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Islamic versus conventional stock market Indices synchronization

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Few works are considered to the empirical literature on the performance of shariah stock market indices compared to those of conventional markets. This work deal with the analysis of business cycle synchronization of five Islamic and their corresponding conventional markets over the period 2000 and 2014. In this research, three different measures of synchronization were proposed: The pair wise correlation coefficients of the cyclical components, the pair wise correlations of stock market returns and the concordance index. Results suggest a high degree of synchronization between Islamic and Conventional stock markets to each pair of country, except the case of Indonesia. These results confirm the point of view of some Muslim scholars considering that the mechanisms and products adopted in Islamic finance are similar to the Conventional system under the label of Shariah.

Key words: Synchronization, Islamic/conventional stock indices, concordance index.

INTRODUCTION

With the phenomenon of globalization and liberalization international stock market indices are becoming more and more interdependent and integrated. Masih and Masih (2001) suggested that when stock markets are integrated, we have a similar risk degree in different markets leading to a similar degree of return. Moreover, the pair wise correlations between the returns of these stock market indices are important. Therefore there is a high degree of synchronization between these markets. In effect, as the main objective of investors is to maximize profits, Islamic finance must be efficient and competitive to the conventional sector. In a country where the two systems are simultaneously adopted, is there coordination between the two systems in such away that

markets are synchronized and then integrated. Since 1970s, a great interest is accorded to the performance of Islamic stock market compared to their corresponding conventional markets. Modern Islamic finance, although it is considered as a small market, has experienced a high growth rate lying between 15 and 20% annually . In this investigation, we study the connection between Islamic and Conventional stock markets via a synchronization analysis. In fact, many researchers, especially those who defend the Islamic point of view, consider the modern Islamic finance as an imitation of its traditional counterpart. They consider that the mechanisms and the products of modern Islamic finance are similar to the conventional finance including the label of Shariah.

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In many products, like Sukuk, we consider these products free of interest; gharar and maysir and any Muslims can invest it. Thus, we tend to determine synchronization between Islamic and Conventional stock market indices in order to verify whether shocks affecting both markets are common or not. We verify whether good (bad) news lead to increase (decrease) in the performance of Islamic and Conventional stock market indices.

Although Islamic finance still represents only one percent of the global financial industry, it has known an important fast pace growth lying between 10 and 15% per year and has been playing a major role in some markets. The industry has experienced a rapid geographic expansion, from the Middle East to South East Asia and Europe, with the emergence of different potential regional and global centers of Islamic finance (Bahrain, Dubai, Kuala Lumpur and London). With the efforts provided especially by Malaysian authorities in the recent years, the range of Islamic financial services has been diversified and given a great interest to all segments of the financial assets. This growth is also accompanied by the development of Islamic financial infrastructure support. Islamic finance is then not considered as an opposed system to the conventional financial system, but it is considered as an integral part, with its particularities, of the global financial infrastructure.

The affirmation of Islamic finance is inserted in some emerging countries, in a more general development policy of the country system. Among these we can cite the Malaysian case where the central bank plays a leading role in promoting the development of the regulation, the consolidation of the system, and the formation of professional experts in Shariah. At the beginning Islamic finance was created to respond to the specific needs of a particular social group "the Muslims", but after that, Islamic finance became attractive to other segments of the population. In fact, and in order to attract Muslim investors and to diversify the portfolio in order to reduce losses, non-Muslim countries, including Germany, Netherlands, Switzerland, France and Belgium, started to apply Islamic finance in their countries by developing Islamic windows. Also, London is now considered as a financial hub for Islamic finance and this reflects the sensitivity shown by the British authorities to the opportunities in London market that accord a growing importance to the Islamic finance: The evolution of the phenomenon was well accompanied by the removal of regulatory and tax obstacles, and then, the authorities themselves have played the role of a catalyst for this change.

The aims of this investigation are to answer to the following questions:

1. Is there synchronization between the Islamic stock market indices?
2. Is there synchronization between the Conventional stock market indices?

3. Is there synchronization between the Islamic and their corresponding stock market indices in the country or in the region?

Islamic financial system overview

Similarly to the real economic activity, the financial sector plays an important role in the economic growth. Because of the frequently problems that knows conventional financial system, like the crisis 2007 to 2009 and the subprime mortgage market crisis, investors became worried and more attentive. Crises that largely hit the conventional financial system were less severe for the Islamic financial system. That is why a great attention is accorded to the Islamic finance in the recent decades. Now, many countries adopt both conventional system and Islamic financial system and investors can choose the way of investing their money either in conventional or in Islamic financial system where all transactions comply with the Shariah principles.

In its concept, the Islamic financial system is different from the conventional system. It is derived from the Shariah principles which are essentially based on halal and transactions must be free of interest, gharar, gambling.... The main objective of Islamic finance is to adopt only the procedures that totally comply with Shariah and financial transactions must be accompanied by real investment activity. On the other hand, as the main objective of investors is to maximize profits, Islamic finance must be efficient and competitive to the conventional sector. In a country where the two systems are simultaneously adopted, is there a difference between them in terms of profitability and is there coordination between the two systems in such a way that markets are synchronized and then integrated.

Islamic finance back to the middle epochs (the beginning of Islam area from the 1st to the 6th century). While modern Islamic finance industry is considered as a new industry and we talk about it only a few decades ago. In fact, in the 1970s after the dominance of the traditional system, Islamic governments accord a great attention to the Islamic system and it becomes since that date an important industry interesting nations all over the world. A second factor played an important role in developing Islamic finance industry is the discovery of petroleum in the Gulf area since the 1970s. The first efforts of modern Islamic financial system came back to the 1960s with the Egyptian and Malaysian experiences. In the middle of the 1970s and after the discovery of petroleum resources in the Gulf region followed by the highly economic and financial growth, Gulf countries give importance to the Islamic finance industry with the establishment of Islamic Development Bank in Saudi Arabia and the Dubai Islamic Bank in United Arab Emirates. The first attempt in a non-Muslim country was established in Luxembourg in 1978. In the 1980s some

Muslim governments, like Pakistan, Iran and Sudan transformed all its financial system to Islamic system. After that, especially in the 1990s, and in order to attract Muslim investors, many non-Muslim countries like UK, USA and France established Islamic institutions and Islamic windows offering new financial products and mechanisms compliant with Shariah. Islamic financial system is given more attention due to the very significant growth registered by this industry compared to the conventional financial system. In fact, since the 1990s the Islamic financial assets has grown at a rate lying between 15 and 20% per annum and achieved \$ 1.3 trillion in 2013¹. Recently, after the global financial crisis (2007 to 2009) several studies had focused a great attention to the Islamic finance system as it has knowing stability during the crisis compared to the conventional market (Charles et al., 2011).

Islamic financial markets are based on a fundamental characteristic "Shariah Compliant". Investors investing in these markets are sure that they use their money in transactions free of interest, gharar, gambling, ... All transactions, rules and regulations in Islamic markets are considered halal not contradictory to the Shariah principles. In Islamic finance, like in conventional market, commercial transactions should be made according to the ethical and moral values. But, as equity market is a market where investors buy and sell financial tools in order to release benefits, Islamic equities must be efficient and concurrent to the conventional ones.

In order to comply with Shariah rules many Muslim countries established International Islamic Organizations, such as the Islamic Financial Services Board IFBS and the Accounting and the Auditing Organization for Islamic Financial Institutions AAOIFI, to formulate standards, regulate, supervise and monitor the activities of the market in order to serve the needs of Muslims, even non-Muslims, investors.

Some authors argued that the gaps between practices in Islamic and conventional financial systems have diminished and shrunk over time as Islamic market became more competitive (El-Gamal, 2006). Even though there are fundamental differences between the two systems, they perform similarly in the market. They highlighted that differences existing between the two systems are caused essentially by the different business models adopted by each one and not by the principles of Shariah.

METHODOLOGY: FINANCIAL CYCLE'S SYNCHRONIZATION

Generally, economic and financial integration among a group of countries lead to common shocks that contributes to a deeper synchronization of business cycles between countries that belong to this group. Many authors are interested in the study of financial cycle synchronization, especially during financial crises, as it has an important and heavy impact on real world activity. The recent global

financial crises highlighted the importance of the Islamic financial system as this crisis had largely hit the conventional system compared to the Islamic system which is considered as a regulating sector. The severity of this crisis motivated the researchers to study the comparison between Islamic and conventional financial systems. Some authors are interested in the analysis of the main differences between both systems by the analysis of the performance and others by the analysis of financial cycles and synchronization between the two systems. The main goal of this study is to analyze the synchronization between Islamic and Conventional stock market indices and the interaction between Islamic stock indices.

In finance, it is proved that disruptions are relatively larger than booms. In effect, financial cycles are characterized by longer and deeper episodes of downturns and synchronization of financial series are in many cases high. For example, Claessens et al. (2012) are interested in the analysis of financial cycles across industrial countries. They found that the degree of synchronization between credit and housing price is larger than that of credit and stock prices. Calderon and Servén (2011) found evidence of high degree of synchronization of financial cycles in Latin America. They concluded that financial cycles are long and deep and that they are highly synchronized across countries. According to the study of Schuler et al. (2015) which is applied to 13 European Union countries, they indicated that for most countries the degree of synchronization in financial cycles is higher than that of business cycles. Meller and Metiu (2015) found in their analysis among 12 European countries that countries with more highly correlated business cycles tend to have more synchronized credit cycles.

Business cycles are representative of periods of relative growths and periods of relative stagnation or decline. In this work we consider the growth and the decline between conventional and Islamic financial markets and we measure the synchronization among market returns. Many methods are considered in empirical literature to measure synchronization; some methods are based on the correlation coefficients of growth rates, others considered the correlation coefficients of the cycles. To extract cycles from series many techniques have been developed in literature. One of the data filtration techniques that can be cited is the Hodrick Prescott filter (1982). When correlations are high, synchronization is high between series. Sebastian et al. (2003) consider two main approaches to locating the expansionary/contractionary phases of the cycles in a financial variable. The first one advocates a parametric specification of the data generating process, where two different regimes are allowed. The second approach takes a nonparametric perspective and, instead of fitting a fully specified statistical data generating process, looks at the original data series for the specific features of the cycle. That is, this procedure looks for periods of generalized upward trend, which will be identified with the expansions, and periods of a generalized downward trend which will be identified with the contractions.

As the correlation coefficients only measure linear relationships between two variables and therefore the results are not accurate for nonlinear cases, other measures of synchronization have been considered in the literature. Harding and Pagan (2002, 2006) and others proposed indicators to assess business cycles synchronization. We will focus in this analysis on the measure of concordance index as suggested by Harding and Pagan (2006). They proposed to calculate a concordance index based on the proportion of time where two series are in the same state. A binary variable for each series is constructed, S_{it} and S_{jt} for countries i and j to indicate the state of the economy (it takes one when the state is in an expansion and zero when it is in a recession). The concordance index is written as follows:

$$I_{ij} = \frac{1}{T} \left\{ \sum_{t=1}^T [S_{it}S_{jt} + (1 - S_{it})(1 - S_{jt})] \right\}$$

¹Compared to the conventional assets it represents a small amount but very significant.

Table 1. Data.

Islamic stock market index (coverage period)	Conventional stock market index(coverage period)
FTSE Bursa Hijra Index Malaysia (January 2000 - October 2014)	KLCI Malaysia (January 2000 - October 2014)
Jakarta Islamic Index (July 2000 - October 2014)	Jakarta SE Composite Index (January 2000 - October 2014)
Dow Jones Islamic Market International Titans 100 (January 2000 - October 2014)	Dow Jones Composite Index (January 2000 - October 2014)
FTSE Shariah Developed Index (July 2007 - October 2014)	FTSE Asia Pacific Index (December 2001 - October 2014)
MSCI Islamic Hong Kong (July 2007 - October 2014)	Shanghai SE Composite Index (July 2007 - October 2014)

Source: Bloomberg database.

For this index we measure the percentage of time where two series share the same phase (recession or expansion). This index lies between 0 and 1, where a score close to 1 indicates a highly symmetry between series and then there is a high significant synchronization, a score close to zero implies a highly asymmetry whereas a score approaching 0.5 indicates no concordance between series and then no synchronization. To apply this method of concordance, firstly we have to determine the state of each series in the date t (recession or expansion). Parametric and non-parametric methods are developed in the empirical literature to construct a binary variable, named S_{it} , which represents the state of the economy. In this paper we employ the Markov switching method to construct this variable. Markov switching models are nonlinear models known by their success in explaining business cycles. These models are succeeded in capturing recession and expansion phases which are controlled by a latent state variable, called S_t that follows a first order Markov chain. For the case of two state model, the unobservable variable S_t is binary and it is determined from the filtered and the smoothed probabilities where $S_t = 1$ if the probability of staying in state one is greater than 0.5.

According to the concordance index, we obtain a score lying between 0 and 1 but we cannot say whether synchronization is significant or not. To overcome this limit, Harding and Pagan (2002) proposed the following equation:

$$S_{it} = \beta_0 + \beta_1 S_{jt} \varepsilon_t$$

We can consider, S_{it} or S_{jt} to be the dependent variable and we estimate this equation by, the Generalized Moment Method taking into account heteroscedasticity and serial correlation. After estimating this equation, we use the following test:

$$\begin{cases} H_0: \beta_1 = 0 \\ H_1: \beta_1 \neq 0 \end{cases}$$

EMPIRICAL RESULTS AND DATA ANALYSIS

Data

As we are interested on the measure of conventional and Islamic synchronization of the stock market indices, we consider a monthly data base of five Islamic and five conventional stocks that belong to the same financial group covering the period January 2000 to October, 2014. Stock indices selected in this study are collected from the Thomson Reuters database. Table 1 presents the selected series.

Empirical findings

In this part, we are interested in the analysis of stock market indices synchronization among Islamic and Conventional systems. To measure the channels of stock market linkages, different methods can be employed. In this work two different methods are considered: The first is based on the correlation coefficients while the second is based on the concordance indexes and the estimations of synchronization.

Correlation coefficients

Concerning this method, two different filtering methods are considered to measure correlation. In the first we consider correlations between stock market indices returns (the first difference of the natural logarithm of stock market index multiplied by 100). In the second method we employ the Hodrick Prescott filter in order to decompose the series of logarithmic stock market index and calculate the correlation coefficients between cycles obtained by this filter. Tables 2 and 3 give the descriptive statistics of correlation coefficients².

Table 2 and 3 show that, in general, there are strong and significant correlations among Islamic and conventional stock markets with stronger coefficients obtained from cycles compared to returns series. We can then conclude that the common shocks affecting the global financial sector added to the similarity in the behavior of Muslims and non-Muslims investors (maximization of profits) amplify a high degree of synchronization among Islamic and conventional stock market indices. As simple correlation coefficients have some disadvantages, such as, it only measure linear between two variables, we use in the next section the concordance index largely applied in business cycles synchronization analysis.

Concordance index

Here, we calculate the concordance index for each pair of

²Note that the upper (lower) triangular tables represent the correlation coefficients between Islamic (conventional) stock market indices, while the diagonal is devoted to the correlation coefficients between Islamic and conventional stock market indices.

Table 2. Growth rate correlations.

Conv/IsIm	Malaysia	Jakarta	Dow Jones	FTSE	Hong Kong
Malaysia	0.937	0.701	0.622	0.586	0.653
Jakarta	0.705	0.824	0.717	0.703	0.673
Dow Jones	0.519	0.577	0.762	0.932	0.791
FTSE	0.699	0.768	0.748	0.904	0.790
Hong Kong	0.651	0.622	0.635	0.911	0.793

Conv/IsIm, Conventional/Islamic.

Table 3. Cycles HP detrended correlations.

Conv/IsIm	Malaysia	Jakarta	Dow Jones	FTSE	Hong Kong
Malaysia	0.954	0.937	0.880	0.847	0.864
Jakarta	0.947	0.970	0.883	0.874	0.922
Dow Jones	0.832	0.832	0.836	0.975	0.863
FTSE	0.954	0.957	0.869	0.964	0.888
Hong Kong	0.879	0.877	0.771	0.940	0.960

Conv/IsIm, Conventional/Islamic.

markets as shown previously. First of all, we determine the latent variable, S_t from which we calculate the concordance index. The variable S_t is constructed via smoothed probabilities obtained from estimated Markov switching models. In this paper we consider the two state Markov switching processes to estimate our series assuming that there are two phases: expansion and recession. The Markov switching model is written as follows:

$$\Delta y_t = m_{S_t} + \sum_{i=1}^p \beta_i \Delta y_{t-i} + \varepsilon_t$$

$\varepsilon_t \sim N(0, \sigma_{S_t}^2)$, where $S_t = \{0,1\}$ is an unobservable variable which is governed by a first order Markov chain. The switch from one state into the other is given by the following probability transition equation:

$$p_{ij} = P[S_t = i / S_{t-1} = j] \text{ for } (i, j) = 0, 1.$$

Where,

$m_{S_t} = m_0$ and $\sigma_{S_t}^2 = \sigma_0^2$ "if the economy is in a recession"

and

$m_{S_t} = m_1$ and $\sigma_{S_t}^2 = \sigma_1^2$ "if the economy is in an expansion".

Table 4 presents the results of estimated Markov switching models. From this table we can remark first of all that the results for all estimated models are qualitatively similar but quantitatively there are some differences. The likelihood ratio test rejects the null hypothesis of absence of regime change for all estimated models. The estimates presented in Table 4 shows that, during the sample period corresponding to each series, the model detect recession and expansion phases with the only exception of the Islamic and conventional Malaysian stock indices where the growth rate is positive for both regimes but not significant for the first regime. In this case, we consider the first regime as a low growth phase whereas the second regime as a normal phase. For all cases, the total duration of remaining in regime 1 (recession or low phase) is shorter than remaining in regime 2 (expansion) which means that contractions have low persistence than expansions. But durations vary from one stock market index to another. For example, the conventional index of Jakarta stay 87.2% of time in an expansion phase with a duration of 154.5 months out of 177 observations, while it stays only 61.4% of time for the case of the Hong Kong conventional index. Contractions are shorter and more severe than normal phases of growth rates. In effect, for all series the volatility of remaining in a contraction phase is larger than the volatility of staying in an expansion phase implying that declines in recession phases are deeper than expansions.

Figure 1 presents the smoothed probabilities obtained from Markov switching model for all stock market indices.

The first panel (a) shows the probability of staying in the expansion regime of the Islamic and conventional

Table 4. Markov switching model estimations.

Islamic	Malaysia	Jakarta	Dow Jones	FTSE	Hong Kong
m_0	0.0514 (0.867)	-0.065 (-0.391)	-0.194 (-1.915)	-0.154 (-1.093)	-0.396 (-1.082)
m_1	0.0851 (3.485)	0.225 (5.441)	0.1306 (3.469)	0.1048 (1.892)	0.1735 (2.647)
σ_0	0.546	1.078	0.653	0.681	0.819
σ_1	0.199	0.327	0.292	0.223	0.386
Recession (in months)	85.9	57.9	70.9	39.8	24.4
Expansion (in months)	91.1	113.1	106.1	44.2	62.6
LR linearity test	41.79	48.533	38.4	23.715	17.735
Conventional	Malaysia	Jakarta	Dow Jones	FTSE	Hong Kong
m_0	0.0263 (0.543)	-0.610 (-1.792)	-0.251 (-2.064)	-0.228 (-1.25)	-0.0853 (-0.49)
m_1	0.0623 (2.748)	0.223 (5.065)	0.128 (5.25)	0.0749 (1.81)	0.0701 (1.787)
σ_0	0.488	1.078	0.532	0.917	0.978
σ_1	0.158	0.463	0.246	0.334	0.375
Recession (in months)	70.7	22.5	40.8	30.3	33.5
Expansion (in months)	106.3	154.5	136.2	53.7	53.5
LR linearity test	43.656	50.237	42.44	19.963	22.024

Values in parenthesis represent the t-statistic of estimated coefficients.

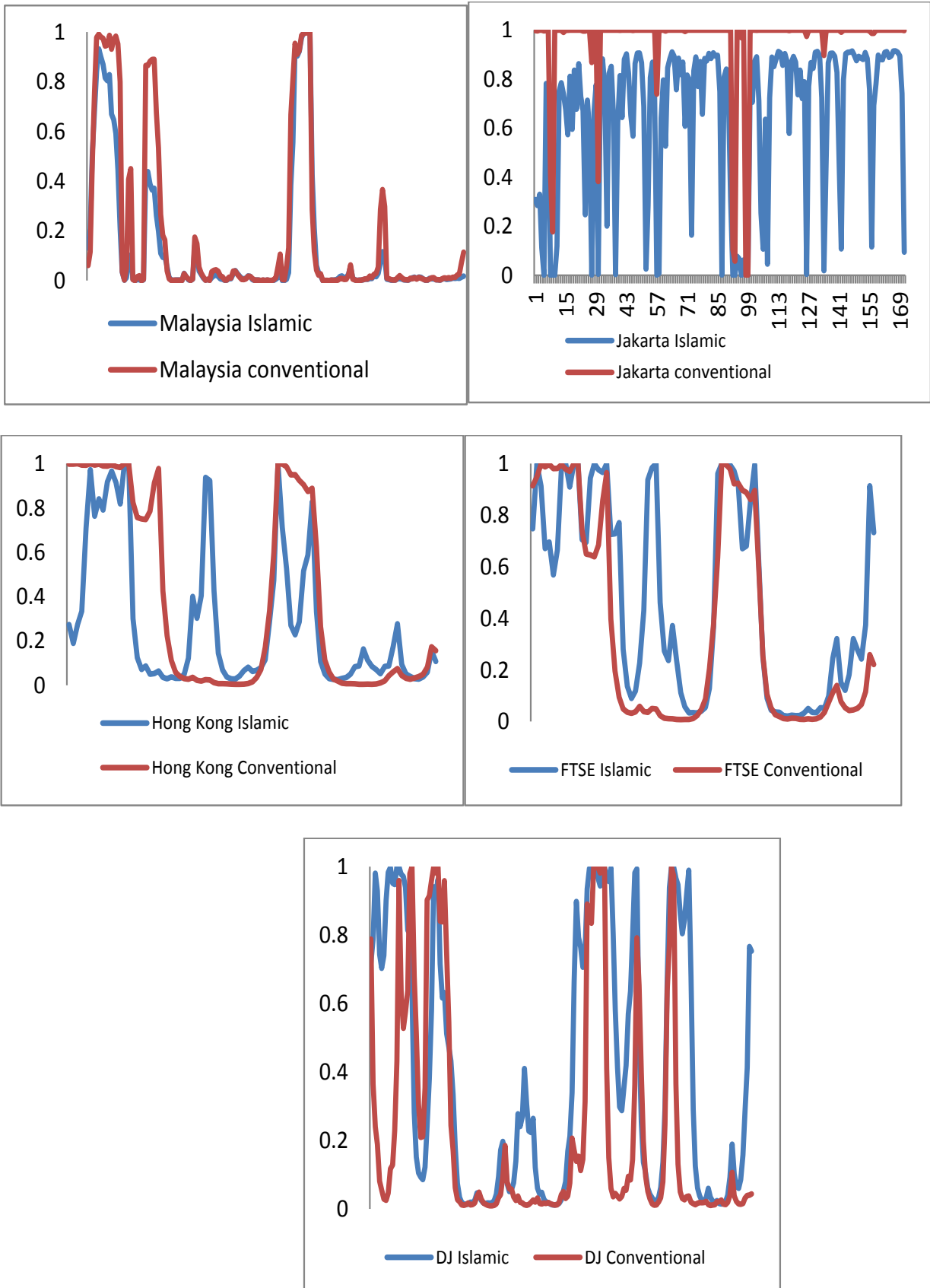
stock indices for all pairs of countries: The blue solid line refers to $P(s_t = 1 | y_{t-1})$ in our estimated model for the Islamic stock index, while the red dashed line corresponds to the probability of staying in the same regime for the conventional stock index. It is clear from these graphs that the expansion regime tends to appear persistent than the recession phase for the two series. We remark a very high correspondence between Islamic and conventional Malaysian stock market. Moreover, a comparison of the series shows that the synchronization between the series seems to be very high. In Panel (b) we present the smoothed probabilities of staying in expansion phase for Islamic stock indices while Panel (c) correspond to the case of conventional stock indices. Contrary to the previous Panel, we remark that the smoothed probabilities of Jakarta stock index (Islamic and conventional) are different to the other markets indicating then a low synchronization between Jakarta stock market index and the others.

For a better analysis of the synchronization between series, the concordance index measure is considered. After the estimations of Markov switching models, we compute the concordance index from the latent variable S_t obtained from smoothed probabilities. Results are presented in Table 5. The table shows the concordance indexes are similar and higher between Islamic and conventional returns. It center on 0.8 indicating a similar business cycles characteristics between Islamic and conventional markets in each country. The results of concordance indexes between conventional and also between Islamic indexes are different from those obtained from the correlation coefficients. The most important results are those obtained for the case of Malaysia and

Jakarta. For Malaysia, which is considered as the leader country of the Islamic finance practitioner, we found that concordance index is low with all other Islamic stock indices. In fact, Malaysia is considered as the gateway of the Islamic finance and it has the largest Islamic financial system in the world known by its considerable efforts in developing new Islamic products and procedures. Compared to other Islamic stock markets, Malaysia has comprehensive regulations, supervisions and clears Shariah guidance that gives safety to investors. Therefore, these factors and the growing popularity of Shariah compliant stocks in Malaysia have led to the differences with the other Islamic stocks and then to the non-synchronization. However, the concordance index is close to one and is very significant between Islamic and conventional stock market in Malaysia. On the other hand, we obtained a highly synchronization between conventional stock markets except Jakarta stock market with an average of concordance index of 0.79 meaning that conventional stocks are in the same phase for 79% of time. Conventional Jakarta's stock market is not synchronized with other conventional markets with a concordance index score that does not exceed 40% for all cases.

For the other markets, Islamic or conventional, there is a high degree of synchronization between markets showing that there are common shocks affecting stock markets. This stronger synchronization between Islamic and conventional stock market indices in each country/region can support the suggestions of some scholars and authors who consider that Islamic and conventional finance share the same objectives with some differences in practices. In fact, we found on average that there is a

Panel (a)



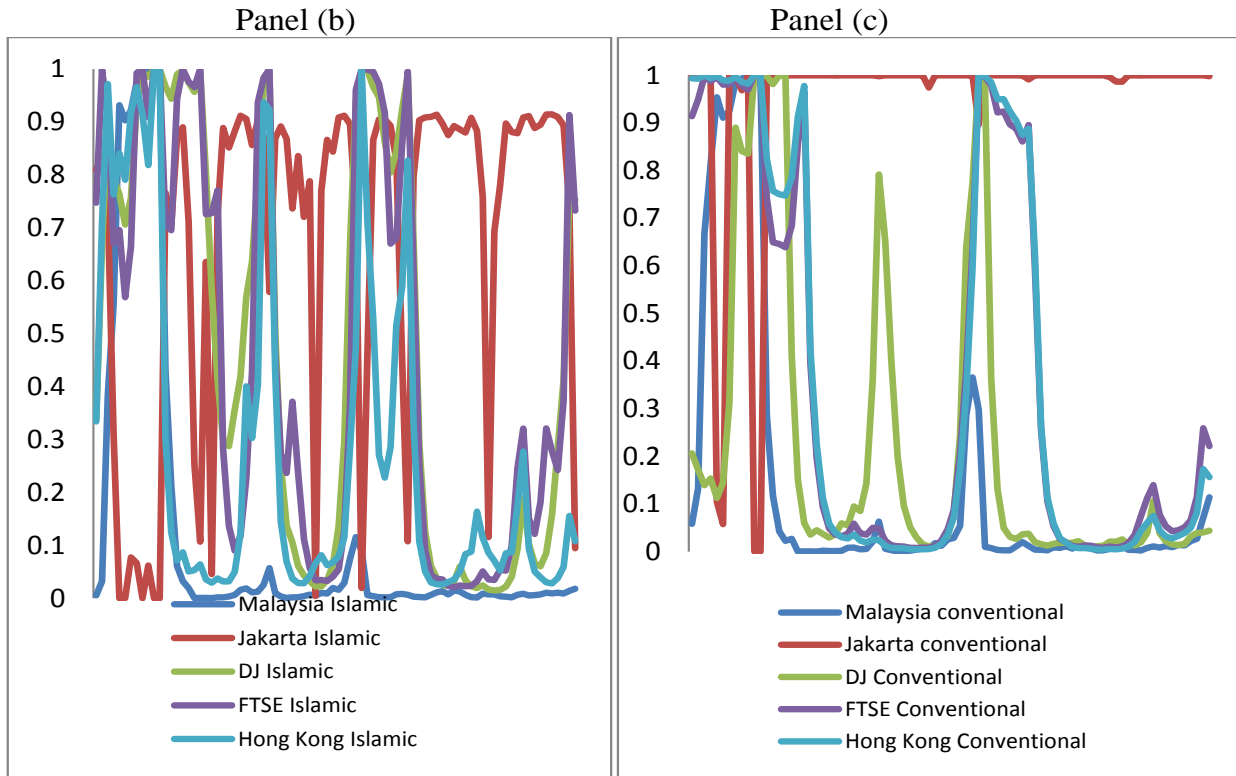


Figure 1. Smoothed probabilities of expansion phases. Panel (a) Islamic and conventional smoothed probabilities for each pairs of countries; Panel (b) Islamic smoothed probabilities Panel; (c) Conventional smoothed probabilities.

Table 5. Concordance index.

Conv/Islm	Malaysia	Jakarta	Dow Jones	FTSE	Hong Kong
Malaysia	0.937	0.286	0.299	0.178	0.275
Jakarta	0.157	0.824	0.836	0.750	0.827
Dow Jones	0.796	0.204	0.762	0.773	0.873
FTSE	0.761	0.357	0.751	0.904	0.821
Hong Kong	0.735	0.379	0.724	0.988	0.793

Conv/Islm, Conventional/Islamic.

high and significant degree of synchronization between Islamic and conventional stock market indices that belongs to the same country or region. We obtain that, in average, Islamic and conventional stock market indices occupied the same phase 84% of the time.

When estimating the equation proposed by Harding Pagan (2002) equation in order to test business cycles synchronization, we obtain a significant coefficient β_1 among all the above combinations between all the market indices, except those of Islamic/Conventional Jakarta indices and between Islamic Malaysian index and the other Islamic indices. These results confirm those obtained from the concordance index.

Finally, we could argue that among the studied markets

and the different measures of synchronization, Islamic and conventional stock market indices are highly synchronized meaning that both types of markets have many resemblances and there is a strong similarity between them. This results confirm the fact that the two types of markets are similar and investors can have investment in the conventional or Islamic markets and the crises can have the same effect on their portfolio and if the investors choose the international diversification of their portfolios they can have the same results due to the synchronization of the two types of markets and the Islamic markets cannot have less risk than conventional markets. We also ask the question if these markets can be very well be integrated; other studies can give the best

answer to this question.

Conclusion

Following the major problems experienced by conventional stock markets in the period of financial crises 2008, 2009 and 2011 several authors have considered the Islamic market more efficient than the conventional market and they can better resist during the crisis. Also, other authors considered the Islamic stock market as a regulator to the global financial market. The essential objective of this investigation is to look into the differences between Islamic and conventional stock markets via a synchronization analysis. We examine empirically whether Islamic and conventional stock market indices are synchronized or not. Our main result suggests that for the different cross sectional stock market indices correlations, there is a similarity between both markets. While when we consider the concordance index scores, we found some differences with correlation coefficients indicating the non-synchronization between some stock market indices. The most important result concerns the weaker concordance index between Malaysian Islamic stock market and the other Islamic markets.

However, this synchronization analysis suggests the evidence of high interdependencies between Islamic and conventional stock market indices implying then that Islamic ones can offer a good tool for investors by giving them the possibility of greater diversification in their portfolios and making mixture with the conventional stock indices. Although, there are fundamental differences between the two types of stocks, each one affects the other. They are integrated and diversification is possible between them and can lead to an optimal portfolio. In this paper we have presented some preliminary results concerning the synchronization among Islamic and conventional stock markets; richer methods for higher frequency data (weekly or daily) can be employed to improve our findings and to determine if there is a delay effect between Islamic and conventional stock markets in the shock's transmission from one market to another. Important questions that can be explored is the following: Does hybrid financial system composed of conventional and Islamic system in the same country contribute to the slowdown of the economic activity or does it makes the financial system more competitive and then contributes to its growth?

Conflict of Interests

The authors have not declared any conflict of interests.

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