} \quad (2)$$

Where $H_t = D_t R D_t$, represents the variance and covariance matrix for the two actives and D_t is a temporally dynamic diagonal matrix collected from the estimation of both univariate GARCH.

The elements contained in D_t are generated in a GARCH (p, q) which is expressed as:

$$H_t = \begin{pmatrix} \sqrt{h_{it}} & 0 \\ 0 & \sqrt{h_{ot}} \end{pmatrix} \begin{pmatrix} 1 & \rho_{io,t} \\ \rho_{io,t} & 1 \end{pmatrix} \begin{pmatrix} \sqrt{h_{it}} & 0 \\ 0 & \sqrt{h_{ot}} \end{pmatrix} \quad (3)$$

$$h_{it} = c_i + \sum_{p=1}^{P_i} \alpha_{ip} \varepsilon_{it-p}^2 + \sum_{q=1}^{Q_i} \beta_{iq} h_{it-q} \quad ; \quad i = 1,2 \quad (4)$$

$R_t = [\rho_{ij,t}]$ represents the matrix constant conditional correlation coefficients. $Q_t = [q_{ij,t}]$ represents the covariance matrix of the standardized residuals, dimension (N x N), symmetric and positive definite.

$$q_{ijt} = \bar{\rho}_{i,j} + \alpha(Z_{it-1} Z_{jt-1} - \bar{\rho}_{i,j}) + \beta(q_{ijt-1} - \bar{\rho}_{i,j}) \quad (5)$$

The $\bar{\rho}_{i,j}$ represents the unconditional correlations and the $\rho_{ij,t} = \frac{q_{ijt}}{\sqrt{q_{iit}q_{jtt}}}$ represents the dynamic conditional correlations.

Once we have estimated variances and the dynamic conditional covariance between the returns of the stock price of each bank and the market index in each country, we calculate the dynamic conditional Beta. Beta coefficient is a standardized measure of systematic risk which is the risk that cannot be reduced through diversification. Beta is the sensitivity or elasticity of the share price compared to the market index representing the market.

$$\beta_{it} = \text{Cov}(R_{it}, R_{mt}) / \text{Var}(R_{mt}) \quad (6)$$

To analyze the dependence in terms of market risk between the two banking industries, we manufacture a risk index which represents the average of dynamic conditional beta by the type of bank. We establish this based on the copula analysis function to identify the dependency between them.

According to Sklar (1959), Genest and Mackay (1986), a copula C bivariate function $[0,1]^2 \rightarrow [0,1]$ is defined by the following characteristics

$$C(u, 0) = C(0, u) \text{ and } C(u, 1) = C(1, u) = u \quad ; \quad \forall u \in [0,1] \quad (7)$$

$$C(v_1, v_2) - C(v_1, u_2) - C(u_1, v_2) + C(u_1, u_2) \geq 0 \quad (8)$$

$\forall (u_1, u_2) \in [0,1]^2, (v_1, v_2) \in [0,1]^2$ just as $0 \leq u_1 \leq v_1 \leq 1$ et $0 \leq u_2 \leq v_2 \leq 1$

Property 1: translated, in particular, any copula is a distribution whose marginal distributions are uniform law set to $I = [0,1]$.

Property 2: growth or inequality of the distribution of the rectangle C. It reflects the fact that if C admits a density c (u, v) then it is positive.

Let U_1 and U_2 equal two uniform random variables on $[0, 1]$, then we have:

$$C(U_1, u_2) = P(U_1 \leq U_1, U_2 \leq u_2) \quad (U_1, u_2) \in [0,1]^2$$

This definition ensures that the copula is a probability distribution with uniform margins, (Claus, 2011, copula theory, p5).

4. DATA AND PRELIMINARY ANALYSIS

The empirical analysis will be performed on a sample of fifty one listed banks in six countries in the Middle East region namely Bahrain, Saudi Arabia, Kuwait, Qatar, Egypt and Turkey, (12 Islamic banks and 39 conventional banks) for the period spanning from 04/09/2006 to 25/12/2013. We remove from the sample the countries which are not listed as Islamic banks. Individual bank data were collected from the data-stream database.

Table 1: Distribution of the sample according to the Bank Type

	Conventional banks	Islamic banks	Total
Bahrein	4	3	7
Saoudi- Arabia	6	2	8
Kuwait	4	3	7
Qatar	4	1	5
Egypt	8	1	9
Turkey	13	2	15
Total	39	12	51

According to the tables of descriptive statistics (see Annexes 1 to 6), we find that the series of returns does not follow the normal distribution, since the probability of Jarque Bera test is less than 0.05. We show that the coefficient of kurtosis is very high, that is to say, well above 3. This phenomenon of excess kurtosis confirms the strong character of leptokurtic series of stock returns.

Similarly, the analysis shows that all stationary series returns are stationary. In addition, the hetero-scedasticity test shows the existence of a GARCH effect.

5. EMPIRICAL RESULTS

The estimation of these correlations takes into account all the information available at a given time. Indeed, these correlations, like the conditional variances are explained by three main factors including their own past, a factor representing the effect of the recent shocks and the constant. In addition, this new class of multivariate GARCH models is distinguished by its simplicity in the estimation. Furthermore, the latter is carried out in two stages: the first is devoted to the estimation of univariate GARCH models for each series separately. The second step estimates the dynamic correlations of the residuals from the first step.

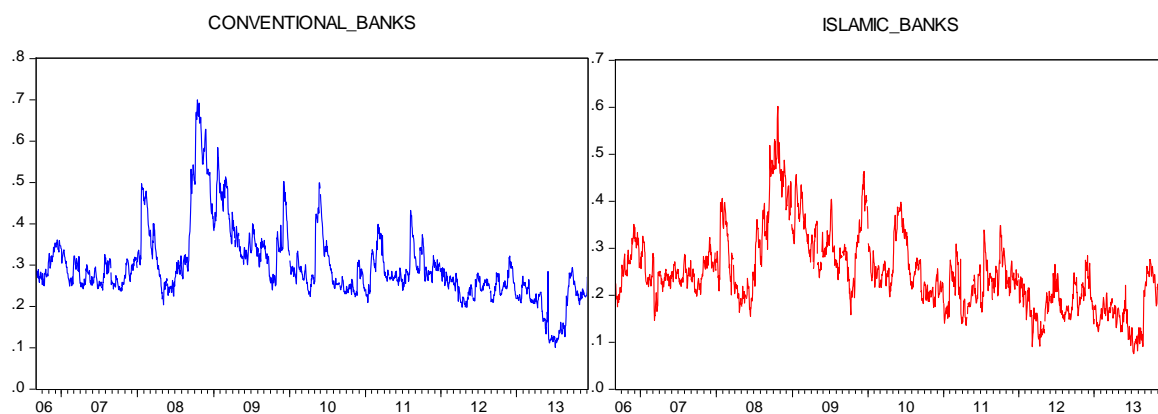
The estimation results of the DCC-MGARCH model bank in different countries are presented in tables (Appendix 1 to Annex 6). Throughout the study period, we find in general that the estimated parameters of GARCH models are positive and statistically significant which suggests that the

adoption of a GARCH specification of the variables is appropriate. Regarding the contribution of ARCH and GARCH effects of persistent short term and long term too. Indeed, the persistence of short-term (α) remains low in most of the conditional variance equations. However, the sum of the two parameters ($\alpha + \beta$) is very close to unity. Hence the persistence of the conditional variance is shown in the studied series. Concerning the DCC parameters (Dynamic Conditional Correlations) between the pairs, we note that they are different from one bank to the other in each country and they are kept for a few pairs and yield low for others. We note that the levels of correlation are all positive except for the case of the Bahrain and Middle East Bank which has a level of negative correlation. After the classification of banks in ascending order of the correlation level of each bank in relation to the market index in each country, we observe that the correlation level for Islamic banks varies from one country to another. We observe that in Saudi Arabia, the Islamic bank (AL Rajhi Bank) represents the highest correlation coefficient representing (0.7). This is same for Turkey, noting that the Islamic bank (AL BarkaTurck) was ranked second according to the correlation criterion for a level of (0.89). For other Islamic banks, their levels of correlation with the market are low and ranges between (0.1) and (0.5).

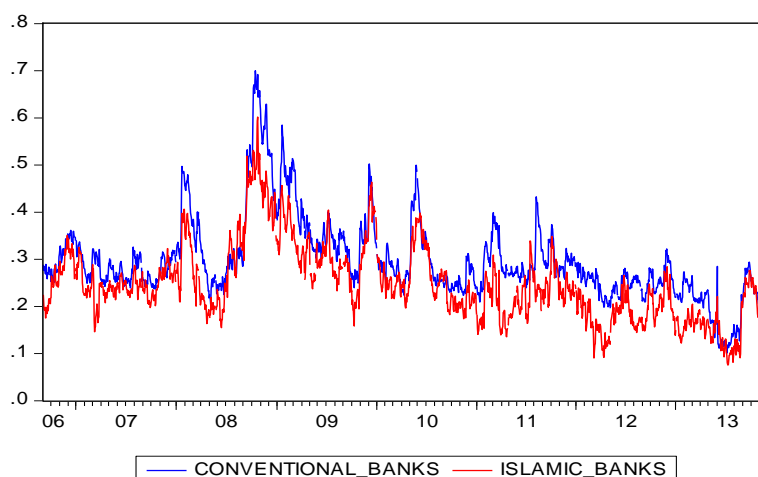
Conditional correlations can be interpreted as measures of intensity between the levels of market price performance of the banks and the market. We observe that the estimated conditional correlations are relatively strong for conventional and Islamic banks. Moreover, whatever the pair considered yields, packets of strong and weak correlations appear. This reflects, undoubtedly, the persistence phenomenon.

For further analysis, we analyze the volatility of systematic risk by using the variance covariance matrix estimated by the DCC-MGARCH model.

Figure 1: Beta conditional mean dynamics by type of bank



Using the DCC-MGARCH model to estimate market risk, the results show that the dynamic conditional beta of Islamic and conventional banks follow the same trends as shown in the graphs (N: 1) The results indicate that there is a slight difference between the two banking systems in terms of systematic risk. Both banking systems react the same way to the market. The sensitivity of the stock prices of Islamic and conventional banks to the market increased significantly during the subprime crisis. This result proves that the two banking industries are sensitive to market risk and that the subprime crisis has caused distress in the Middle East. After the crisis, we notice a downward trend in the level of risk. Systematic risk returns to normal.

Figure 2: Beta conditional mean dynamics by type of bank

According to the calculation of the average industry index Beta, we see that conventional banking is riskier than Islamic banks throughout the study period and the volatility of the conventional systematic risk is higher than that one of Islamic banks.

To analyze the risk in terms of dependence between the banking industries, we conduct the first test of adequacy of the copula function on different study periods. The breakdown of the sub period was based on the Breakpoint test.

The results of this test indicate that there are three first periods, the first between 04/09/2006 and 29/06/2007, a period of crisis from 02/07/2007 up on 30/06/2009 and by the end a period after the crisis from 01/07/2009 to 25/09/2013.

Table: Selection of the most suitable copula

BBC-BBI	Frank	Normal	Clayton	Gumbel	Student
Beforecrisis	0.004496	0.002498	0.005495	-	0.002498
Crise	0.004496	0.01149	0.1244	-	0.005495
Aftercrisis	0.009491	0.008492	0.04446	-	0.009491
Entireperiod	0.001499	0.001499	0.06444	0.0004995	0.0004995

Note:

* BBC Beta conventional banks; BBI Beta Islamic banks

* The table presents the p-values of the goodness-of-fit test for raw returns. Large p-values indicate that the copula provides the best fit to the data.

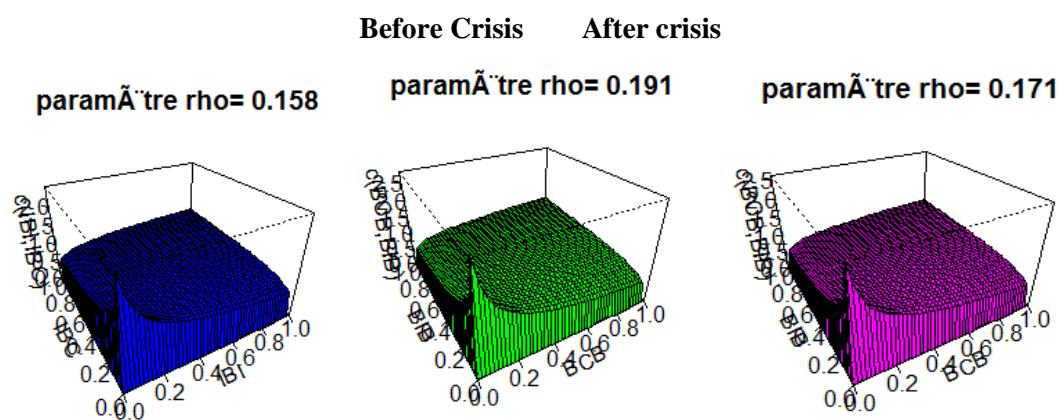
The results show that the Clayton copula is the most appropriate for the three sub periods. This type of copula is characterized by asymmetry of the tails. It aims to realize a dependence on low-level events. It studies the occurrence of unusual events.

Our next test is to model the dependence structure by the copula function between the two risk indices to study the risk of impact between these two industries. Following this model, we can conclude that there' is a risk of impact between Islamic and conventional banking industries. There is a positive dependence among the risk of Islamic and conventional banks for the three sub periods and this dependence decreased during the period of crisis and after. The results of the analysis of Kendall

non-linear correlation coefficient and Spearman rho, which are two measures of agreement, verify the results of the parameters of the copula function.

Table: Estimations of the copula parameters functioning

IBC-IBI	Taux de Kendall	Rho de Spearman	Paramètre θ	Type de copule
Beforecrisis	0.1521843	0.2227233	0.158	Clayton
Crisis	0.07648863	0.1118812	0.191	Clayton
Aftercrisis	0.07852591	0.1152581	0.171	Clayton
Entireperiod	0.08749625	0.1287759	0.218	Clayton



5. CONCLUSIONS

The interactions between Islamic and conventional banks in terms of activity have different characteristics. Special attention must be paid in order to analyze the effect of the presence of two banking industries on financial stability and the relationship between the two in terms of systematic risk.

The presence of financial crisis is a good experiment to test the differences between these two industries in terms of resistance impact. We examine the spillover effects and the volatility analysis of systematic risk for both industries between 04/09/2006 and 12/04/2013. To estimate the systematic risk for each bank, we refer to the DCC-MGARCH model and we calculate the dynamic conditional Beta. Beta coefficient is a standardized measure of systematic risk that cannot be reduced through diversification. The results of the analysis of two series of systematic risk have shown that conventional banks were directly affected by the crisis, that systematic risk has experienced high volatility and has increased during times of crisis.

According to the calculation of the industry index of average systematic risk, we see that conventional banking is riskier than Islamic banks throughout the study period and the volatility of the conventional systematic risk is higher than the systematic risk of Islamic banks. We also find that there is a positive dependence. This relationship verifies the existence of impact between the two banking industries.

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Appendix 1: Bahrain**1- Descriptive statistics:**

	Mean	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability	Sum	Sum Sq. Dev.	Observations
Index	-0.012151	1.138593	-2.136727	0.255994	-0.895601	9.671201	3562.595	0.0000	-21.77547	117.3699	1792
ABBG	-0.020180	4.346570	-6.694679	0.891556	-0.395881	14.83311	10501.82	0.0000	-36.16170	1423.617	1792
AL_SSB	0.012709	100.4799	-100.4799	3.769403	0.007909	565.7219	23643646	0.0000	22.77396	25447.24	1792
AUB	0.003179	6.013661	-4.777278	0.932029	-0.039121	11.05308	4842.746	0.0000	5.696995	1555.803	1792
BBK	-0.001814	5.912145	-4.968779	0.635047	-0.359713	22.15369	27431.16	0.0000	-3.250986	722.2839	1792
BMEB	-0.009838	5.799195	-5.799195	0.519542	-1.483640	77.42197	414208.4	0.0000	-17.63001	483.4337	1792
GFH	-0.062876	7.463362	-17.60913	1.455620	-2.482387	31.53446	62635.21	0.0000	-112.6729	3794.822	1792
IB	-0.010329	8.082319	-7.255067	1.480412	0.105007	9.252390	2922.191	0.0000	-18.50878	3925.189	1792

2- Stationarity test and test ARCH

	Heteroskedasticity		
	Stationarity	Test: ARCH	
Index	I(0)	NONE	0.0000
ABBG	I(0)	NONE	0.0000
AL_SSB	I(0)	NONE	0.0000
AUB	I(0)	NONE	0.0000
BBK	I(0)	NONE	0.0000
BMEB	I(0)	NONE	0.0000
GFH	I(0)	NONE	0.0000
IB	I(0)	NONE	0.0000

Table 1: Dynamic conditional correlation MGARCH model

Bahrein Index/ Bank Bank Name	Index			Bank			DCC		correlation
	constant	ARCH	GARCH	constant	ARCH	GARCH	DCC1	DCC2	ρ
	c_1	α_1	β_1	c_2	α_2	β_2	DCC1	DCC2	ρ
AHLI UNITED BANK	.0357715 0.000***	.2392894 0.000***	.2382631 0.009**	.4854927 0.000***	.2392894 0.000***	.2382631 0.009**	.0174006 0.000***	.9621965 0.000***	.6781031 0.000***
GULF FINANCE HOUSE	.0385339 0.000***	.183722 0.000***	.1895603 0.157	1.448538 0.000***	.183722 0.000***	.1895603 0.157	.1208786 0.000***	.1340218 0.388	.2937275 0.000***
AL BARAKA BANKING GROUP	.0253273 0.001***	.2525249 0.000***	.3568703 0.010**	.2226658 0.041**	.2502978 0.000***	.5030936 0.001***	.0585119 0.059*	.4982884 0.019**	.1948944 0.000***
AL SALAM BK.BAHRAIN	.0275263 0.000***	.2637935 0.000***	.3135256 0.022**	.6068205 0.000***	.5168475 0.000***	.203585 0.000***	.0598843 0.073*	.3727323 0.228	.1238745 0.000***
ITHMAAR BANK	.0138864 0.003**	.2118291 0.000***	.5767982 0.000***	.5500542 0.001***	.2118291 0.000***	.5767982 0.000***	.0013096 0.561	.9930661 0.000***	.119669 0.017**
BBK	.0242513 0.000***	.2331123 0.000***	.3894989 0.000***	.1839429 0.000***	.2331123 0.000***	.3894989 0.000***	.0152167 0.093*	.9271415 0.000***	.1172276 0.000***
BAHRAIN MIDDLE EAST BANK	.0076004 0.011**	.3460242 0.000***	.6260013 0.000***	.0157487 0.159	.3460242 0.000***	.6260013 0.000***	.0085105 0.633	.8308573 0.082*	-.0190608 0.476

Note: According to the Bayesian Information Criterion (BIC), p and q parameters obtained are of order (1,1). We, therefore, use a GARCH (1.1) for each series for the estimation of DCC.

- Index : Bahrain all share
- Banks are sorted in descending order according to the correlation coefficient
- Islamic banks are in blue and the conventional are in black
- Significance: *** 1% ; **5% ; * 10%

Appendix 2: Kuwait**1- Descriptive statistics:**

	Mean	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability	Sum	Sum Sq. Dev.	Observations
Index	-0.002875	2.840646	-3.913218	0.564621	-0.668391	9.622604	3408.225	0.0000	-5.152075	570.9652	1792
BB	0.025789	4.575749	-3.950854	1.024659	0.279038	5.905996	653.8007	0.0000	46.21391	1880.418	1792
CBK_OF_KUWAIT	-0.009123	4.575749	-3.707131	0.826463	0.331351	6.767933	1092.858	0.0000	-16.34772	1223.326	1792
GBOF_KUWAIT	-0.015908	3.621217	-32.27493	1.093595	-14.31789	424.6596	13336723	0.0000	-28.50642	2141.947	1792
KFH	0.004929	3.950854	-4.011722	0.853110	-0.038908	6.731647	1040.199	0.0000	8.832129	1303.483	1792
KIB	0.001213	4.575749	-4.742465	1.009474	-0.001125	5.284721	389.7567	0.0000	2.173787	1825.097	1792
NBOFKUWAIT	0.002501	4.139268	-4.275198	0.833953	0.125834	6.777150	1069.988	0.0000	4.481621	1245.600	1792

2- Stationarity test and test ARCH

	Stationarity		Heteroskedasticity Test: ARCH
Index	I(0)	NONE	0.0000
BB	I(0)	NONE	0.0000
CBK_OF_KUWAIT	I(0)	NONE	0.0000
GBOF_KUWAIT	I(0)	NONE	0.8712
KFH	I(0)	NONE	0.0000
KIB	I(0)	NONE	0.0000
NBOFKUWAIT	I(0)	NONE	0.0000

Table 2: Dynamic conditional correlation MGARCH model

Kuwait Index/ Bank Bank Name	Index			Banks			DCC		correlation ρ
	constant	ARCH	GARCH	constant	ARCH	GARCH	DCC1	DCC2	
	c_1	α_1	β_1	c_2	α_2	β_2	DCC1	DCC2	
KUWAIT FINANCE HOUSE	-.0068994 0.597	.2491443 0.000***	.7978117 0.000***	-.0266148 0.361	.2491443 0.000***	.7978117 0.000***	.0682707 0.000 ***	.4616783 0.000***	.568364 0.000***
NATIONAL BANK OF KUWAIT	-.0061767 0.605	.2558563 0.000 ***	.7292607 0.000***	-.0248907 0.335	.7903221 0.000***	.2312275 0.000***	.0040131 0.136	.9918154 0.000***	.4418025 0.000***
GULF BANK OF KUWAIT	.0342469 0.000***	.5720654 0.000***	.5033371 0.000***	.0725097 0.004**	.5720654 0.000***	.5033371 0.000***	.0974668 0.000***	.7924771 0.000***	.4411795 0.000***
KUWAIT INTL.BANK	.0131643 0.285	.252314 0.000***	.7061309 0.000***	.0786797 0.066*	.252314 0.000 ***	.7061309 0.000***	.0172214 0.204	.7260445 0.004 **	.3625897 0.000***
BOUBYAN BANK	-.1912229 0.015**	.1823931 0.000***	1.495489 0.000***	.1631532 0.016**	.3554054 0.000 ***	.4842298 0.000***	.0702508 0.000***	.6680228 0.000***	.3619091 0.000***
COMMERCIAL BK.OF KUWAIT	-.0034982 0.779	.2333694 0.000***	.778585 0.000 ***	.0205467 0.489	.2333694 0.000***	.778585 0.000***	.0244139 0.112	.7440436 0.000***	.2467039 0.000***

- Index : Kuwait Al-Shall General
- Banks are sorted in descending order according to the correlation coefficient
- Islamic banks are in blue and the conventional are in black
- Significance: *** 1% ; **5% ; * 10%

Appendix 3: Egypt**1- Descriptive statistics:**

	Mean	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability	Sum	Sum Sq. Dev.	Observations
Index	0.002937	3.176574	-7.813663	0.750272	-1.291696	13.55307	8730.129	0.0000	5.213438	998.5978	1775
CA	0.004362	6.640062	-9.953897	0.992910	-0.512603	12.55710	6832.952	0.0000	7.742695	1748.935	1775
CIB	0.032725	4.128072	-10.25968	0.896524	-0.905856	15.50390	11805.95	0.0000	58.08663	1425.862	1775
EGB	0.000842	10.47353	-9.773645	1.041487	-0.007690	19.10209	19175.74	0.0000	1.494999	1924.248	1775
FIBE	0.006685	4.721702	-11.22019	0.875113	-1.308218	25.00395	36315.00	0.0000	11.86570	1358.571	1775
HDEV_BANK	0.004638	9.848999	-6.118530	1.161093	0.931117	11.15294	5172.524	0.0000	8.233089	2391.596	1775
NBOK	-0.009097	17.58503	-28.09738	1.952010	-1.236632	42.41236	115334.4	0.0000	-16.14683	6759.552	1775
NDEV_BANK	0.022575	9.028293	-34.75356	1.507027	-6.405793	164.6962	1945828.	0.0000	40.07023	4028.988	1775
QNBANKALAHLY	0.012088	5.317100	-9.753846	0.941164	-0.776073	14.02642	9170.177	0.0000	21.45617	1571.390	1775
SCBANK	-0.008921	6.199388	-8.392742	1.280633	-0.117543	5.923320	636.1206	0.0000	-15.83474	2909.396	1775

2- Stationarity Test and test ARCH

Index	Stationarity		Heteroskedasticity
	I(0)	NONE	Test: ARCH
CA	I(0)	NONE	0.0000
CIB	I(0)	NONE	0.0000
EGB	I(0)	NONE	0.0000
FIBEUSD	I(0)	NONE	0.0001
HDEV_BANK	I(0)	NONE	0.0000
NBOK	I(0)	NONE	0.9945
NDEV_BANK	I(0)	NONE	0.0000
QNBANKALAHLY	I(0)	NONE	0.0000
SCBANK	I(0)	NONE	0.0000

Table 3: Dynamic conditional correlation MGARCH model

Egypt Index/ Banks Bank Name	Index			Banks			DCC		correlation
	constant	ARCH	GARCH	constant	ARCH	GARCH	DCC1	DCC2	ρ
	c_1	α_1	β_1	c_2	α_2	β_2			
COML.INTL.BANK (EGYPT)	-.0564288 0.461	.186702 0.000***	.9177099 0.000***	-.0010649 0.01**	.1698963 0.000***	.8275546 0.000***	.0202754 0.000***	.9668704 0.000***	.7072233 0.000***
CREDIT AGRICOLE EGYPT	-.0536897 0.480	.1877953 0.000***	.9108767 0.000***	-.0073709 0.949	.1694036 0.000***	.8371187 0.000***	.0204284 0.000***	.9666209 0.000***	.7070153 0.000***
NATIONAL BANK OF KUWAIT	.0218557 0.769	.2825517 0.000 ***	.7815095 0.000***	.9711118 0.000***	.2825517 0.000***	.7815095 0.000***	.1084532 0.000***	.2537483 0.007 **	.6799515 0.000***
HOUSING & DEV.BANK	.0443708 0.547	.2338555 0.000***	.698537 0.000***	-1.16184 0.005**	.1708556 0.000***	1.762396 0.000***	.0202023 0.121	.8979041 0.000***	.487904 0.000***
FAISAL ISLAMIC BANK OF EGYPT	-.0002068 0.998	.2232083 0.000***	.7827674 0.000 ***	.0077754 0.842	.4879116 0.000***	.5708917 0.000***	.0330148 0.095 *	.1627366 0.568	.4078633 0.000***
EGYPTIAN GULF BANK	.0285304 0.693	.2322808 0.000***	.721793 0.000***	-.2844402 0.445	.1078903 0.001***	1.159125 0.002**	.0598615 0.005**	.4906116 0.000***	.3989355 0.000***
SUEZ CANAL BANK	.0240755 0.738	.2287263 0.000 ***	.7315649 0.000***	-.147202 0.630	.1401376 0.000***	.9285227 0.000 ***	.0445202 0.021**	.8576024 0.000***	.3638171 0.000***
QATAR NATIONAL BANK ALAHLY	.0101929 0.886	.2265124 0.000***	.7606134 0.000***	.1528071 0.014 **	.3442959 0.000 ***	.4780384 0.000***	.0115791 0.000 ***	.9853331 0.000 ***	.3622556 0.039**
NATIONAL DEV.BANK	-.0584623 0.478	.2301165 0.000***	.9124563 0.000***	-2.744506 0.000***	.0838893 0.000***	2.051272 0.000 ***	.1284433 0.000 ***	.8380141 0.000***	.2127621 0.031 **

- Index : EGX30

- Banks are sorted in descending order according to the correlation coefficient
- Islamic banks are in blue and the conventional are in black
- Significance: *** 1% ; **5% ; * 10%

Appendix 4: Qatar

1- Descriptive statistics:

	Mean	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability	Sum	Sum Sq. Dev.	Observations
Index	0.003046	4.472086	-3.976814	0.621412	-0.439624	14.25052	9508.604	0.0000	5.458523	691.5993	1792
AKCOML_BANK	-0.009717	5.072528	-5.413153	0.787074	0.040476	13.60365	8395.808	0.0000	-17.41206	1109.500	1792
DOHABANK	-0.016177	4.635941	-7.916876	0.963696	-0.616895	11.21429	5151.765	0.0000	-28.98917	1663.321	1792
MALR	0.005172	5.115252	-4.902288	0.806918	0.130133	12.17538	6291.070	0.0000	9.268632	1166.151	1792
QIBANK	-0.013116	17.94310	-17.60310	1.015248	0.031253	109.6764	849696.3	0.0000	-23.50338	1846.034	1792
QNBANK	0.023641	4.911742	-7.921559	0.831961	-0.216331	14.21033	9397.457	0.0000	42.36522	1239.656	1792

2- Stationarity test and test ARCH

	Stationarity		Heteroskedasticity
	I(0)	NONE	Test: ARCH
Index	I(0)	NONE	0.0000
AKCOML_BANK	I(0)	NONE	0.0000
DOHABANK	I(0)	NONE	0.0000
MALR	I(0)	NONE	0.0000
QIBANK	I(0)	NONE	0.0000
QNBANK	I(0)	NONE	0.0000

Table 4: Dynamic conditional correlation MGARCH model

Qatar Index/ Bank Name	Index			Bank			DCC		correlation ρ
	constant	ARCH	GARCH	constant	ARCH	GARCH	DCC1	DCC2	
	c_1	α_1	β_1	c_2	α_2	β_2			
QATAR NATIONAL BANK	3.13576 0.518	.4902314 0.507	.5876127 0.000***	4.076632 0.534	.5893639 0.507	.5978413 0.000***	.797552 0.000***	.0327311 0.619	.5448327 0.000***
MASRAF AL RAYAN	.0928414 0.000***	.4521306 0.000***	.3727563 0.000***	.1487547 0.000***	.4521306 0.000***	.3727563 0.000***	.070005 0.000***	.3993814 0.000***	.5385858 0.000***
QATAR ISLAMIC BANK	-0.019511 0.148	.2245322 0.000***	.8621545 0.000***	-0.1353934 0.000***	.2245322 0.000***	.8621545 0.000***	.0328413 0.003**	.8446225 0.000***	.4829255 0.000***
DOHA BANK	.0121543 0.185	.2265124 0.000***	.7606134 0.000***	.0683797 0.056 *	.3442959 0.000***	.4780384 0.000***	.0115791 0.000***	.9853331 0.000***	.3622556 0.039**
AL KHALIJ COML.BANK	2.881662 0.495	.6664755 0.474	.5700043 0.000***	1.43733 0.690	.6878678 0.474	.6656156 0.000***	.6163467 0.004 **	.298683 0.238	.3395596 0.000***

- Index : Qatar DSM Market
- Banks are sorted in descending order according to the correlation coefficient
- Islamic banks are in blue and the conventional are in black
- Significance: *** 1% ; **5% ; * 10%

Appendix 5: Saudi Arabia**1- Descriptive statistics:**

	Mean	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability	Sum	Sum Sq. Dev.	Observations
Index	-0.011338	4.839248	-4.485589	0.671516	-0.572924	13.54994	8408.521	0.0000	-20.31723	807.6226	1792
AL_RAJHI_BANK	-0.019116	4.129058	-4.572488	0.841012	-0.306381	10.21141	3911.037	0.0000	-34.25620	1266.775	1792
ANB	-0.014708	4.101154	-4.584382	0.894317	-0.228683	9.227918	2911.712	0.0000	-26.35629	1432.448	1792
BANKALBILAD	-0.017445	4.148344	-4.573511	0.906794	0.150219	9.466200	3128.683	0.0000	-31.26097	1472.696	1792
BANKALJAZIRA	-0.016715	10.42686	-7.862123	1.032529	0.190970	14.05920	9143.067	0.0000	-29.95243	1909.412	1792
RIYADBANK	-0.017918	4.106627	-4.575749	0.786623	-0.192305	11.41936	5303.841	0.0000	-32.10865	1108.228	1792
SFG	-0.022681	4.047243	-4.575749	0.864115	0.071110	9.215183	2885.772	0.0000	-40.64355	1337.330	1792
SHB	-0.008614	4.107071	-4.582066	0.886754	-0.109223	9.434586	3095.054	0.0000	-15.43632	1408.321	1792
TSIBK	-0.014597	4.115781	-4.592684	0.832566	-0.298703	9.836344	3516.239	0.0000	-26.15803	1241.461	1792

2- Stationarity test and test ARCH

		Stationarity	Heteroskedasticity Test: ARCH
Index	I(0)	Trend and intercept	0.0000
AL_RAJHI_BANK	I(0)	NONE	0.0000
ANB	I(0)	NONE	0.0000
BANKALBILAD	I(0)	Trend and intercept	0.0000
BANKALJAZIRA	I(0)	Trend and intercept	0.0008
RIYADBANK	I(0)	NONE	0.0000
SFG	I(0)	NONE	0.0000
SHB	I(0)	NONE	0.0000
TSIBK	I(0)	Trend and intercept	0.0000

Table 5: Dynamic conditional correlation MGARCH model

SaudiArabia Index/ Bank Bank Name	Index			Bank			DCC		correlation
	constant	ARCH	GARCH	constant	ARCH	GARCH	DCC1	DCC2	ρ
	c_1	α_1	β_1	c_2	α_2	β_2			
AL RAJHI BANK	.0930722	.1979213	.6176832	.1311506	.1979213	.6176832	.0424108	.7541951	.7702009
	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
ARAB NATIONAL BANK	.1016403	.247879	.5573751	.1519617	.247879	.5573751	.0099743	.9206278	.5928308
	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.041**	0.000***	0.000***
BANK ALJAZIRA	.0841398	.1994985	.620923	.2047464	.1994985	.620923	.0243418	.8252308	.5923922
	0.000***	0.000***	0.000***	0.001***	0.000***	0.000***	0.021**	0.000***	0.000***
RIYAD BANK	.0635194	.2809795	.6186812	.0462898	.2809795	.6186812	.0090965	.5809023	.5827355
	0.000***	0.000***	0.000***	0.036**	0.000***	0.000***	0.261	0.229	0.000***
THE SAUDI INVESTMENT BK.	.1074559	.2344701	.5321841	.156569	.2344701	.5321841	.041278	.3049996	.5587353
	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.005**	0.001***	0.000***
BANK ALBILAD	.0752461	.2095471	.6284826	.1008222	.2095471	.6284826	.0106375	.8727975	.5347165
	0.000***	0.000***	0.000***	0.009**	0.000***	0.000***	0.025**	0.000***	0.000***
SAMBA FINANCIAL GROUP	.0270808	.2073652	.7372376	.0179761	.2073652	.7372376	.0069067	.706389	.5066298
	0.215	0.000***	0.000***	0.637	0.000***	0.000***	0.230	0.000***	0.000***
SAUDI HOLLANDI BANK	.0265306	.220768	.731423	.0236505	.220768	.731423	.0394546	.2087546	.4536246
	0.267	0.000***	0.000***	0.604	0.000***	0.000***	0.012**	0.141	0.000***

- Index : Saudi Tadawul All Share
- Banks are sorted in descending order according to the correlation coefficient
- Islamic banks are in blue and the conventional are in black
- Significance: *** 1% ; **5% ; * 10%

Appendix 6: Turkey**1- Descriptive statistics:**

	Mean	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability	Sum	Sum Sq. Dev.	Observations
Index	0.010648	5.086358	-4.562363	0.765213	-0.194543	7.489756	1346.337	0.0000	16.94059	931.0256	1591
AKB	-0.010112	7.509236	-7.463362	1.127489	-0.400566	8.524590	2065.841	0.0000	-16.08759	2021.257	1591
AKBANK	0.002413	8.255790	-5.197762	1.204328	0.313467	6.192253	701.5995	0.0000	3.839107	2306.144	1591
ALBTURK	0.007226	5.622293	-3.891807	0.900061	0.080060	5.892903	556.4873	0.0000	11.49711	1288.075	1591
ALTTIFBANK	0.006684	8.122981	-6.445799	1.153141	0.660595	9.243769	2700.072	0.0000	10.63386	2114.278	1591
DENIZBANK	0.002965	8.821593	-9.691001	1.441356	1.204000	15.61322	10930.96	0.0000	4.716798	3303.238	1591
FINANSBANKA	0.003409	9.814909	-6.642069	1.208643	1.914369	16.41744	12906.11	0.0000	5.423272	2322.699	1591
GSDHOLDING	-0.018488	9.108047	-9.925123	1.470453	0.105573	9.603368	2893.568	0.0000	-29.41481	3437.948	1591
IMYO	0.016640	25.99932	-7.009007	1.547925	2.955429	54.51538	178243.2	0.0000	26.47425	3809.755	1591
SEKERBANK	0.008824	6.928801	-5.912145	1.163903	0.033305	6.753066	934.0455	0.0000	14.03882	2153.924	1591
TEB	-0.008461	7.342892	-8.432089	1.177967	-0.075224	9.063706	2438.948	0.0000	-13.46168	2206.295	1591
TEKSTILBANKASI	-0.016234	9.625645	-9.513375	1.391486	0.188876	11.48864	4786.237	0.0000	-25.82813	3078.609	1591
THB	0.009914	8.058446	-5.720731	1.235004	0.011590	6.511033	817.2366	0.0000	15.77295	2425.123	1591
TKI_GS	0.016716	6.908092	-6.145964	1.202024	0.043410	5.512978	419.1354	0.0000	26.59473	2297.332	1591
TKI_KB	-0.000496	7.398005	-7.520185	1.181124	0.266676	11.79872	5150.992	0.0000	-0.788750	2218.135	1591
TKI_SKB	0.034297	4.346570	-5.058444	1.079015	-0.099489	4.954627	255.8963	0.0000	54.56670	1851.195	1591
TKI_VB	0.004324	7.164191	-4.978281	1.174565	-0.070241	5.405205	384.8064	0.0000	6.879015	2193.570	1591

2- Stationarity test and test ARCH

	Stationarity		Heteroskedasticity
	I(0)	NONE	Test: ARCH
Index	I(0)	NONE	0.0000
AKB	I(0)	NONE	0.0000
AKBANK	I(0)	NONE	0.0017
ALBTURK	I(0)	NONE	0.0000
ALTTIFBANK	I(0)	NONE	0.0000
DENIZBANK	I(0)	NONE	0.0000
FINANSBANKA	I(0)	NONE	0.0000
GSDHOLDING	I(0)	NONE	0.0000
IMYO	I(0)	NONE	0.5062
SEKERBANK	I(0)	NONE	0.0000
TEB	I(0)	NONE	0.0002
TEKSTILBANKASI	I(0)	NONE	0.0000
THB	I(0)	NONE	0.0000
TKI_GS	I(0)	NONE	0.0001
TKI_KB	I(0)	NONE	0.0000
TKI_SKB	I(0)	NONE	0.0000
TKI_VB	I(0)	NONE	0.0000

Table 6: Dynamic conditional correlation MGARCH model

Turkey Index/ Banks Bank Name	Index			Banks			DCC	correlation	
	constant	ARCH	GARCH	constant	ARCH	GARCH			
	c_1	α_1	β_1	c_2	α_2	β_2			DCC1
TKI.GARANTI BKSI.	-.1222601	.141481	.9098411	-.3030499	.141481	.9098411	.0004109	.9955952	.9203439
	0.030**	0.000***	0.000***	0.036**	0.000***	0.000***	0.294	0.000***	0.000***
ALBARAKA TURK	-.1286635	.1564469	.9080245	-.1707619	.1564469	.9080245	.0053334	.9924624	.8986357
	0.010**	0.000***	0.000***	0.015**	0.000***	0.000***	0.109	0.000***	0.005**
TKI.VAKIFLAR BANKASI	-.0501624	.1313313	.9690258	-.1181519	.1313313	.9690258	.0138589	.9644259	.8571061
	0.371	0.000***	0.000***	0.377	0.000***	0.000***	0.000***	0.000***	0.000***
AKBANK	-.1050663	.1579942	.9052136	-.2452259	.1579942	.9052136	.0283372	.6267306	.852084
	0.033**	0.000***	0.000***	0.041**	0.000***	0.000***	0.036**	0.000***	0.000***
TURKIYE HALK BANKASI	-.1038163	.1236583	.9063342	-.2671013	.1236583	.9063342	.0074032	.6719746	.8161751
	0.111	0.000***	0.000***	0.114	0.000***	0.000***	0.483	0.061*	0.000***
ASYA KATILIM BANKASI	-.0141589	.2061969	.8727115	-.0452459	.2061969	.8727115	.000779	.9929963	.8087093
	0.779	0.000***	0.000***	0.670	0.000***	0.000***	0.189	0.000***	0.000***
TURK EKONOMI BANKASI	-.1433374	.151542	.8124987	-.3571994	.151542	.8124987	.0821393	.0051956	.6858076
	0.009**	0.000***	0.000***	0.007**	0.000***	0.000***	0.001***	0.925	0.000***
TKI.SINAI KALK.BKSI.	-.0328847	.1365546	.9226376	-.0815432	.1365546	.9226376	.0166384	.7281757	.6714367
	0.556	0.000***	0.000***	0.471	0.000***	0.000***	0.113	0.000***	0.000***
SEKERBANK	-.1040463	.1583718	1.043742	-.2831288	.1583718	1.043742	.0195978	.9293563	.6708921
	0.026**	0.000***	0.000***	0.014**	0.000***	0.000***	0.000***	0.000***	0.000***
TEKSTIL BANKASI	.014841	.2368687	.7737024	-.0148361	.2368687	.7737024	.0281263	.799168	.6184834
	0.655	0.000***	0.000***	0.880	0.000***	0.000***	0.009**	0.000***	0.000***

GSD HOLDING	-.2964699	.1138801	1.411526	.0149284	.2420859	.7377526	.0126548	.8047294	.5772267
	0.027**	0.000***	0.000***	0.956	0.000***	0.000***	0.143	0.000***	0.000***
FINANSBANK A	.0271061	.2552101	.7389644	.0571877	.2552101	.7389644	.0141341	.9364418	.4853265
	0.496	0.000***	0.000***	0.520	0.000***	0.000***	0.020**	0.000***	0.000***
ALTERNATIFBANK	.096142	.2044946	.6339464	.2200422	.2044946	.6339464	.0757956	.4480237	.4742229
	0.015**	0.000***	0.000***	0.009**	0.000***	0.000***	0.000***	0.000***	0.000***
TKI.KALKINMA BANKASI	.0749997	.2833051	.6363445	.1091704	.2833051	.6363445	.0687185	.7669348	.4712963
	0.055*	0.000***	0.000***	0.168	0.000***	0.000***	0.000***	0.000***	0.000***
DENIZBANK	.1140656	.3116387	.5551001	.2474275	.3116387	.5551001	.0126916	.9524155	.4647518
	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.003**	0.000***	0.000***
INFO MENKUL YATIRIM ORTAKLIGI	.0027985	.1908598	.8122456	-.0184104	.1908598	.8122456	.0345816	.9271677	.2721442
	0.948	0.000***	0.000***	0.911	0.000***	0.000***	0.000***	0.000***	0.000***

- Index : Turkey-DS Market
- Banks are sorted in descending order according to the correlation coefficient
- Islamic banks are in blue and the conventional are in black
- Significance: *** 1% ; **5% ; * 10%