Effects of Islamic Financial Markets' integration on the performance of Islamic Financial Sector: A case study of Gulf Cooperation Council countries

آثارتكامل الأسواق المالية الإسلامية على أداء القطاع المالي الإسلامي: دراسة حالة أسواق مجلس التعاون الخليجي

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Abstract

The objective of this study is to test the impact of the Islamic financial market's integration upon the Islamic financial sector, taking the Gulf Cooperation Council countries, GCCCs, as a sample, and using indicators that represent both the financial market and the banking sector. The study concludes that integration of financial markets has a positive impact on market capitalizations of some GCC markets, while statistically no impact was recorded on bank credit, local liquidity and trading volume.

Key words: Islamic financial institutions, Islamic financial markets' integration, GGCI.

Jel Classification: C22 ; G1 ; G21

ملخص

تهدف هذه الدراسة إلى اختبار تأثير تكامل الأسواق المالية الإسلامية على المؤسسات المالية الإسلامية، آخذا دول مجلس التعاون الخليجي كعينة للدراسة، واستخدام مؤشرات تمثل كل من الأسواق المالية والقطاع المصرفي. وقد خلصت الدراسة إلى أن تكامل الأسواق المالية له تأثير إيجابي على القيمة

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السوقية للأسواق المالية لبعض دول مجلس التعاون الخليجي، بينما لم يسجل أثر ذو دلالة إحصائية على الائتمان المصرفي والسيولة المحلية وحجم التداول.

الكلمات المفتاحية: المؤسسات المالية الإسلامية، تكامل الأسواق المالية الإسلامية، مجلس التعاون الخليجي.

تصنيفات *JEL*: *C22 ; G1 ; G21*

1. INTRODUCTION

Several factors have pushed Islamic financial markets, IFMs, towards integration. After the desire of local investors and companies to move towards international financial markets, in order to diversify their investment portfolios and, in pursuit of improving their returns and sharing risks, to which they are exposed, the trend towards globalization appeared in the work and transactions of financial markets. This is seen as lagging behind the example of developed countries that supported this trend by bringing about structural and radical changes in their financial markets in order to attract as much global savings as possible and to benefit from them in directing their economic activity. Consequently, financial authorities in GCCCs restructured financial sectors and moved towards financial liberalization by eliminating restrictions on the movement of capital, as well as restructuring the monetary and banking sector and developing financial tools needed by markets. Therefore, they created a wide range of innovations in the field of securities that may attract domestic and international financial surpluses. This was accompanied by widespread transformations in the field of electronic banking and information and communication technologies, which led to the integration of financial markets. This is what encouraged those in charge of the IFMs, and the Islamic financial sector in general, to achieve the same goals. Therefore, this study attempts to measure the impact of the of IFMs' integration on Islamic financial institutions, with a focus on GCCCs.

1.1 Objectives of the study

The importance of this study appears through several considerations, and the most important of which are those related to the advantages and benefits of the integration process, especially, after the success of the European experience in the field of integration, which gave impetus to many economic blocs to take the same step. Its importance also stems from the experience of integration between financial markets of GCCCs, which was launched more than a decade ago. Accordingly, the study aims, in both theoretical and practical aspects, to measure the impact of integration of financial markets of the GCCCs on their financial institutions. In this way, channels encourage the movement of capital between member states, and thus the advancement of their economies.

1.2 Previous studies

The library has a considerable body of literature that deals with the issue of integration of financial markets and its impact, whether on the economy in general, or on the activity of the financial sector, which is the subject of this research. Among the most important of these studies are:

- Thalassinos and Thalassinos, 2006, studied the impact of both the establishment of the European Union and the adoption of a single currency, the "euro", on the integration of European financial markets. They used daily closing price indices from 11 European union countries over the period 1995-2004, i.e., 2,497 observations. They also used time series of stock prices and returns, after testing their stability, to study the integration and interdependence between those markets. They divided the research period into two periods: the period before the establishment of the European Union and adoption of the euro, and the period after its establishment. The study concludes that the establishment of the union and adoption of the single currency were not the only reasons for integration of some European financial markets, for two main reasons. The first is that some European markets, such as Germany and Austria on one hand, and France and Belgium on the other, were on an advanced degree of integration before even the announcement of the monetary union; while some other countries did not. The second is the other factors such as reducing restrictions on capital movement and foreign exchange deals, financial globalization, and technological revolution that led to a decrease in costs of information and financial transaction. Thus, the degree of integration differs from one country to another.

-The study of Vijay and Nigarjuna, 2009 tried to find out the extent of the Indian financial market's correlation with a number of financial markets from Asia, Europe, North and Latin America, stating that economic reforms made the world a small integrated village, especially in terms of efficiency and transparency. The two researchers used data on 17 financial markets over a period extending from 2001 to 2009. The study finds that there are many benefits from financial market integration, whether for investors, issuers or intermediaries, including lower infrastructure costs (elimination of duplication of costly infrastructures), ease of investment in foreign markets, reduced issuance fees, lower transaction costs and brokers' commissions, due to increased competition, transparency, and market efficiency. It also finds that these markets showed a stronger link between markets from the same region, in the short and long term, due to less cross-country restrictions.

-Kassim, 2010 examined the impact of the 2007 financial crisis on the integration of Islamic financial markets (IFMs). The sample consisted of 7 markets from different regions, selected according to the level of development and geographical position. 4 markets were selected from developing countries, namely Malaysia, Indonesia, Turkey and Kuwait, and 3 markets from developed countries, namely, US, UK and Japan, as the study covered the period 2005-2010. This period was divided into two periods: the period prior to the 2007 crisis, extending from January 9, 2005 to July 22, 2007; and the period after the crisis from July 29, 2007

to January 10, 2010. The researcher used weekly closing data of Dow Jones Islamic Index, DJ-II. The study concluded that IFMs integration changes from time to time (time-variant), as it was during financial crises. In general, the degree of integration increases as the markets tend to decline, and it decreases under normal circumstances. It also found that IFMs showed strong integration and correlation during the 2007 crisis, expressed by the correlation coefficient; and that IFMs of the same level of development were more integrated during the non-crisis period. Like traditional financial markets, high volatility and lower returns were recorded in IFMs during the crisis period compared to the pre-crisis period. It was also observed that IFMs' returns in developing countries are higher than those in developed ones. Moreover, higher returns are recorded in more volatile IFMs, especially in smaller ones. Finally, the study notes that IFMs are not immune from financial crises, although they are the least affected.

-Noryati, 2016 examined the relationship between IFMs' efficiency and their integration, focusing on testing the weak form efficiency and its relationship to integration; also examining the influence of IFMs on each other. In this regard, indices from 7 countries were used, namely China, India, South Africa, Malaysia, Kuwait, Qatar, and Japan, taking into account that the activities of companies whose shares were included in those indicators are *Sharia* compliant. The study was conducted during the period 2008-2012. It found that, unlike markets of Kuwait and Qatar, markets of Malaysia and India were efficient in the weak form. A correlation was recorded among IFMs over the long term; and between indices of Islamic countries and their non-Islamic counterparts in the short term. It was also noted that the markets taken in the sample are not integrated in the long term, although they appeared to be integrated in the short term. The study also showed that there is an effect of IFM in Japan on most other IFMs. The influence of IFMs of non-Muslim countries, namely China, Japan, and southern Africa has also been observed on markets of Islamic countries such as Malaysia, Qatar and Kuwait. Thus, these markets began to integrate into the global financial system, with increasing interest of international investors in Islamic financial products, as a result of the increase in confidence in these products.

- After presenting the advantages of financial market integration, especially diversifying portfolios, reducing risks, improving resource allocation, and raising competitiveness, Arshad, 2017 studied the issue of financial market integration in depth within an extensive study on markets of Islamic countries, with the aim of knowing the nature of these markets. The study focused on the OIC markets, which are usually characterized by volatility and instability, trying to understand the extent to which they react to regional and global information. It also compared the markets of this Council with its advanced counterparts, as well as the extent of their regional integration. The researcher used a sample of 10 IFMs, selected on the basis of capitalization, which are: Bangladesh, Egypt, Indonesia, Jordan, Kuwait, Malaysia, Oman, Pakistan, Saudi Arabia, and Turkey, and 3 advanced markets namely UK, Germany, and France. It focused on stock prices data for the

period 1999-2014. The study found that only Malaysia, Indonesia and Turkey showed high levels of integration, while the rest of the Islamic markets in the sample showed relatively low levels of integration, due to poor financial openness and presence of restrictions on foreign investments. Arab countries' markets showed the same patterns of fluctuation and integration. Thus they are considerably correlated.

The remainder of the paper is structured as follows: the second section deals with Islamic banking institutions, focusing mainly on Islamic banks; and non-banking institutions, especially Islamic investment funds and *Takaful* insurance companies. The third section deals with the Islamic financial markets, their constituents and integration. The fourth section includes a study of the status quo of the financial sector in the Gulf Cooperation Council countries and the extent to which their financial markets are linked and affected by each other. The fifth section is devoted to testing hypotheses, analyzing the results, and conclusion.

2. ISLAMIC FINANCIAL INSTITUTIONS

Islamic financial institutions, IFIs, are defined as a "group of financial institutions that adhere to Sharia controls in their various activities and are based on the principle of profits and losses sharing". IFIs are divided into banking and non-banking financial institutions.

2.1 Islamic banking financial institutions

Islamic banking financial institutions vary in their composition and nature of work, as we find stand-alone Islamic banking institutions, such as Islamic banks, and we also find institutions that carry out Islamic financial activities within the traditional financial system, such as Islamic branches and windows in traditional banks.

2.1.1 Islamic banks: Researchers have defined an Islamic bank by several definitions, most notably:

Erekat (2012) defines the Islamic bank as "every bank whose business is all committed to the tenets of *Sharia*, and does not deal with interest". Al-Wadi (2009) defines it as "a banking financial institution that collects funds and place them within the scope of Islamic law in order to build an integrated society, achieve fair distribution and placing money according to Islamic principles" Khasawneh (2008) also defines it as "an intermediary financial institution that aims to achieve profits and is committed in all its activities to tenets and purposes of *Sharia*." For his part, Al-Sheikh (2010) defines the Islamic bank as "an a financial institution that mediates between savers and investors within the framework of Islamic law. The Islamic bank, as a financial institution, is subject to the legal aspects approved by banking legislation in addition to Sharia principles".

Through the foregoing, Islamic banks can be defined as financial institutions that collect financial resources from surplus-making agents and channel them to finance those making deficits, and finance investments that benefit the public and society, in light of adherence to *Sharia* principles and achieving fair distribution.

It can also be noted that Islamic banks also are (Oshadi, 2000):

- financial institutions, as they perform the functions that banks do in facilitating exchange, production, and enhancing the capacity of capital;
- development organizations, i.e., they aim to achieve economic development, and employ their funds, in rational ways, in order to benefit society first and foremost;
- social organizations, as they aim, in their work and practices with full awareness and insight, to train individuals to rationalize spending, encouraging them to save, and assist them in developing their money in a way that benefits all the community. This is in addition to contributing in solidarity among members of the society, by establishing departments, funds, and special committees for *zakat*, cooperative insurance, benevolent loans and sharing risks.

A- Types of Islamic banks: There are several types of Islamic banks, the most important of which are as follows (Al-Maghribi, 2004; Matloob, 2012):

- Central banks, are at the top of the hierarchy of the Islamic financial system, and their most important functions are issuing banknotes, controlling credit, and developing Islamic banking. They are only found in countries that have completely Islamized their banking system, such as Sudan, Pakistan and Iran.
- Investment banks: are represented by companies that employ and invest money for a medium and long term, with the aim of achieving profits by creating economic development in society, whether with their own resources or in partnership with others.
- Development banks: are the banks that are interested in long-term development fields, such as investing in basic infrastructure projects.
- Social banks: are interested in financing consumer or social needs in order to achieve social solidarity.
- Commercial banks: their role is to mobilize financial resources from agents that make surpluses and employ them in short-term investments such as *murabahah*.
- International banks: they provide services at an international level, in order to develop member states.

B- Islamic branches and windows: the process of opening Islamic branches and windows in traditional banks is considered as a result of growth and expansion in size of the Islamic banking market on one hand, and a as tool to meet an increasing demand for Islamic financial products on the other. It also seeks to address the deficiencies that exist in the transactions of traditional institutions in providing Islamic banking services, along with traditional banking services. Therefore, many traditional banks decided to open windows and branches for Islamic financial services and establish Islamic investment funds.

-Islamic windows. Opening an Islamic window is defined as "allocating a part of/ or space in the traditional branch to provide Islamic banking services, in addition to the traditional services provided by this branch (Al-Sharif, 2009)". This method mainly aims to meet the needs of some clients who wish to deal with the Islamic banking services outside Islamic banks.

It is noticeable in this concept that traditional banks give banking windows that work in compliance with *Sharia* a certain degree of independence within the bank, as it is separated from the rest of the traditional business, through a specialized unit that deals only with those services, except that it does not enjoy the complete financial and administrative independence, since it is under the traditional bank's management (Al-Juraidan, 2014). Islamic windows' services in traditional banks take many forms, including Islamic portfolios, investment and saving accounts that are managed in accordance with *Sharia* (Al-Khulaifi, 2005).

-Islamic branches. An Islamic branch is defined as "a financial entity owned by a traditional bank, and is independent in its *shariah*-compliant activities from the activities of the parent bank. This attracts savings, that must be invested in accordance with Islamic law. It has a technical *Sharia* supervisory body that monitors its business (Al-Sarhi, 2010)." Conventional banks provide Islamic banking services in one of the following two ways (Mustafa, 2006):

- establishing new and independent branches for Islamic services from the beginning; and many traditional banks that went through this experience focused on this method; as it is considered more reliable in attracting customers than other methods;
- transforming one of the existing traditional branches into a branch specialized in providing Islamic banking services, after necessary changes. This method requires that customers must be informed about the transfer, so that they can choose between dealing with the new Islamic branch or switch to another traditional branch of the same bank.

- Motives for establishing Islamic windows and branches. Motives and objectives of establishing Islamic windows and branches in traditional banks are (Mustafa, 2006):

- the desire of traditional banks to compete with Islamic banks after the success they achieved in attracting resources, using them optimally and achieving profit;
- preserving the traditional bank clients from going to Islamic banks and trying to recover those who have already lost them;
- the belief of many of those in charge of traditional banks that Islamic banks are like traditional banks in providing financing services, especially the similarity between *murabahah* and loans, which reinforced the conviction of traditional banks with the establishment of Islamic branch;
- evaluating the experience of Islamic banks by opening windows and branches in traditional banks;
- desire to convert some traditional banks into Islamic banks, by following the step-by-step method.

Capital financing of Islamic branches and windows. The capital of Islamic windows and branches is financed in traditional banks in several ways, most notably (Mustafa, 2006):

- financing through a benevolent loans: the Islamic branch can obtain a benevolent loan from the main bank, provided that it is free from interest. However, looking

closely at this case, we find that the profits of the Islamic branch are transferred to the main bank at the end of the year, and therefore, the Islamic branch indirectly supports the main bank that deals with interest;

- funding by investment deposits: the main bank in this case is considered as a partner of the Islamic branch and is treated as a depositor for the purpose of investment.

It should be noted that among the disadvantages of this approach is the lack of financial and administrative independence between Islamic branches or windows and traditional bank that led to the lack of credibility among customers and society at large. Thus, there is no intention of the bank in charge of converting completely to Islamic banking, because the main goal of that is a pure marketing goal.

2.2 Islamic non-banking financial institutions

Non-banking Islamic financial institutions are numerous and varied in terms of activity, objectives and organizational structure ; where we find, for example, but not limited to, Islamic investment funds, indices funds, leasing and *Mudharabah* companies, and takaful insurance companies ... etc.

2.2.1 Islamic investment funds: these funds are considered as one of the most important investment methods that have become popular in many countries of the world, as they are based on a contract called *Mudharabah* by owners of funds who, from the perspective of this contract, represent *rab-al-mal* and the fund represents *rab-al-amal* or *mudharib* . Since the emergence of Islamic banks, thinking began to establish Islamic investment funds, as some of them have already been established in Bahrain, Kuwait, Egypt and other countries that invest in accordance with *Sharia* principles (Jaber, 2005). The development of many Islamic investment products and *Sharia* tenets for investing in securities have pushed many traditional banks to enter the market of Islamic banking services without the need to change their administrative structure or its operating system or even their licenses (Boujelal and Zaidi, 2013).

Islamic investment funds are defined as "those funds through which the fund manager respects *Sharia* controls related to operations on assets and liabilities, and these controls should appear in the prospectus, as well as *Sharia* conditions that the two parties sign upon subscription (Arafa, 2009)". They are also known as "those funds that fulfill goals of small investors as well as large ones to provide Islamic financial instruments that allow them to invest their money in accordance with *Sharia* (Dwaba, 2006).

2.2.2 Islamic Traded Indices Funds, ETFs, traded indices funds are relatively modern investment tools, known as investment funds, designed specifically to follow up an index or a specific sector, so that each product is a basket containing a group of securities traded on a stock exchange, provided that the certificates are traded in the same way as ordinary shares (Premier Securities, 2008). Therefore, ETFs are considered as a hybrid product that combines the characteristics of two investment tools, namely (*www.fimarkets.com*):

A- Investment fund, ETFs collect savings from investors and issue units or sukuk. Unlike traditional investment funds, where units are issued or amortized every time there is a subscription for one or several investment units, and therefore ETFs are created and issued before any subscription or purchase by the final investor.
B- Ordinary shares, like any other financial asset, ETFs are registered and traded on the stock exchange, and their prices are subject to the forces of supply and demand. Most of ETFs are used to track and simulate as much as possible the performance of a specific financial market index, and therefore allow investors to similar an index performance through one fund. Since these funds are listed on the financial market and their units are traded, investors can buy and sell units of these funds through market brokers or market-makers directly, and does not need to deal with the fund manager, as is the case in traditional investment funds (Saudi Stock Exchange, n.d).
2.2.3 *Takaful* insurance companies, are considered as one of the most important Islamic financial institutions, and a pioneering product of the Islamic financial industry. *Takaful* insurance is an agreement, between persons who are exposed to certain risks, to avoid damages arising from those risks, by paying premiums as donates. Thenafter, an insurance fund, with legal personality and independent financial liability, is constituted, and thereby compensations for damages are made to partners who suffer from insured risks (Ammari, 2014). A *Takaful* insurance company is defined as "a company whose function is to manage money and not guarantee, as is the case in commercial insurance companies. A portfolio is established and financed from premiums, and determined proportional to risk, then these funds are collected and invested for the benefit of their owners (Guenduz, 2010)".

3. ISLAMIC FINANCIAL MARKETS, IFMS

An Islamic financial market, IFM, is defined as "an organized market that opens in a specific place and at periodic times for buying and selling various securities. It is meant by a regulated market the one that is subject to laws, regulations and rules that regulate its management and govern its transactions. *Sharia* dealing is also intended to be traded on securities that can be issued according to *shariah* (Al-Bakhit, 2010)".

3.1 Characteristics of IFMs

An Islamic financial market, IFM, is characterized by several advantages, the most prominent of which are (Lahoul, 2011):
- it is a market that does not deal in debt instruments, but rather encourages and widely stimulates the circulation of equity-based instruments, and creates investment vehicles that serve the exchange of real goods and services;
- a market that is free of monopoly and misleading information, which usually negatively affect prices of traded securities;

- in which primary and secondary markets are given equal attention, and considers that the effectiveness of financial markets is reflected in funding new productive projects;
- a market in which there is no speculation in securities and false rumors, due to prohibition of many transactions that are considered an area for speculative fields;
- providing the necessary financing for projects without the need to loan with interest, that is, by issuing ordinary shares; and shareholders participate in management;
- contributing to the development of the country through joint participation of citizens and State in development projects;
- reducing inflation through the contribution of IFMs in providing liquidity and long-term financing necessary to create new investment opportunities;
- avoiding greed and encouraging fair and lawful profit.

3.2 Fundamentals of IFMs

Components of any Islamic financial market are (Lahoul, 2011):
- money: it is available, however it should be invested effectively;
- Islamic securities: scholars of Islamic jurisprudence have been able to provide securities, free of interest-based transactions, that are alternative to their counterparts in the traditional financial market;
- financial institutions issuing securities: since they are in need of Islamic financing, and to protect themselves from manipulation by speculators and gamblers;
- availability of specialists of Islamic jurisprudence, experts in financial markets and Islamic economics, who supervise financial transactions according to *Sharia* tenets;
- expanding the establishment of Islamic financial institutions represented mainly by Islamic banks, Islamic investment companies, Islamic investment funds, Islamic brokerage firms ... to support dealing in IFMs; and
- financing investment projects that are *shariah*-compliant.

3.3 IFMs' integration

Financial markets' integration gained interest after the wave of financial liberalization and openness, as a result of financial globalization, as it reflects the situation that enables investors and financial service providers, from several countries, to deal with each other without obstacles or restrictions. Integrated financial markets are defined as "those markets in which investors located in a particular country could buy and sell securities issued in another country without restrictions. As a result, standardized securities were issued to be traded in different markets at almost the same price, after taking exchange rates into account. The degree of influence between these exchanges increases, as the degree of linkage and integration between them increases(El Serafie, 2002)".

Talbotoni and Rouve believe that, within the interconnected and integrated markets, all financial assets that have the same risks and the same level of return are equal, regardless of where they are listed or dealt with, especially since

successive arbitrage operations reduce and eliminate margins and differences from one market to another (Djebbar, 2007).

3.4 Economic feasibility of financial market integration

Connecting financial markets usually increases operational efficiency and market depth; and connecting between financial markets and a number of financial intermediation companies increases competition among them to attract the largest possible number of investors, and thus reduces transaction costs and intermediation fees. Competition also contributes to stimulating intermediation companies to diversify their services and develop their financial products, thus contributing to the depth of the market and reducing risks that investors may be exposed to, by diversifying investment portfolios.

It can also be said that diversity of markets and low degree of similarity are a prerequisite for benefiting from financial markets' integration (Al-Jadeed, 2007). Integration between financial markets helps listed companies reach a wider spectrum of investors, thus increasing the chances of obtaining financing on better terms on one hand, and helps capital market authorities reduce costs of supervision and regulation, which means reducing the financial burden of managing financial markets on the other (Al-Jadeed, 2009). Bin Azzouz and Hemmana believe that integration of financial markets has two positive effects on economic growth, one of which is direct, i.e., increasing the volume of domestic savings, reducing cost of capital (as a result of better risk management), and transferring technology. The other is indirect, thus, to encourage specialization, better policies and capital inflows (Ben Moazoo, 2013).

4. A CASE STUDY OF GULF COOPERATION COUNCIL COUNTRIES, GCCCS

Regional economic blocs are among the most prominent blocs that the world has widely experienced since mid-twentieth century. A membership in these blocs is given to geographically neighboring countries, which pursue similar philosophies and economic systems, and facilitate integration between countries wishing to enter a Financial Integration Matrix. The aim of establishing GCC is to remove differences in national economic policies and unify forces of supply and demand in member states through a complete liberalization of trade in goods, services and production means. The importance of GCC stems from the fact that it is the main institution for these countries to achieve their goals.

In order to know the impact of IFMs' integration on financial institutions, we focus on GCC markets as it is the most important economic and financial bloc in the region. This council includes six countries namely United Arab Emirates, Bahrain, Saudi Arabia, Sultanate of Oman, Qatar, and Kuwait.

The annual closing values for selected indices as well as data on other variables necessary to build the model, were collected during a study period extending from 2003 to 2013. The indicators used in the study are:

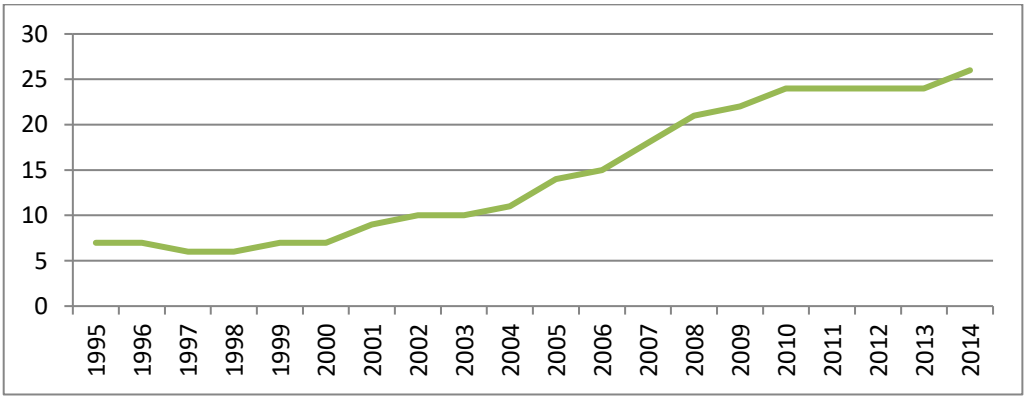
variables	meaning
DFM	Dubai Financial Market General Index
ADI	Abu Dhabi Financial Market General Index
BSE	Bahrain Financial Market General Index
SSM	Saudi financial market general index
MSM	Muscat Financial Market General Index
DSM	Qatar Financial Market general index
KSE	Kuwait Stock Exchange General Index
NDC	Net domestic credit
DL	Domestic liquidity
MC	Market capitalisation
TV	Total Volume
NLC	Number of listed companies

4.1 Analysis of the financial sector in GCCCs

The performance of the financial sector of GCCCs was evaluated and the degree of its development was assessed by entering into financial integration between member countries. We highlight the relative importance of each variable during the period 1995-2014.

- Commercial banks. The following figure shows the development of Gulf banks authorized by GCC.

Fig. 1. Evolution of the number of Gulf banks authorized in member states (1995-2014)

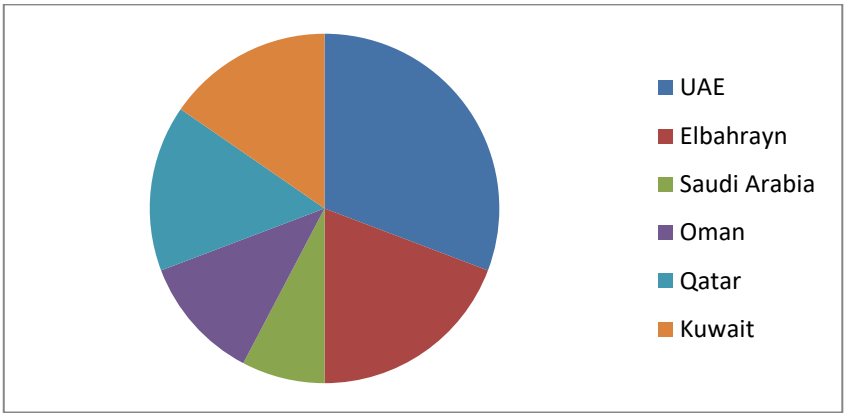


Source: Secretariat General, (2014), "The Gulf Common Market", Statistical Databases, at: *http://www.gcc-sg.org/ar-sa/CognitiveSources/GulfDatabases/pages/GulfInformationwithCategorization.aspx*

The previous figure shows the development of the number of Gulf banks among the GCC countries from 7 in 1995 to 26 in 2014, which confirms the great role of the Customs Union as well as the common market in the increase in the number of banks among the member states.

- **Nationality of Gulf banks**. The following figure highlights nationalities of banks scattered across GCC countries.

Fig.2. Nationalities of Gulf Banks Authorized in Member Countries (1995-2014)

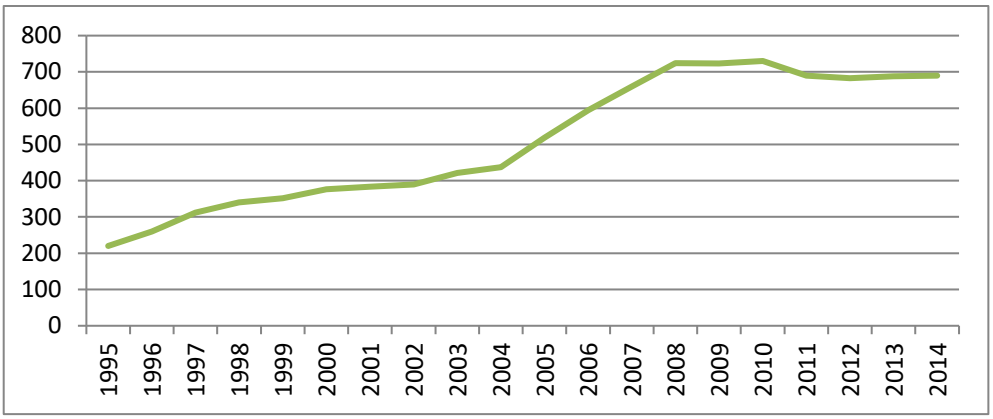


Source: Secretariat General,"The Gulf Common Market", Statistical Databases, 2014, at: *http://www.gcc-sg.org/ar-sa/CognitiveSources/GulfDatabases/pages/GulfInformationwithCategorization.aspx*

We notice from the above figure that the branches of UAE banks are the most widespread across GCC countries by opening eight branches in the member states, followed by Bahrain with five branches, while Qatar and Kuwait are equal with four branches and Oman with three branches, while Saudi Arabia has only opened two branches. Hence, it can be said that UAE is the country that benefits most from integration with neighboring countries.

- **Number of listed companies**. The following figure highlights the evolution of the number of listed companies in financial markets.

Fig. 3. Number of listed companies (1995-2014)



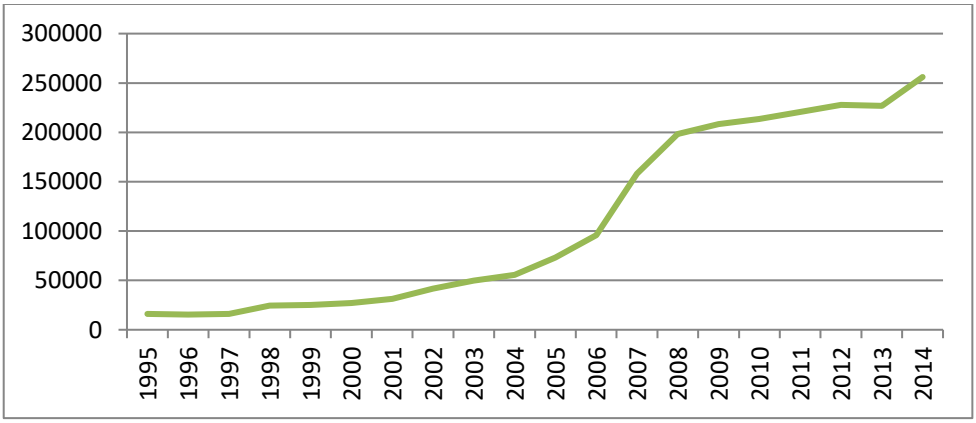
Source: Secretariat General,"The Gulf Common Market", Statistical Databases, 2014, at: *http://www.gcc-sg.org/ar-sa/CognitiveSources/GulfDatabases/pages/GulfInformationwithCategorization.aspx*

The figure notes an important increase in joint-stock companies from 1995 to 2010 to reach 730 joint-stock companies as the highest value during the period, and then retreated, affected by financial crises, and reached 683 joint-stock companies in 2012, but it began to gradually increase after that, reaching 690 joint stock companies at the end of 2014.

- **Total capital of listed companies**. The next figure shows the total capitalization of listed companies in GCCCs.

Fig. 4. Total capital's evolution of listed companies in GCC (1995-2014)

Unit: $ 1 million



Source: Secretariat General,"The Gulf Common Market", Statistical Databases, 2014, at: *http://www.gcc-sg.org/ar-sa/CognitiveSources/GulfDatabases/pages/GulfInformationwithCategorization.aspx*

We notice through the figure a slow increase in capital of listed companies from 1995 to 2006, after which a rapid increase was witnessed, as it reached its highest value in 2014, which was estimated at more than 250 billion dollars.

From the above, we conclude that there is a relationship of influence between GCCCs, as this was evident through the appreciable rise at each stage of integration, as well as when a decline occurred due to crises that moved quickly between GCC countries, because of tight connection. This is known as financial crisis contagion. Hence, it can be said that integration of Islamic financial markets may positively or negatively affect the financial sector of integrated countries.

4.2 Correlation matrix for GCC market indices

To test the extent of correlation between for GCC's financial markets, a correlation matrix was used, and the following table shows the results:

Table 1. The Correlation Matrix for the GCC Stock Exchanges Indexes

	DFM	ADI	BSE	SSM	MSM	DSM	KSE
DFM	1.000000						
ADI	0.474464	1.000000					
BSE	0.388960	0.546042	1.000000				
SSM	0.240233	0.916699	0.528729	1.000000			
MSM	0.825131	0.457977	0.247721	0.215110	1.000000		
DSM	0.407171	0.806983	0.290668	0.722640	0.620231	1.000000	
KSE	0.703619	0.802652	0.661092	0.760267	0.562534	0.564232	1.000000

Source: Authors' calculations based on Eviews 8 output.

We notice through a correlation matrix the existence of a positive relationship between all stock market indices of GCC financial markets, though it differs from one market to another, as correlation coefficients between them range between them 21.5% and 91.67%. We also note that Abu Dhabi Stock Exchange and Saudi Stock Exchange are the most closely related, with the correlation coefficient reaching 91.67%. However, Oman Stock Exchange and Saudi Stock Exchange recorded the lowest correlation among GCC stock exchanges, with the correlation coefficient reaching only 21.5%. Whereas, we find that Kuwait Stock Exchange is most closely linked to the rest of stock exchanges, due to wide recovery of its financial market. Oman Stock Exchange is the weakest connected.

4.3 Estimating the simple regression model

The impact of the integration of GCC financial markets is measured by the GCCI[2] on the rest of Islamic financial sector indicators (dependent variables); and Student test, as well as Fisher test that determines the total impact of an independent variable on dependent variables. Results of the estimation for each country are summarized in Appendix No. 1.

5. ANALYSIS AND INTERPRETATION OF FINDINGS

Testing the study hypotheses is crucial in measuring the impact of integration of Islamic financial markets on GCCs financial sector.

First model: findings related to domestic credit

By examining the relationship between domestic credit in the GCC markets and their average index, using a simple regression model; models for Bahrain, Oman and Qatar were economically accepted while UAE, Saudi Arabia and Kuwait models were rejected, and this is consistent with economic theory that confirms the existence of a negative correlation between provided loans and integration of financial markets, and therefore there is a positive effect of the average index, GCCI, on domestic credit for countries whose model is accepted. The models economically rejected are those for the Emirates, Oman and Kuwait. The models were also statistically accepted with a confidence degree of 90%, and this is because results of Fisher test for the significance of models revealed that those models are not valid at the 10% level of significance.

Second model: **f**indings related to domestic liquidity

By examining the relationship between domestic liquidity in the GCC markets and their average index, using a simple regression model, the model has been economically accepted in all markets for its compatibility with economic theory, meaning that there is a positive effect of the GCC average index on domestic liquidity. Statistically, no model was accepted at 90% confidence level, and this is because results of Fisher test for confidence of those models show that they are invalid at 10% significance level.

Third model: **f**indings related to market capitalisation

By testing the relationship between market capitalization of the GCC markets and their average index, using a simple regression model, the model has been economically accepted for all markets for its compatibility with economic theory. This means that there is a positive effect of GCC average index on its market capitalization rate. Models were also statistically accepted at a confidence level of 90% in both the UAE and Bahrain, as Student test proved the significance of parameters for all models. Fisher test also proved the significance of models as a whole, meaning that they are valid at a significance level of 10%. While it was

[2] - The average index (GCCI) is the sum of indices of stock exchanges of GCCs (Dubai, Abu Dhabi, Bahrain, Saudi Arabia, Oman, Qatar, and Kuwait) divided by 7.

rejected in the rest of countries, namely Saudi Arabia, Oman, Qatar, and Kuwait. Determination coefficient reached 36.8% and 58.3 in the UAE and Bahrain respectively.

Fourth Model: **f**indings related to trading volume

By testing the relationship between trading volume in the GCC markets and their average index, using a simple regression model; the model has been economically accepted in all markets for its compatibility with economic theory, meaning that there is a positive effect of the GCC average index on trading volume. The models were not statistically accepted with at confidence level of 90%, with the exception of the Bahrain model, and this is because results of Fisher test of models show that they are invalid at 10% significance level.

6. CONCLUDING REMARKS

Financial authorities in GCCCs have made a lot of efforts to develop their financial markets and make them as integrated as possible, in order to benefit from advantages of integration on the one hand, and to conform to international standards of advanced stock exchanges, on the other. Within this context, the Gulf financial markets witnessed a huge boom, whether in terms of trading volume or new issues, as a result of market liberalization policies, and the growth of investment awareness among a large base of the public. Accordingly, the following findings were reached:

- with regard to banking sector, we have noticed a considerable development of the number of banks among countries of the Union, especially banks from UAE and Bahrain. As for the financial markets, GCC recorded an increase in the number of companies authorized to enter the common financial market, despite the fact that the capitals of these companies have recorded significant fluctuations, especially in 2008-2013. It is due to financial crises of that period.
- through testing the correlation of GCC financial markets, it was found that there is a positive relationship between them, but it differs in degree. We also found that Kuwaiti financial market is the most connected to other financial markets, followed by UAE with its two markets (Dubai and Abu Dhabi), which means that they have benefited from integration; while Oman did not record any correlation compared to other countries market in the Cooperation Council .
- results of estimating the simple regression model that was built from the financial market index and other economic variables in GCCCs, represented by: domestic credit, domestic liquidity, market value and trading volume, showed that the integration of financial markets has a positive impact on most of local markets of the member states, while has not any significant impact on the banking system;
- results of the analysis proved that integration of Islamic financial markets has a positive impact on the financial sector of the GCC countries, and the more advanced their institutions, the more positively this will affect the financial sector as a whole.

For this reason, financial authorities in GCC countries have made a lot of efforts to develop their financial markets and make them as integrated as possible, in

order to benefit from the advantages of integration on the one hand, and to comply with international standards for advanced stock exchanges, on the other. Within this context, Gulf financial markets witnessed a huge boom, whether in terms of trading volume, trading value, or new issuances. This is a result of market liberalization policies, cross-border capital movements, and growth of investment awareness among a wide base of the public. Integration between financial markets of the GCCCs is of great importance, as it urges the course of the monetary union, and enhances development in their financial markets and institutions, which leads to a revitalization of investments, and thus, an increasing in growth rates.

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8. Appendices

Appendix 1. Estimated Models for Gulf Cooperation Council Countries

Table 1. Estimating models for UAE according to the least squares method

	Dependent variables	a	b	R^2	F
1st model	DCE	5017.94 (4.323)	0.0010 (0.185)	0.003	0.034
2nd model	DLE	4927.11 (4.14)	0.001 (0.26)	0.007	0.069
3rd model	MCE	3612.41 (7.28)	0.018 (3.98)	0.638	15.87

4th model	TVE	4632.36 (7.84)	0.022 (1.45)	0.189	2.110

Source: Authors' calculations based on Eviews 8 output

Table 2. Estimation models for Bahrain according to the least squares method

	Dependent variables	a	b	R^2	F
1st model	DCB	5238.935 (4.782)	0.0018 (-0.025)	0.000072	0.00064
2nd model	DLB	5072.784 (3.691)	0.0087 (0.109)	0.0013	0.012
3rd model	MCB	570.822 (0.425)	0.260 (3.553)	0.538	12.63
4th model	TVB	4884.373 (11.730)	0.112 (2.207)	0.351	4.870

Source: Authors' calculations based on Eviews 8 output

Table 3. Estimating models of Saudi Arabia according to the least squares method

	Dependent variables	a	b	R^2	F
1st model	DCS	5147.759 (10.217)	0.003 (0.415)	0.0188	0.172
2nd model	DLS	5070.339 (3.805)	0.00058 (0.115)	0.0014	0.013
3rd model	MCS	4885.597 (5.870)	0.0006 (0.481)	0.025	0.231
4th model	TVS	4722.457 (7.254)	0.001 (1.056)	0.110	1.115

Source: Authors' calculations based on Eviews 8 output

Table 4. Estimation models for Oman according to the least squares method

		a	b	R^2	F

	Dependent variables				
1st model	DCO	5398.856 (4.256)	-0.11 (-0.157)	0.0027	0.024
2nd model	DLO	5156.559 (4.308)	0.0031 (0.052)	0.0003	0.0027
3rd model	MCO	4491.811 (3.892)	0.0354 (0.685)	0.0495	0.469
4th model	TVO	5149.853 (7.371)	0.023 (0.126)	0.0017	0.016

Source: Authors' calculations based on Eviews 8 output

Table 5. Estimating models for Qatar according to the least squares method

	Dependent variables	a	b	R^2	F
1st model	DCQ	5270.476 (6.813)	0.00074 (-0.093)	0.00097	0.0087
2nd model	DLQ	5091.806 (5.741)	0.0021 (0.164)	0.0029	0.026
3rd model	MCQ	3983.218 (3.325)	0.0134 (1.109)	0.120	1.231
4th model	TVQ	4960.013 (70.040)	0.0169 (0.489)	0.025	0.239

Source: Authors' calculations based on Eviews 8 output

Table 6. Estimating models for Kuwait according to the least squares method

	Dependent variables	a	b	R^2	F
1st model	DCK	4372.514 (2.540)	0.0110 (0.508)	0.0279	0.258
	DLK	5011.803		0.0024	0.022

2nd model		(3.484)	0.0027 (0.149)		
3rd model	MCK	/ /	0.054793 (29.22476)	0.838	/
4th model	TVK	309.002 (4.535)	0.0169 (1.186)	0.135	1.406

Source: Authors' calculations based on Eviews 8 output