

# Does Islamic Finance Make the World Economically and Financially Safer? Islamic Finance and Its Implications on Sustainable Economic Growth

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*Developments in the Islamic finance industry in the last two decades have significant impact on both economies of Muslim geography and global financial markets. These developments starting from the introduction of Islamic Finance indices in conventional financial markets in the equity side of these capital markets, followed by financial innovations, such as seminal sukūk issuances captured the attention of the global financial system. This continuous growth potentially has had two main influences in the global financial system. First; the development of Islamic finance has added new and novel veins supporting the global financial markets, increasing the potential pool supporting the system. Second; investors and entrepreneurs with solid business ideas and innovations, but also with the moral and ethical concerns have gained an opportunity to provide and maintain a financing resource for their businesses. This inevitably suggests additional support for the real economies. This paper investigates the realization of these two potential impacts of Islamic finance; on financial markets and economies. Our analysis provide evidence of an impressive performance, but at the same time relatively small impact on global financial markets and economies; which indicate there is still a much higher potential to develop into for Islamic finance.*

Keywords: Islamic finance, stock markets, volatility, economic growth.

## 1. Introduction

The last two decades have witnessed revolutionary changes in financial and economic systems around the world. Financial innovations have enabled investors around the world to be able to borrow greater amounts at cheaper rates, invest in multitude of instruments catering to various profiles of risk and return, and protect themselves against numerous types of risk and uncertainty. This easing of the financing channels and the ability to spread risks in financial markets are also reflected in the real economies around the world and with the help of globalisation, the world economy has witnessed substantial economic growth in the last twenty years.

In parallel to these developments in financial world, Islamic finance has also emerged as a financial innovation; a new, young but at the same time, a strong branch of finance. This emergence and developments in the Islamic finance industry in the last two decades have significant impact on both economies of Muslim geography and global financial markets. These developments starting from the introduction of Islamic Finance indices in conventional financial markets in the equity side of these capital markets; followed by financial innovations, such as seminal *sukūk* issuances captured the attention of the global financial system. Today, Islamic finance industry has come a long way from its starting point, and established itself as an important part of the global financial system. Double digit annual

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growth during the last two decades and the potential size of the market guarantees that this development and trend will continue, if not grow substantially for the foreseeable future.

This continuous growth has had two main influences in the global financial system. First; the development of Islamic finance has added new and novel veins supporting the global financial markets, increasing the potential pool supporting the system, and therefore providing extra liquidity which can be the most important commodity in times of crisis (Kashyap, Rajan & Stein, 2002). Inevitably, this also points to the expansion in the ability of financial system to spread its risks. This increase, with impetus of financial product innovation, in the risk bearing capacity of economies; as well as actual risk taking has led to a range of financial transactions that were not possible before. With these innovations and the extra liquidity supporting the system, theoretically the introduction of Islamic finance has provided extra growth and improved the stability of the global economic system.

The second influence of Islamic finance on the global financial system comes from the financing side. Investors and entrepreneurs with solid business ideas and innovations, but also with the moral and ethical concerns have gained an opportunity to provide and maintain a financing resource for their businesses. As a result, Islamic finance has created much greater access to financial resources for small and medium size enterprises (SMEs), entrepreneurs, firms and households, who were previously sidelined in the financial system because of their religious, moral and ethical concerns. This, inevitably, is expected to stimulate growth not only in the financial sector, but also in the real economy and industry. The last two decades have witnessed the emergence and growth of regional financial centres in the Muslim geography that focus on *Shari'ah* compliant financing and investment with particular focus coinciding with local and regional growth aspirations. Consequently, one can assume that Islamic finance has not only made the financial markets safer, but also supported growth in real economy by providing stable and ethical financing resources.

In the mist of the global financial crisis, however, it cannot be denied that Islamic financial institutions and economies of Muslim populated countries have also suffered significant blows to their economies, financial systems and institutions. Indonesia and Malaysia's losses in the East Asian crises; and the recent default of *sukūk* market in Dubai, followed by numerous bankruptcy cases in the real economy, especially in property development sector, are the very recent examples that Islamic finance might not be immune to the weaknesses of the global financial system. In the light of the latest empirical evidences, thus, questions about the theoretical safety and stability provided by the development of Islamic finance or on its resilience have risen. The evidence indicates that rather than being the 'financing' instruments of real economy, Islamic finance has moved into financialisation phase as in the case of conventional finance.

As a reflection of the argument above, this paper aims to address the implications of Islamic finance on the broader global economic system by investigating the sustainability of the theoretical benefits of such an introduction and development from both stability and growth sides. In the first part, we address the equity, liquidity and stability aspects of Islamic finance's contribution to the global system. In order to achieve this, we start our analysis by examining the contribution of Islamic finance to the growth of financial markets to see if Islamic finance has indeed increased the capital pool for stronger performance. Second, we contrast the daily volatilities of conventional and Islamic stock indices in order to capture possible differences based on the theoretical business models and investment strategy differences. We continue our analysis by contrasting the returns of financial markets (both conventional and Islamic) to volatility of economic development performances of the

countries with considerable size Islamic finance institutions. This is followed by the analysis on the effects of Islamic finance development on the real sector and broader economic context by examining the contribution of Islamic finance to economic growth. Finally, the possible improvement areas under the light of the experiences from the last economic crisis will be discussed for further development.

## **2. A Review of Financial Innovations**

Global financial markets have undergone a substantial change in the last two decades. The integration of financial markets and world economies, coined under the term of “globalization” has been the main drive of this change. During this phase of globalization, financial markets have become more and more integrated, capital flows have increased to levels that have never been witnessed before and the world trade has flourished in such a way that the emerging markets have developed themselves into the new powerhouses of the global economy for the first time in modern history (Mauro, 1995; Johnson et. al., 1998 and Rodrik, 2003).

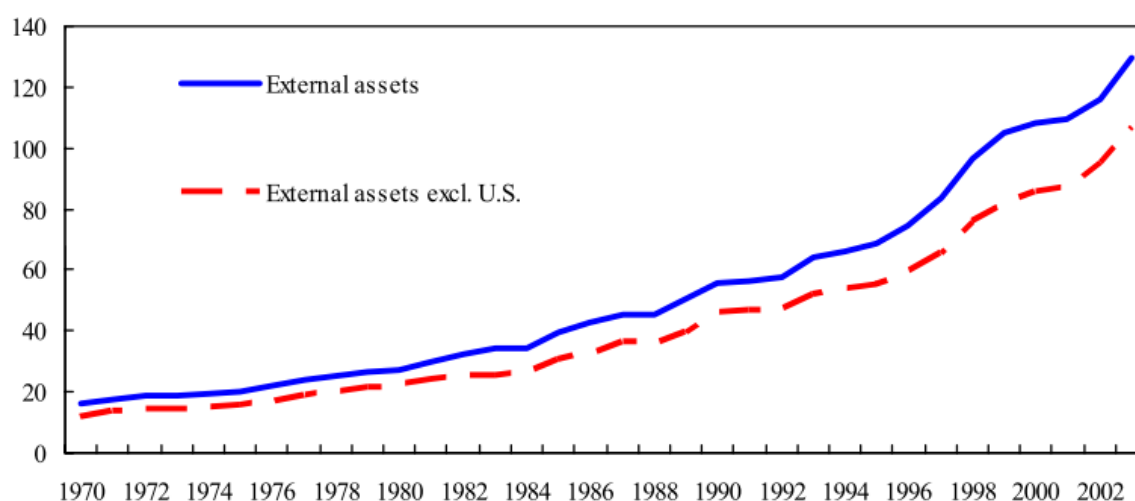
This alteration of the global economical and financial landscape has been the result of developments in the technical and academic, regulatory and institutional changes starting from 1970s and continuing throughout the 1980s and achieving a certain level of maturity in the last two decades (Rajan, 2005). Technical changes have been important since they have reduced the cost of communication and computation, as well as the cost of acquiring, processing, and storing information. As a result of these improvements, academic research has provided new means for commercial development; such as, new techniques of financial engineering, portfolio optimisation, securitisation and credit rating methodologies. The increased ability to obtain, process and produce reliable and timely information has allowed financial decision makers to cut down on their own costs of monitoring and information gathering. In addition, since this type of produced data is hard information, with the help of the improved technological capabilities, investors have become able to automatically process this information, eliminating many costly transactions. As a result, technology has allowed more arm’s length finance, which result in an overall expansion in the access to financial resources (Cetorelli & Strahan, 2004 and Rajan, 2005). Therefore, Rajan (2005) argues that these developments inevitably improve the productivity in lending, reduce costs and therefore expand access to financial markets resulting in improved and more productive competition. In a study examining these developments for the U.S. markets, Petersen and Rajan (2002) provide evidence that the geographical distance between lenders and borrowers has increased over the time in the U.S., supported by improved productivity and efficiency provided by increase automation and technological advancements.

In the meantime, regulatory authorities have also been moving in the direction of free trade and capital movements by removing artificial barriers preventing entry, or competition between products, institutions and markets (Djankov, la Porta, Lopez-de-Silanes & Shleifer, 2002; Cetorelli & Strahan, 2004 and Rajan, 2005). And finally, changes in the institutional landscape has created new entities within financial sector; such as, private equity firms and hedge funds and set up the way to new political, legal, contractual and regulatory arrangements (Rajan, 2005). Kroszner & Strahan (1999) argue this change in the direction has not been voluntary for the authorities, but rather a direct result of technological improvements. They argue, since the new technologies and methodological innovations have improved the ability of banks to lend and borrow from distant investors, competition from more efficient foreign financial institutions has increased even though they have not been regulated by the local authorities. Local regulatory bodies couldn’t be able to stamp this new

competition out, since they have no jurisdiction over them (Cetorelli & Strahan, 2004 and Rajan, 2005). As a result, rather than seeing the local financial institutions losing ground against the foreign competition while they themselves losing their abilities to regulate the markets; authorities have themselves eased the regulations under their own control (Cetorelli & Strahan, 2004 and Qian & Strahan, 2005). Humprey & Pulley (1997), argue that their decision has resulted in improved profitability, efficiency and technology. However, it should not be forgotten that their findings were mainly based on the U.S. market. As a result, while they can be applicable to other developed markets, the distance between financial institutions and investors still continues to be a major constraint for emerging markets (Mian, 2006).

On the other hand, one can also argue that with the help of the growth in arm's length transactions, the integration has been constantly improving, and with the help of this deregulation and open markets, the amount of assets owned by foreign investors has constantly been increasing since 1970 (Lane & Milesi-Ferretti, 2005) with a growth of almost seven-fold in the last three decades. Feldstein and Horioka (1980) points out that the correlation between a country's savings and its investments might be much higher than the ideal of global financial markets can accept. In other words, they provide evidence that national investment is restrained by national savings. However, this correlation seems to be dropping from an average of 0.6 in the period of 1970-1996 to 0.4 in the period between 1997 to 2004 (IMF, 2005) suggesting that national investments are increasingly less dependent on national savings, and can obtain necessary finance from outside resources.

**Figure 1. External Gross Assets (in % of World GDP)**

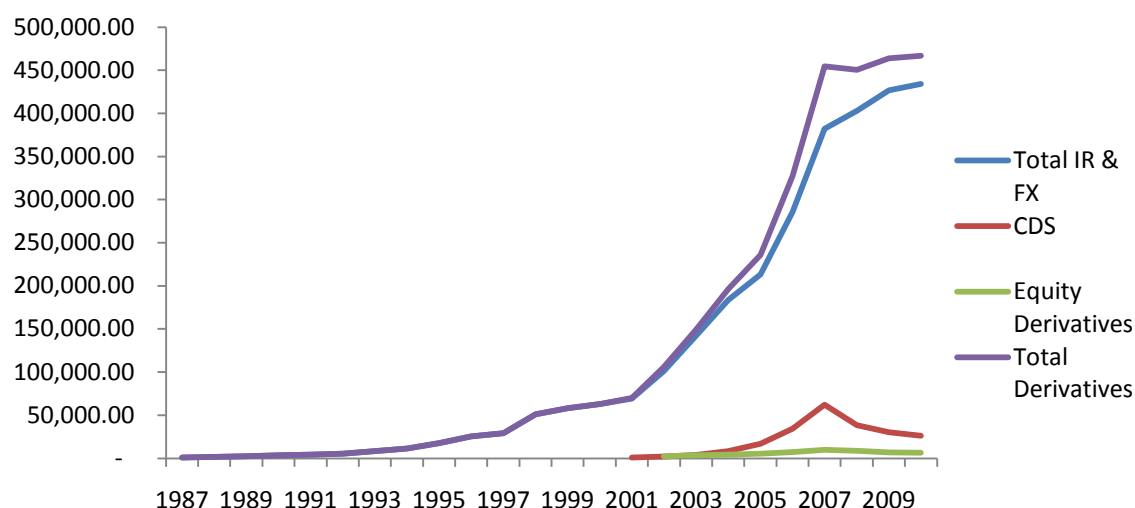


Source: Lane & Milesi-Ferretti (2005) & Rajan (2005)

As it can be clearly seen in Figure 1, the percentage of External Gross Assets in World GDP has increased almost seven-fold in the last four decades, increasing its intensity by 1990. One interesting note should be the excess of foreign assets to the global GDP, which clearly indicates the recently gained ability of financial institutions to “create” money and assets themselves. Moreover, the increased intensity starting by 1990 also coincides with the development of derivative instruments in financial markets. Figure 2 shows a detailed analysis of the Over-the-Counter derivative instruments through the last three decades. As it can clearly be seen, with the second half of the 1990s, the derivative contracts, especially for interest rate and foreign exchange markets have shown an impressive growth. Rajan (2005)

notes, with the greater availability of public information, the standardization of financial contracts and the ability of financial institutions to carve up streams of cash flows into desirable portions using these derivative instruments have all contributed to the “commodification” of financial transactions. By this standardization and commodification, numerous financial assets can be packaged with other assets, and sold as a diversified bundle to investors, who otherwise would be denied of an opportunity of such an active diversification. As a result, this process of “securitization” coupled with the original purpose of risk management for these derivative instruments, allows the use of both skills and the risk bearing capacity of the financial markets and economies to their potential maximums. With the investors achieving higher diversification, and thus protection against the market risks, risk appetite for investing in emerging markets, with higher potential returns in comparison to mature markets of the developed countries increases.

**Figure 2. Total Derivative Instruments (Global)**



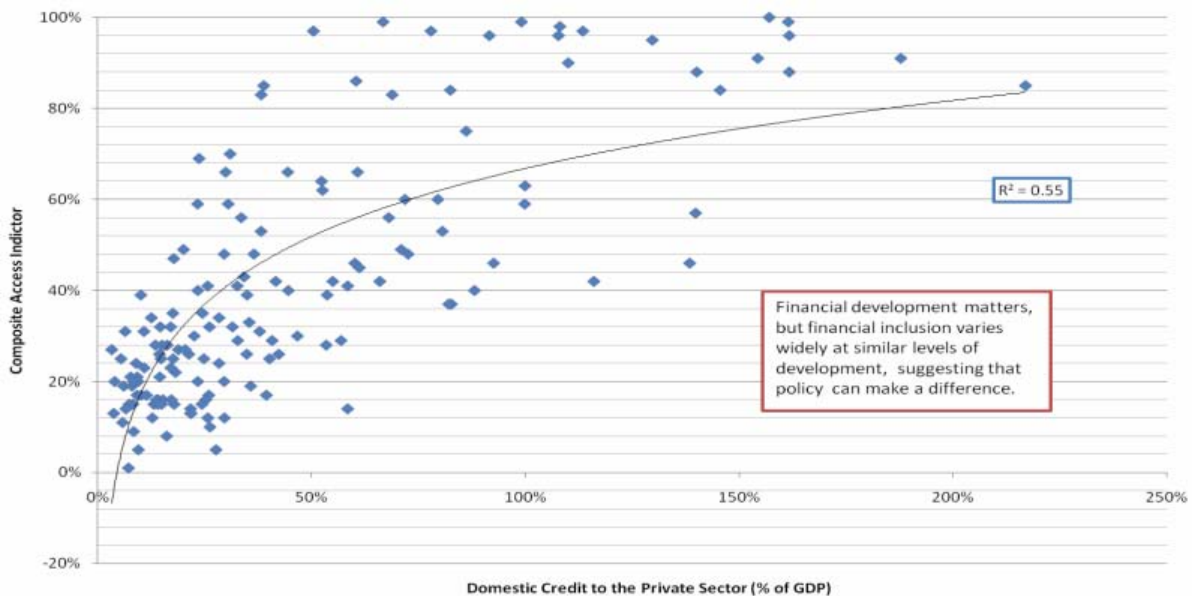
Source: ISDA (2011)

To summarise, it can be suggested that with the help of technical and methodological innovations and regulatory and institutional changes more arm’s length financing has become available. This development provides two potential outcomes: First; the local and national financial constraints can be overcome by the availability of outside financing, thus stronger and sustainable growth and higher efficiency can be achieved for financial systems. Second, with the availability of these external funds and the improved ability of risk management through the new financial instruments, investors can protect themselves against the risks in financial markets more effectively and efficiently.

However, the experience of the recent global economic and financial crisis suggests that while the system now exploits the risk bearing capacity of the economy more better through better diversification and integration, it can also take on more risks than ever before (Chevalier and Ellison, 1997; Allen, Morris and Shin, 2004; Agarwal, Daniel & Naik, 2004, Rajan, 2005 and Chan, Getmansky, Haas & Lo, 2005). Moreover, now with the increased integration, the linkages between markets, as well the linkages between markets and institutions are more pronounced. Rajan (2005) argues, while these linkages help the global economic and financial system diversify across smaller shocks, they also system to large

systemic shocks; such as, large shifts in asset prices or dramatic changes in aggregate liquidity, as seen in the current crisis. In addition to this new vulnerability, Knight (2004) adds that the traditional incentive structures for investment managers, as well as intensified competition in the sector, may contribute to endogenizing the large systemic shocks. Knight (2004) argues, the current incentive structures might not only force investment managers to have greater tendency to allow asset price misalignments, but also have a tendency to leave themselves exposed to the events in “the tail” of probability distributions, which prompt a sudden flight to liquidity and quality, without being properly prepared for them (Chevalier and Ellison, 1997; Shleifer & Vishny, 1997; Lamont & Thaler, 2001; Allen, Morris and Shin, 2004; Agarwal, Daniel & Naik, 2004, Rajan, 2005 and Chan, Getmansky, Haas & Lo, 2005). Emerging markets have experienced such a change in the financial climate in during the East Asian and Russian sovereign debt crisis in the beginning of the new millennia and during the recent global crisis. With their limitation on the availability of domestic funds, emerging markets are not only vulnerable in financial sector, but their whole economy is exposed to sudden stop of new capital, as well as forced liquidation of existing assets as investor flee to developed markets (Diamond and Rajan, 2001; Jeanne, 2002 and Calvo, Izquierdo & Mejia, 2004).

In addition, the role of financial innovations and their influence on real economy has been investigated in the literature intensively. While some academic researchers argue that the main purpose of financial innovation is not supporting the real economy directly (Merton, 1995 and Tufano, 2003), the empirical studies provide evidence that relation between financial innovation and economic performance, development and increased wealth equalities. While Levine (2004) reports findings about the relationship between financial development and economic growth at the macro level are firmly established, Beck, Demirguc-Kunt and Levine (2007) and Demirguc-Kunt & Levine (2008) provide further evidence that financial development help reducing income inequality and poverty alleviation. In a more recent study, Beck, Demirguc-Kunt and Honohan (2009) provide evidence that with improved access to financial markets, the amount of funding for real economy increases, resulting stronger economic growth. On the other hand, lack of access to finance is often the critical mechanism for generating persistent income inequality, as well as slower economic growth. They conclude economic policies and decisions of regulatory authorities and institutions are of paramount importance for stimulating economic growth and reaping the benefits of financial innovation. Hence expanding access remains an important challenge across the world (Table 3).

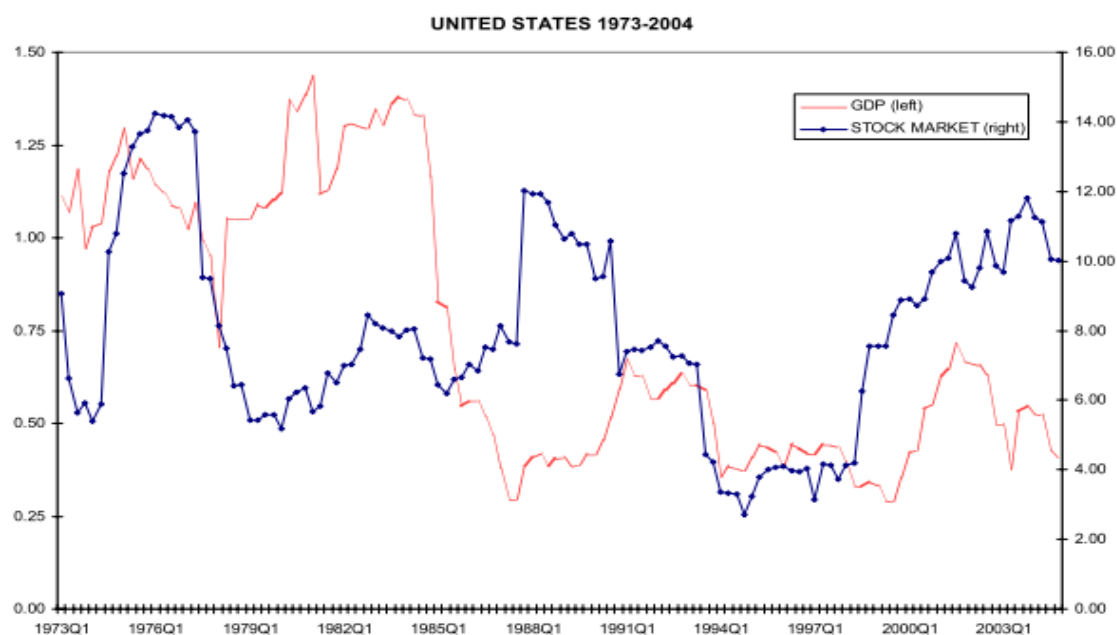
**Figure 3. Financial Innovation and Economic Inclusion**

Source: WDI (2008) and Beck, Demirguc-Kunt and Honohan (2009)

In the light of these most recent empirical evidence, Zhuang et. al. (2009) conclude that financial innovations and development stimulate growth in real economy by mobilizing and pooling savings more widely, producing information about possible investments more timely, monitoring investments and exerting corporate governance more closely and finally, facilitating trading, better diversification and more effective risk management.

On the other hand, Allen, Morris and Shin (2004) and Rajan (2005) suggest that, while it can be hard to be categorical about a complex structure such as the new financial architecture, it is possible that this movement of capital across markets as well as the incentive structures of investment managers can demolish the link between financial sector and real economies and create a more financial-sector induced procyclicality than before (Hoshi, Kashyap & Scharfstein, 1993; Kiyotaki & Moore, 1997 and Shin, 2005). While the volatility of GDP in developed economies have shown a fall through the last decades, as a result of increased flexibility of real economies, better policies, increased trade and more efficient financial markets, it is not clear if the volatilities in financial sectors have experienced a similar fall in their volatilities. Figure 4 shows that, while there had been a trend down in the volatility of GDP for U.S. prior to the current crisis, the stock markets does not seem to be reflecting a parallel trend supporting the reservations above.

As a result of these arguments, it can be said that the financial innovations in the last decades while improving the growth, liquidity, reach and diversification in financial markets; also provided new questions about the managerial incentives, corporate governance and regulations. In addition, while more efficient risk management is also achieved through the means of new derivative instruments, as well as better diversification and added liquidity to the system, the system itself has become more procyclical and exposed to the risks of extreme events. Unfortunately, the evidence of the recent economic and financial crises has proven the more reserved approach right over the praising of these innovations.

**Figure 4. Volatilities in the U.S. Economy 1973-2004**

Source: Rajan (2005)

To summarise, technological and methodological innovations, market liberalization and institutional changes have combined in the last decades to expand access to credit and risk sharing opportunities not only in developed countries, but in emerging markets as well. Moreover, since both financial markets and real economies are interlinked across the world no country is immune from the consequences of these changes. In theory all these changes should result in a more developed, more efficient and better working global economical and financial system. However, the events of the current economic crisis suggest that, these potential benefits are far from being immune to high risks. In the light of these current experiences, the economic and financial architecture should evolve in a way that can restrain the risk taking incentives and risk appetites of investment managers and re-establish the linkages between the financial sector and real economies.

### 3. Islamic Finance at a Glance

Coinciding with the developments in global markets above, and taking advantage of them, a new branch of finance has stemmed in emerging markets. Islamic finance starting its impressive expansion in the 1970s has grown into a major participant of the global economical and financial system at the end of the first decade of the new millennium. The initial spark was limited to Middle-East, in particular to the Gulf Cooperation Council (GCC) area in 1970s with the opening of Islamic Development Bank in 1975 as the main multinational organization of this new economic and financial concept; followed by the start of business for Dubai Islamic Bank (1975), Faisal Islamic Banks of Egypt and Sudan (1977), Kuwait Finance House (1977), Jordan Islamic Bank for Finance and Investment (1978). Bahrain and Qatar Islamic Banks followed the cause and established themselves as major institutions in domestic retail banking (Wilson, 1990). This initial phase of the development of Islamic finance can be characterised as an imitation of basic conventional finance. At this stage the main effort was to provide trade and working capital finance to Muslim investors with religious obligations and sensitivities by replicating *Shari'ah* compliant versions of basic conventional banking instruments (Asutay, 2011). As a reflection of this very basic



mentality and the lack of proper finance theory support, Islamic finance was under-estimated by Western investors, who see Islamic finance as a folly of a system, only focused on 0% interest rate on investment, in modern finance.

This initial “birth” stage of the 1970s by establishing commercial Islamic banks in the Middle-East was followed by a rapid emergence of Islamic finance through the last two decades of the last millennium particularly in South-East Asia, and mainly through opening of numerous commercial Islamic banks, Islamic investment companies and Islamic Insurance institutions (Asutay, 2011). During this phase Islamic finance has moved from being the simple imitator of conventional finance and grown into a developer and structurer role itself. At this time, Islamic finance institutions and Muslim investors have gained access to project finance, leasing and insurance products and capital markets by structuring Sharia’ah compliant products and services, both in banking and insurance. This phase also has witnessed the first non-Muslim investor interest, through the means of ethical investment philosophy and acceptance of being theoretically viable as a part of modern economic system.

Finally, by the beginning of the last decade, Islamic finance has entered a strong expansion phase with openings of Islamic investment banks, Islamic asset management companies, retail banks, broking houses, capital and financial markets throughout the world. At this stage, it can be argued that Islamic finance has finally developed into a major branch of global economic and financial system with the growing interest of non-Muslim investors. Today, with the more prudent investment philosophy, and equity based financial mentality, risk-averse investors of numerous faiths have been participating in Islamic financial institutions. Asutay (2011), reports, 90% of HSBC’s corporate customers of its Islamic banking services are not from Muslim geography. With this ever-growing interest from the other branches of financial markets and the innovations in technologies and methodologies; Islamic financial institutions, with their improved financial engineering capabilities, can now offer a wide range of sophisticated financial products and services to their customers. As a result of these innovations and improvements, returns of Islamic financial institutions have become comparable to those of the conventional financial institutions and products. At this stage, Islamic finance is globally recognized through the means of Islamic debt markets (mainly *sukūk*), Islamic stock indices, as well as Islamic funds and asset management companies.

**Table 1. Islamic Banking and Finance: Regional and Global Growth**

<b>IBF-REGIONAL AND GLOBAL GROWTH TOTALS (\$ M)</b>							
	<b>2006</b>	<b>2007</b>	<b>% Change</b>	<b>2008</b>	<b>% Change</b>	<b>2009</b>	<b>% Change</b>
GCC	127,826.60	178,129.60	39.4	262,665.40	47.5	353,237.50	34.5
Non-GCC MENA	136,157.60	176,822.20	29.9	248,264	40.4	315,090.50	26.9
MENA Total	263,984.2	354,951.70	34.5	510,929.40	43.9	668,328.50	30.8
Sub-Saharan Africa	3039.3	4708	54.9	6662.1	41.5	8369.7	25.6
Asia	98,709.6	119,346.50	20.9	86,360.30	-27.6	106,797.30	23.7
Australia/Europe/America	20,300.20	21,475.70	5.8	35,105.20	63.5	38,654.80	10.1
Global Total	386,033.30	500,481.9	29.7	639,076.90	27.7	822,135.10	28.6
% of MENA total to global total	68.4	70.9		79.9		81.3	

Source: Maris Strategies &amp; The Banker (2009)

Today Islamic finance has been accepted as an integral part of global economic system and financial markets. The number of Islamic finance institutions has risen from one institution in one country to over 500 in more than 75 countries in less than 40 years (El Qorchi, 2005 and Asutay, 2011). Total assets under the control of Islamic finance institutions are now estimated to be \$950 billion globally (Asutay, 2011) with annual growth rates ranging from 15 to 55 %. It is estimated that within a decade, Islamic finance will reach to a size that can be able to capture half of the total savings of 1.6 billion Muslim community. More importantly, as can be seen in Table 1, this growth has been substantial through the world, even in the geographies where the Muslim population is the minority.

This strong growth on four bases: First, is the strong demand from a large number of immigrant and minority Muslims for *Shari'ah*-compliant financial services and transactions. Second, is the growing windfall profit from natural resources demanding suitable investments out of the GCC region; and third, is the improved competitiveness of Islamic banking and finance products (El Qorchi, 2005) and finally, fourth, is the increasing concern over the issues such as, corporate governance, corporate social responsibility and ethicality and morality of investment strategies.

As a result of these reasons, Asutay (2011) argues Islamic banking and finance industry is reaching mainstream relevance in global economic and financial system. Islamic banking and finance will be answering the financial requirements and religious concerns of Muslims; and it will inevitably widen the stakeholder base of society in economy. Consequently, the increase in the bankable population in the society will lead to increased engagement from the society and thus result in an increase in economic efficiency. Moreover, this strengthened efficiency and new asset-based framework is expected to link financial sector to the real economy better, enhancing the stability of the system as a whole. Similarly, for the economies with only a minor Muslim population, Islamic finance has the promise of a broader market reach with the involvement of the Muslim population, providing alternative sources of funding by attracting investors who have been staying out of the system because of their religious and moral concerns. In addition, as El Qorchi (2005) suggests, this new frame for Islamic finance will provide a gateway to Muslim investors and integrate them into the global economic and financial system.

In the light of these suggestions, and the discussions about financial innovations above, it can be suggested that Islamic finance is itself an innovation for global economies and financial markets. Technological (the availability of timely information) and methodological (increased ability for financial engineering and structuring financial assets through the means of securitization) innovations, coupled by the regulatory (acceptance of *Shari'ah* principles as an alternative mean of standards and regulation) and institutional (emergence of various Islamic finance institutions) changes as the means of financial innovation are all valid for the development of Islamic finance. Moreover, the achievements suggested above for financial innovation; such as, involvement of new investors and capital into the global financial markets providing extra liquidity to the markets; increased monitoring and efficiency and improved linkages between financial sector and real economy enhancing the diversification ability of investors and thus the stability the economy and financial markets are all undeniably parallel to the benefits of financial innovation suggested by Rajan (2005) and Zhuang et. al. (2009). In addition, it can also be suggested that, by providing religiously concerned investors who were previously sidelines in the system a financing line, Islamic finance again takes the role of a financial innovation, and stimulate growth not only in financial sector but in the real economy as well.

#### **4. Analysis of Islamic Finance as a Financial Innovation**

In the light of the arguments above, this study defines Islamic finance as a financial innovation in broader sense and will aim to address the issues and concerns raised above. As a result, our analysis will delve into the aspects which allow us to define Islamic finance as an innovation. In order to achieve this, our analysis will first demonstrate how the characteristics of financial innovation as suggested by Rajan (2005) fit into the historical development of Islamic finance.

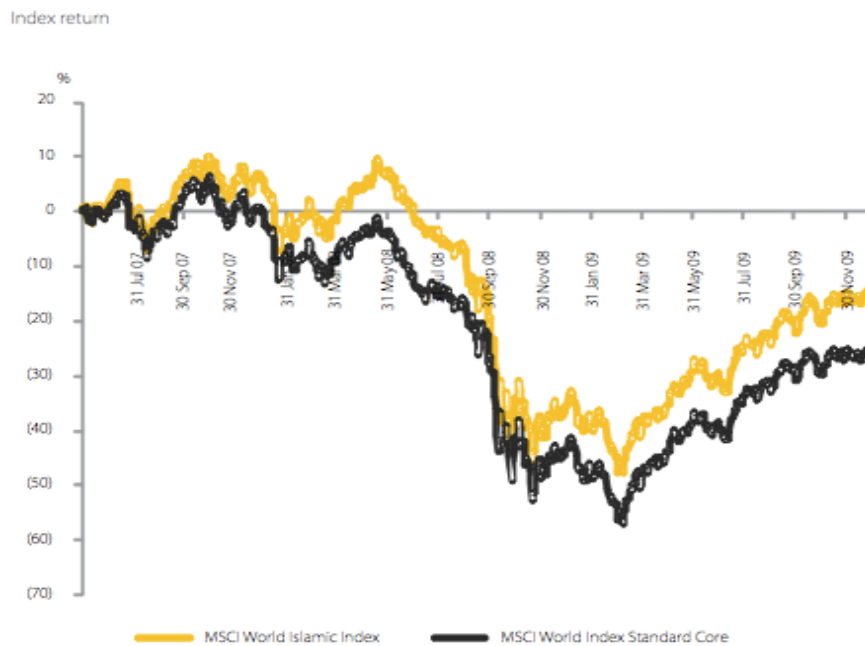
Since our previous discussion demonstrates the three grounds on which financial innovation is based on, namely technological and methodological improvements (information technology enabling investors to receive timely information and financial engineering capabilities enabling investors to securitize and structure financial assets), regulatory easing (development of *Shari'ah* compliant financial investments, establishment of *Shari'ah* governance authorities, both local and supranational and non-Muslim economies opening their financial systems to Islamic finance through the means of *Shari'ah* compliant new regulations) and institutional changes (emergence of new Islamic finance institutions stemming from geographically limited commercial Islamic banks to a wide range of Islamic financial investment and management institutions), is easy to argue that Islamic finance has risen on the similar grounds with the other financial innovations of the last decades.

As a result, our study will try to address the four main claims of Islamic finance as a viable alternative to the mainstream, conventional finance. The first was that Islamic finance opens up additional new channels of funding in comparison the conventional finance from investors who were originally sidelined from the conventional finance because of their religious and moral reservations and obligations. This can be through the new bankable population in the economy, increasing the bank deposits available to the economic and financial system, as well through establishing new types of securities, investment instruments and intermediaries. Second, Islamic finance through these new investors and intermediaries, add extra liquidity to the financial system, and thus reduces the risk component and the volatility in the financial markets. This is supposed to be the strongest at the times of financial crisis, since Islamic finance emphasis on prudence, shared risks and responsible lending. Although, it can be argued in the state of bull markets this can be constraining and less efficient, Islamic finance

in its current form can produce a counter balance to far highly leveraged conventional financial markets (Rogoff, 2011). Third, with its emphasis on equity based investment and stakeholding, it should be less likely for Islamic finance to lose its touch with the real economy. Since today, Islamic finance investments are based on real assets and equities, rather than speculative assets which are very common in the conventional finance, development of Islamic finance is supposed to be strengthening the links between the financial markets and the real economy (Asutay, 2011). Finally, as a result of these improved links between the real economy and financial markets, it should be expected Islamic finance improves the overall economic performance and development of the countries it has developed in. To summarise, while financial innovations by definition are expected to provide improvements to the four main areas discussed above, Islamic finance, with its own unique characteristics, should be stimulating these improvements even further.

In the mist of the recent global financial crises, however, it cannot be denied that Islamic financial institutions and economies of Muslim populated countries have also suffered significant blows to their economies, financial systems and institutions. Earlier examples of Indonesia and Malaysia's losses in the East Asian crises; and the recent default of *sukūk* market in Dubai, followed by numerous bankruptcy cases in the real economy, especially in property development sector, are the very recent examples that Islamic finance might not be completely immune to the weaknesses of the global financial system. While Kahf (2003) among others righteously suggest that Islamic finance is an integral part of the global system cannot be considered completely outside the main discipline of economics, the Islamic economics ideals aiming at the creation of the Islamic paradigm of economics with its own values, rules and institutions as a genuine alternative to the mainstream conventional finance has come under scrutiny (Asutay, 2007).

In addition to the questions rising about the paradigm changing ability of Islamic economics and finance, the potentially extra abilities of enhancing the contributions of financial innovations has also become under questions during the current economic crisis. The general criticism for Islamic finance that it has become too much integrated into the means of conventional finance, to the extent that it has been mimicking the conventional finance markets has begun to be repeated more frequently.

**Figure 5. Returns for MSCI World and MSCI World Islamic Indices, 2007-2010**

Source: Asutay (2011)

Recent academic research has provided evidence that the financial markets performances for both conventional finance and Islamic finance have been very closely correlated to each other (Figure 5). Since the conventional financial markets have a huge size advantage, it can be safe to assume that conventional financial markets and investments have been leading the Islamic financial markets.

Moreover, recent studies suggest that this close relation between the performances is not only limited to the financial markets, but also can be seen in the performances of the Islamic banks in comparison to the conventional banks of the same geography. While theory suggests significant repercussions of the equity based nature of Islamic banks for business orientation, efficiency, risk management and stability; anecdotal evidence suggests that Islamic banks' business models might be not too different from conventional banks' business models. Beck, Demirguc-Kunt and Merrouche (2010) provide the evidence that only very little significant differences between Islamic and conventional banks exist (Figure 6).

In addition, Nagaoka (2007) provides evidence that, while on average, from 1984 to 2006, debt-based murabahah instrument financing constituted a vast majority of investments for two of the largest twenty Islamic banks<sup>3</sup>; for the same period, their equity and asset based mudarabah and musharakah instruments of financing remained relatively marginal<sup>4</sup>. As a result, Asutay (2007) concludes that debt-based financing has become the major source of financing in the Islamic Banking and Finance industry, as they are in the conventional banking. While this can imply a closer relation to the conventional markets and increased efficiency, it also suggests that the ability of Islamic finance to become an alternative, especially in the times of crisis (Rogoff, 2011) has diminished.

<sup>3</sup> 88.1% of the mode of financing for the Bank Islam Malaysia Berhad between 1984-2006, and 67.3% for the Dubai Islamic Bank for the period of 1988 to 2006.

<sup>4</sup> 7% for the Bank Islam Malaysia Berhad, and 9.3% for the Dubai Islamic Bank.

However, it should also be noted that, these evidence have been preliminary and at least some are limited in the scale and scope. Hassan & Dridi (2010) provide contradictory evidence that the business model and investment strategies of Islamic banks differ from those of the conventional banks. They report factors related to *Shari'ah* compliance and Islamic banks' business model helped them to contain the adverse impact on profitability in 2008 during the first phase of the crisis; while weaknesses in risk management and corporate governance practices in some Islamic banks led to a larger decline in profitability compared to commercial banks in 2009, in the second phase. They also emphasize the importance of *Shari'ah* compliance requirements that limit the Islamic banks exposure to the kind of toxic instruments which turned the initial financial crisis into a global epidemic. In addition, they also suggest that the default of Dubai *sukūk* market in the wake of the current crisis is a direct result of exceeding the concentration limits of the financial institutions in the markets, especially concentrated on real estate investments.

In the light of the discussion above and the contradictory empirical evidence presented, our analysis will be presented in three-fold. In the first stage, we start our analysis by examining the contribution of Islamic finance to the growth of financial markets to see if Islamic finance has indeed increased the capital pool for stronger performance. In addition, we contrast the volatilities of conventional and Islamic stock indices in order to capture possible differences based on the theoretical business models and investment strategy differences. Second, we continue our analysis by contrasting the volatilities of financial markets (both conventional and Islamic) to the economic development performances of the countries with considerable size Islamic finance institutions. And finally, in the third stage, our results will be followed by the analysis on the effects of Islamic finance development on the real sector and broader economic context by examining the contribution of Islamic finance to economic growth.

In order to achieve these objectives, our study will be examining the financial markets, Islamic benchmarks for the same financial markets and the real economies of 21 countries<sup>5</sup> with Islamic financial institutions whose financial data are available in Islamic Development Bank, IRTI Ibisonline databases. Countries with unavailable data for any comparison will be excluded for that analysis, although our sample still continues to provide us a significant sample size of 13 countries between the period 1990 and 2010. The economic and financial markets data is obtained from Thomson Reuter Datastream database for the targeted period.

#### **4.1. Does Islamic Finance Makes Financial Markets Stronger and Safer?**

As discussed above in detail, one of the main benefits of Islamic finance is its ability to attract investors who have been sidelined in the system before and thus new and novel veins supporting the global financial markets, increasing the potential pool supporting the system. With the additional demand from these investors and the additional channels of funding they bring into the system, financial markets are expected to become sounder and grow faster, providing strong returns in the meantime. As a result of this argument, we test whether Islamic finance has made financial markets stronger by analysing the returns of the markets from countries which also have strong Islamic finance industries. Our results are presented below in Figures 6.1 to 6.14.

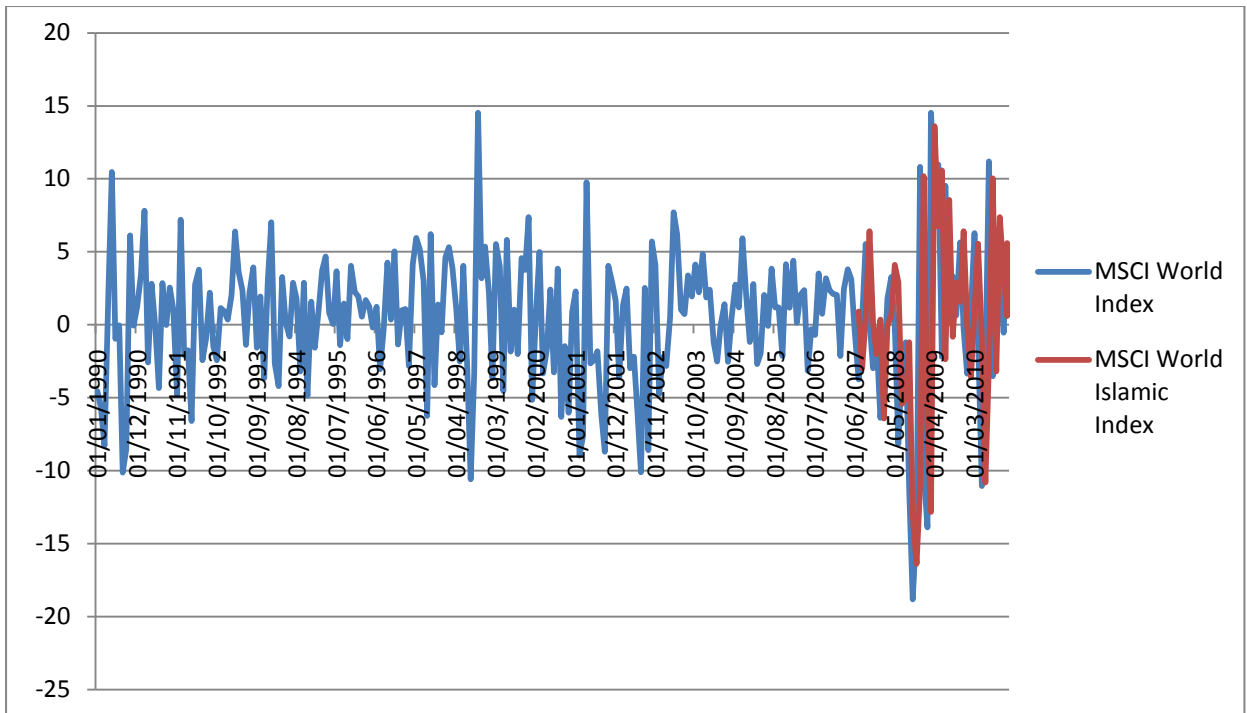
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<sup>5</sup> Namely; United Kingdom, United Arab Emirates, Bahrain, Jordan, Kuwait, Qatar, Saudi Arabia, Bangladesh, Indonesia, Malaysia, Pakistan, Turkey, Egypt.

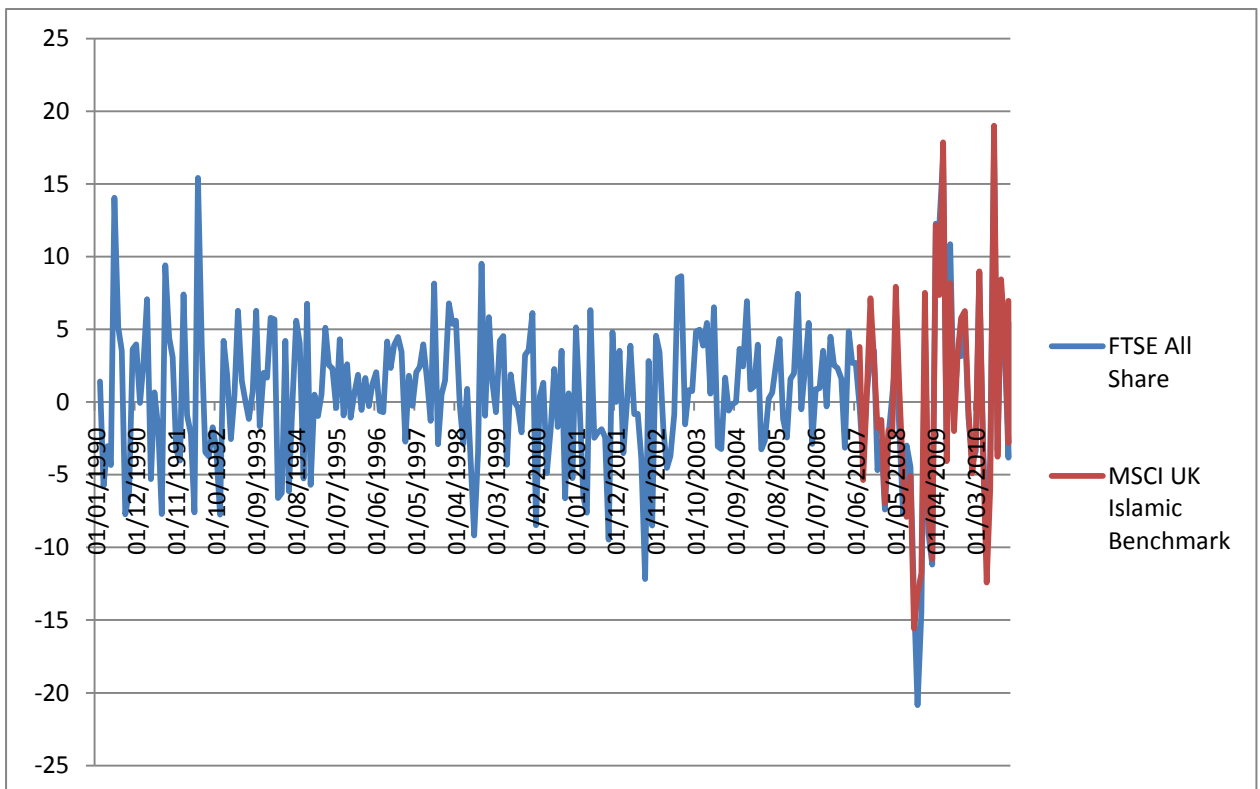
Our analysis on this stage consists of two aspects: First the characteristics of our data allows us to contrast between the period where the stock markets are completely defined by the means of conventional finance and the period with the theoretical additional support, demand, funding and liquidity provided by the emergence of Islamic finance. Second, again with the help of the characteristics of our data, we have also examined the interaction between conventional indices and their Islamic benchmarks for the periods when they both co-exist.

**Figure 6. Returns for Conventional and Islamic Stock Indices, 1990-2010**

**Figure 6.1. Returns for MSCI World and MSCI World Islamic Indices**

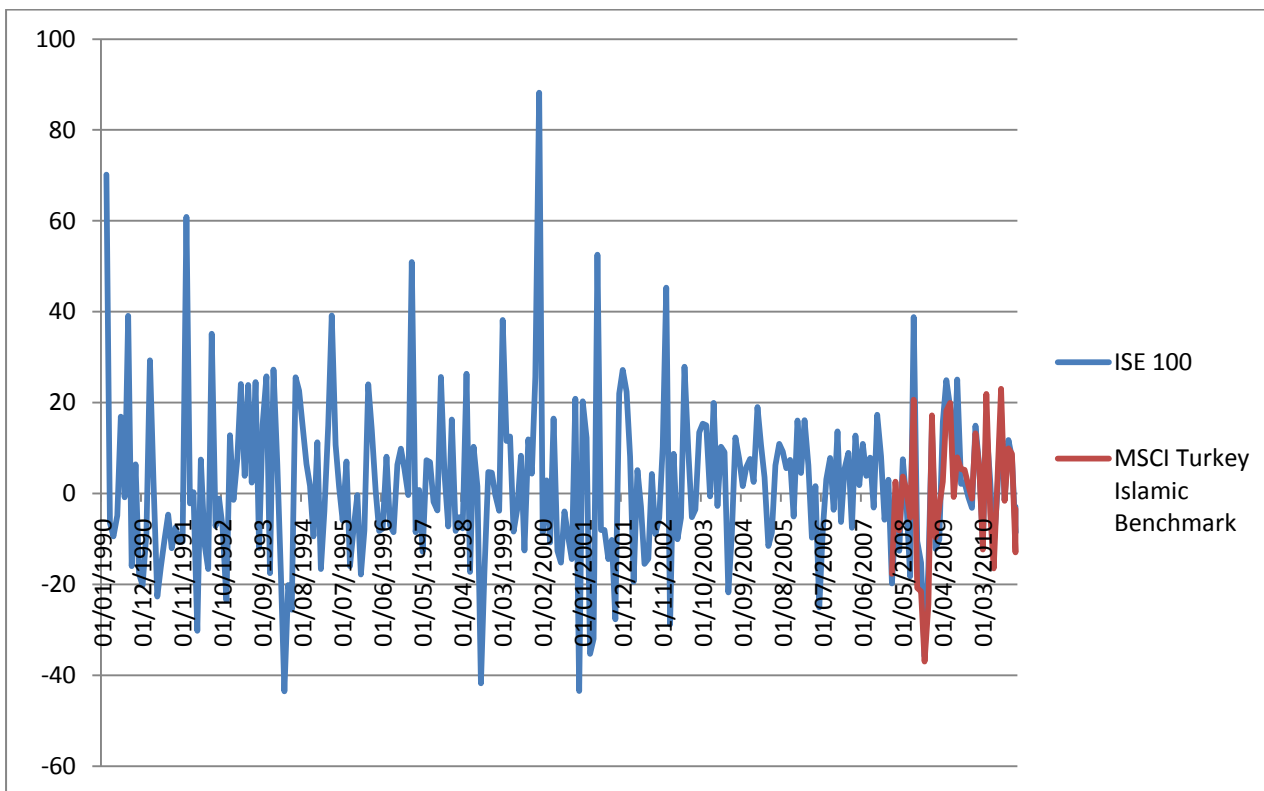


**Figure 6.2. Returns for FTSE All Share and MSCI UK Islamic Indices**

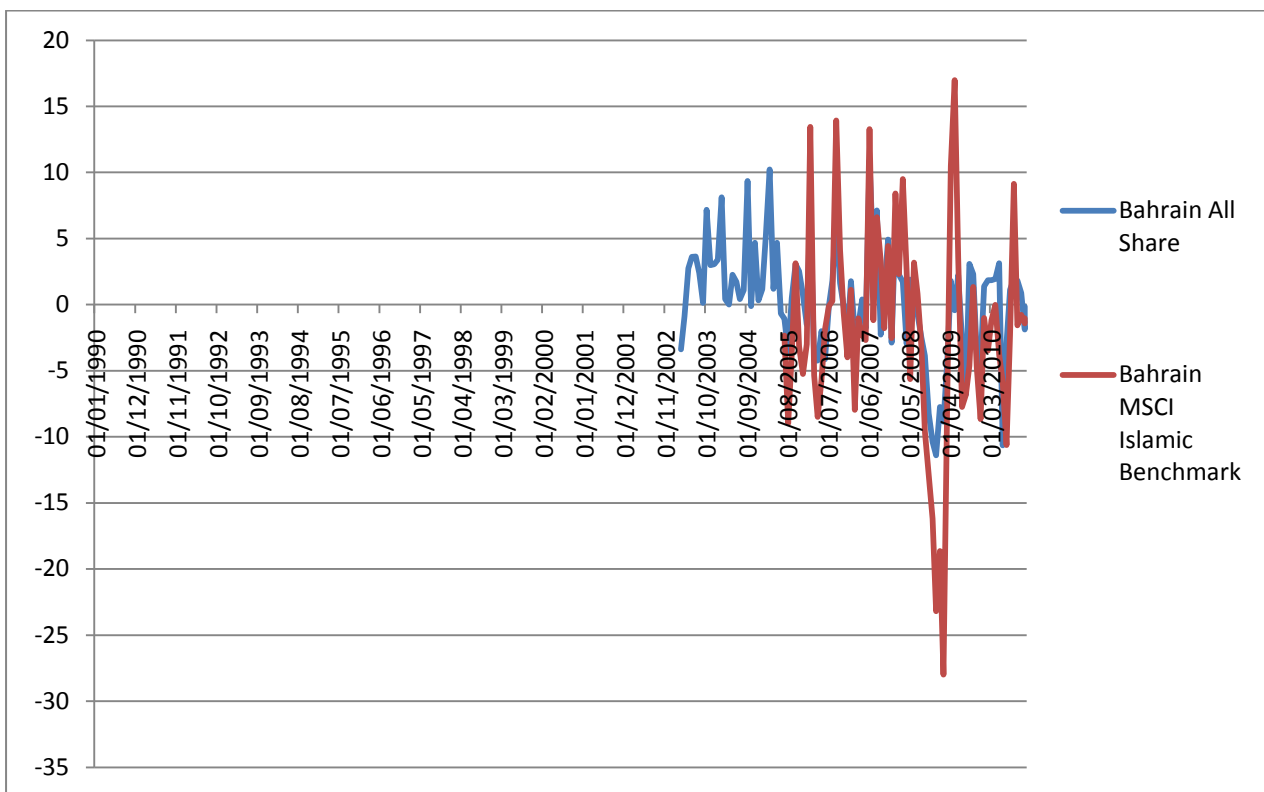




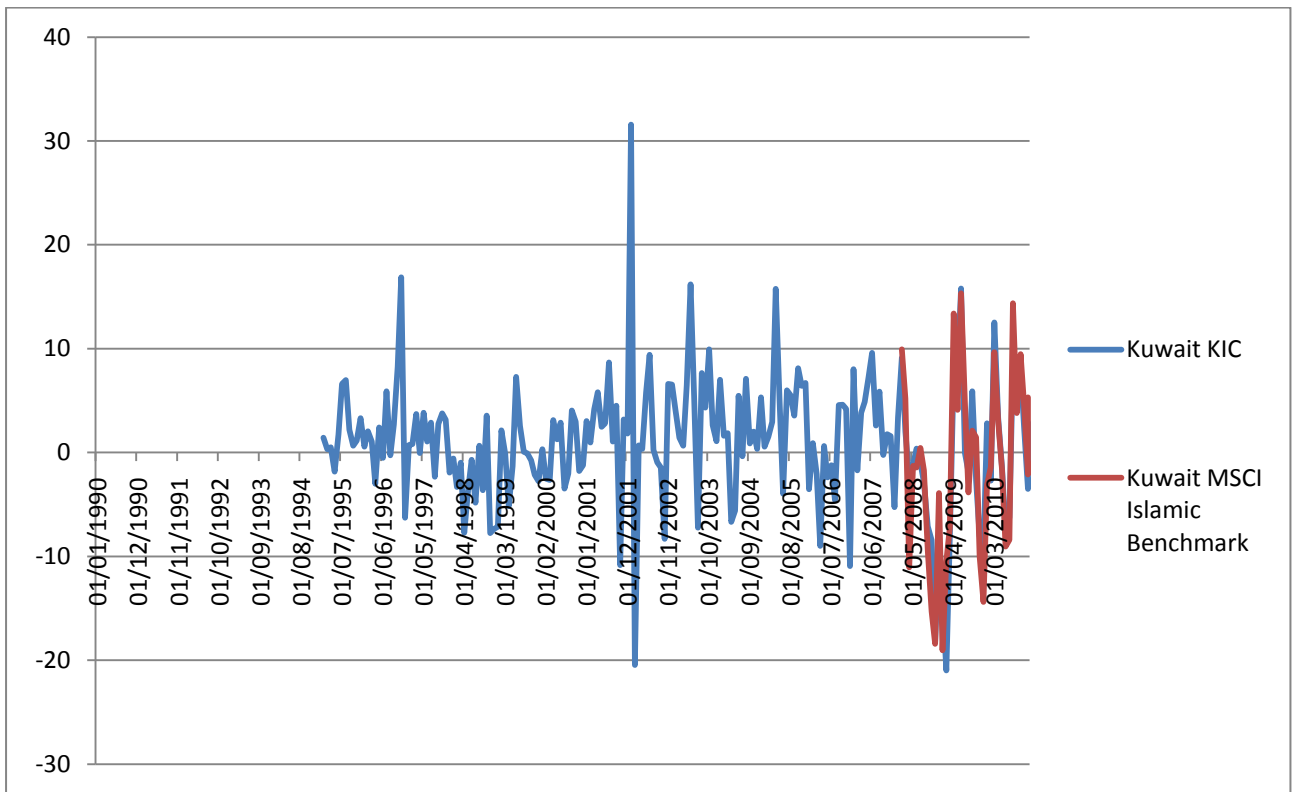
**Figure 6.3. Returns for ISE 100 and MSCI Turkey Islamic Indices**



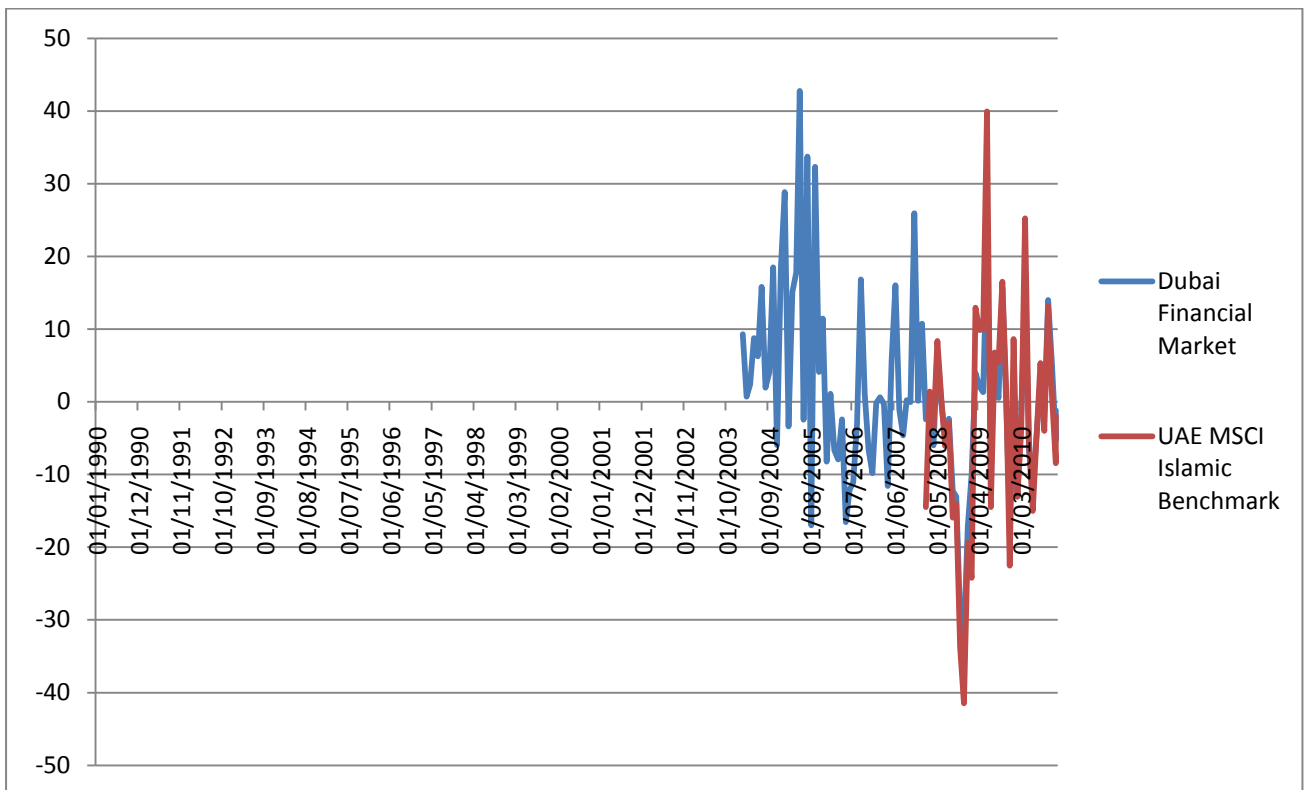
**Figure 6.4. Returns for Bahrain All Share and MSCI Bahrain Islamic Indices**



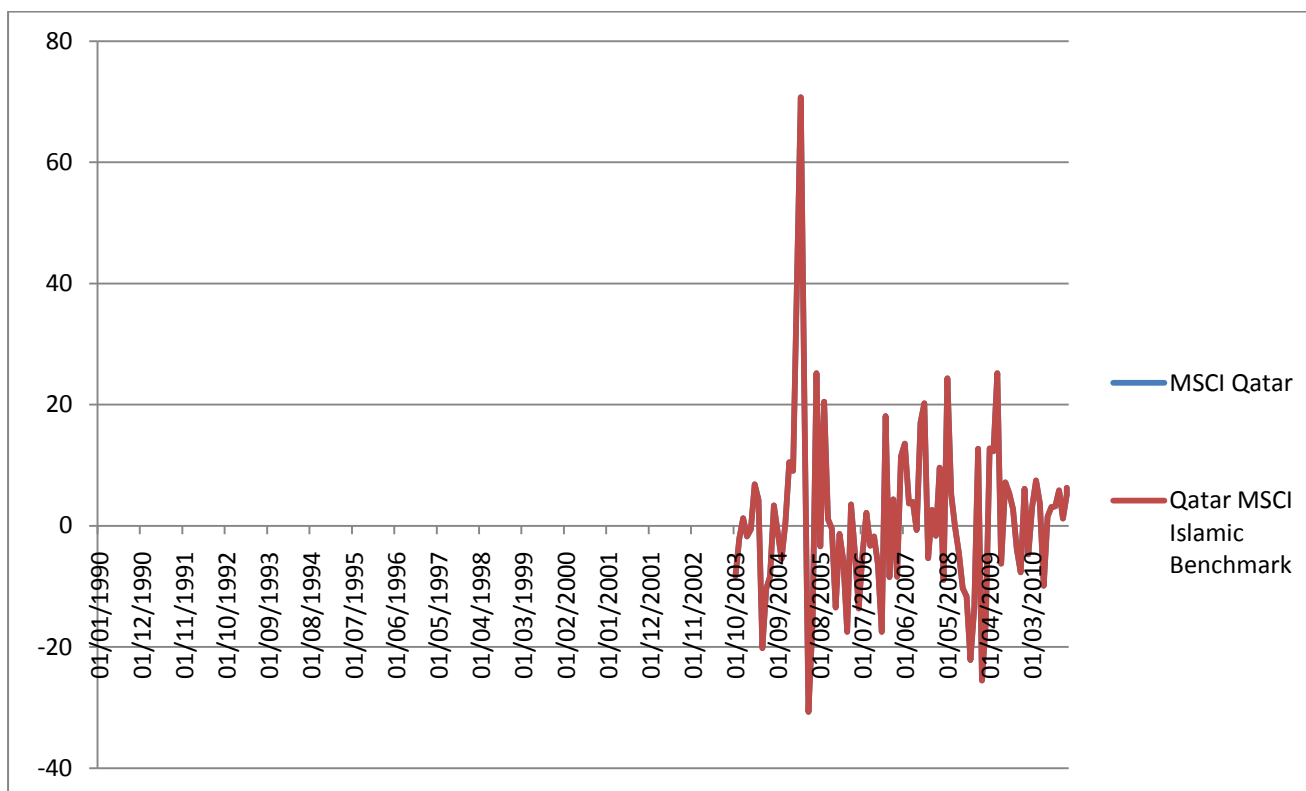
**Figure 6.5. Returns for Kuwait KIC and MSCI Kuwait Islamic Indices**



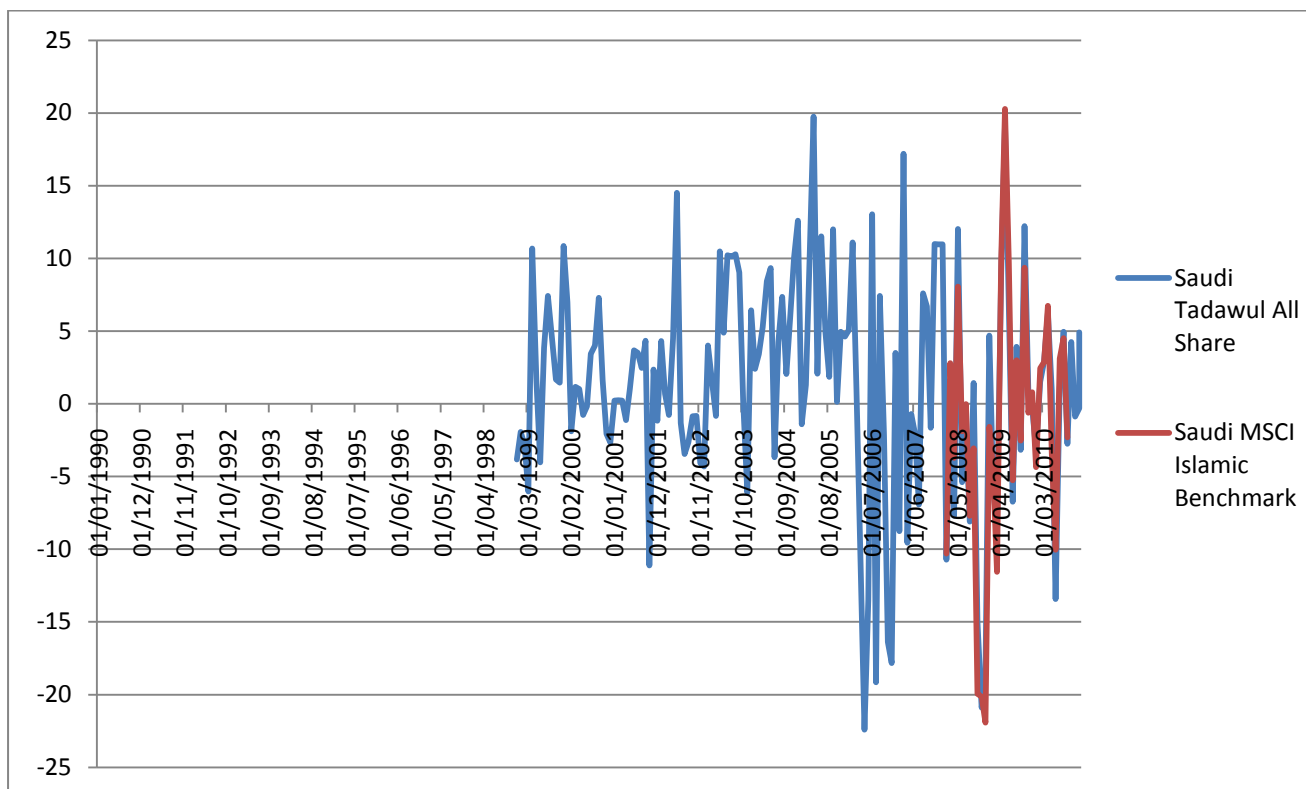
**Figure 6.6. Returns for Dubai Financial Market and MSCI UAE Islamic Indices**



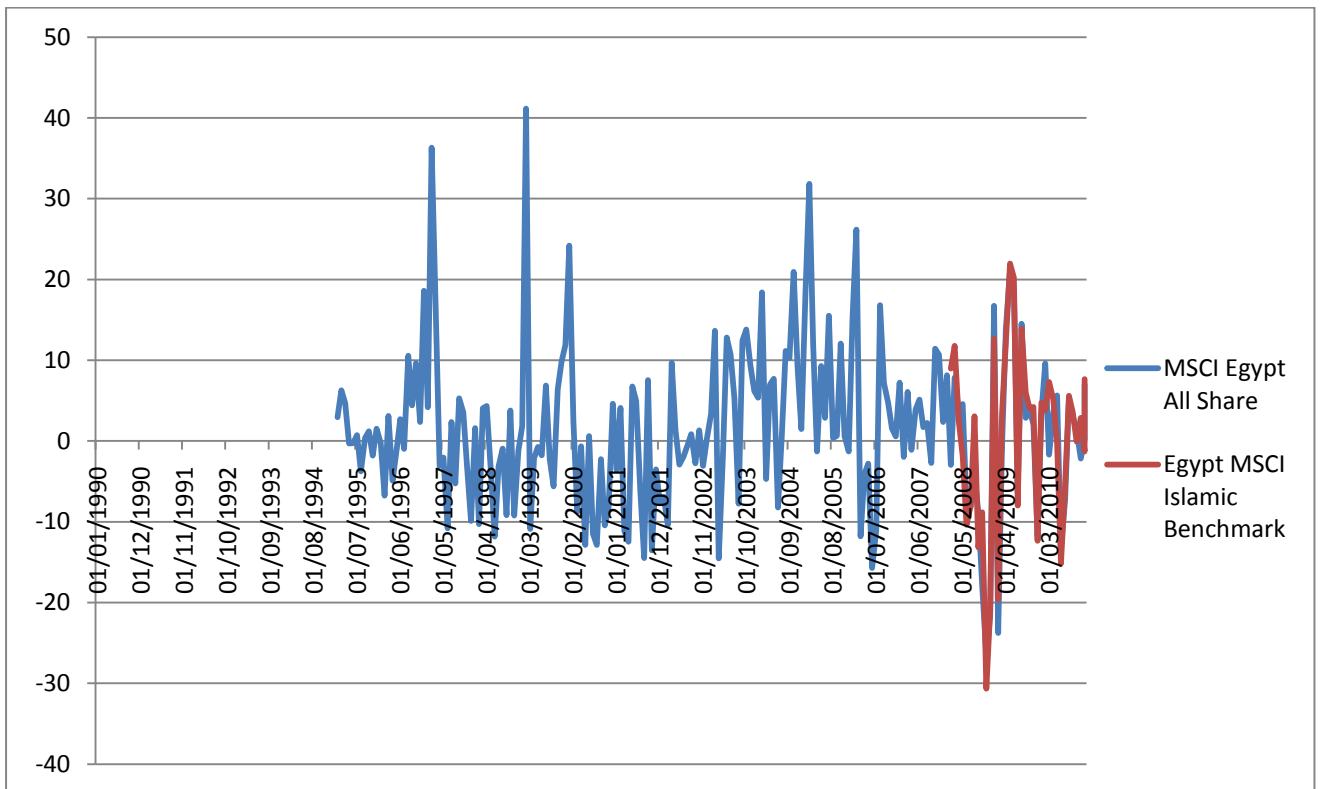
**Figure 6.7. Returns for Qatar Financial Market and MSCI Qatar Islamic Indices**



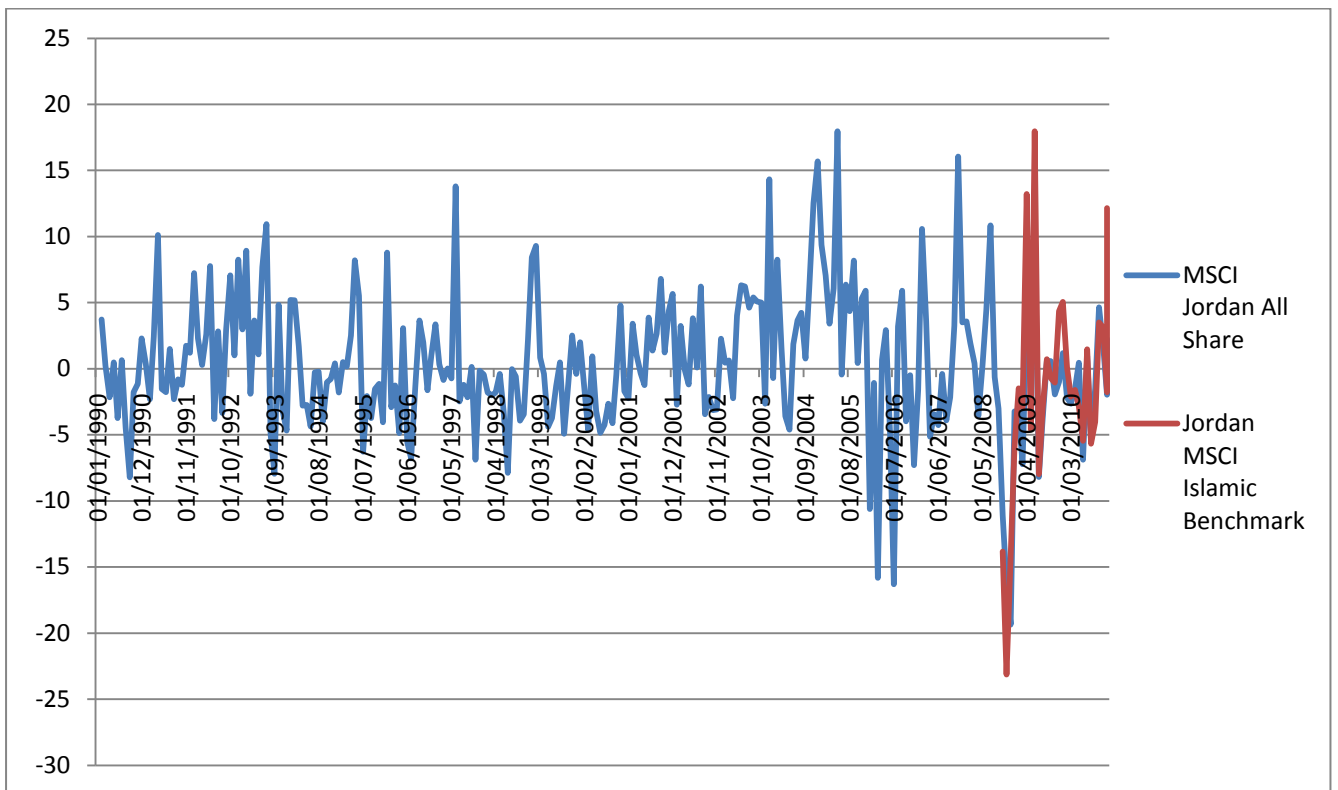
**Figure 6.8. Returns for Saudi Tadawul All Share and MSCI Saudi Islamic Indices**



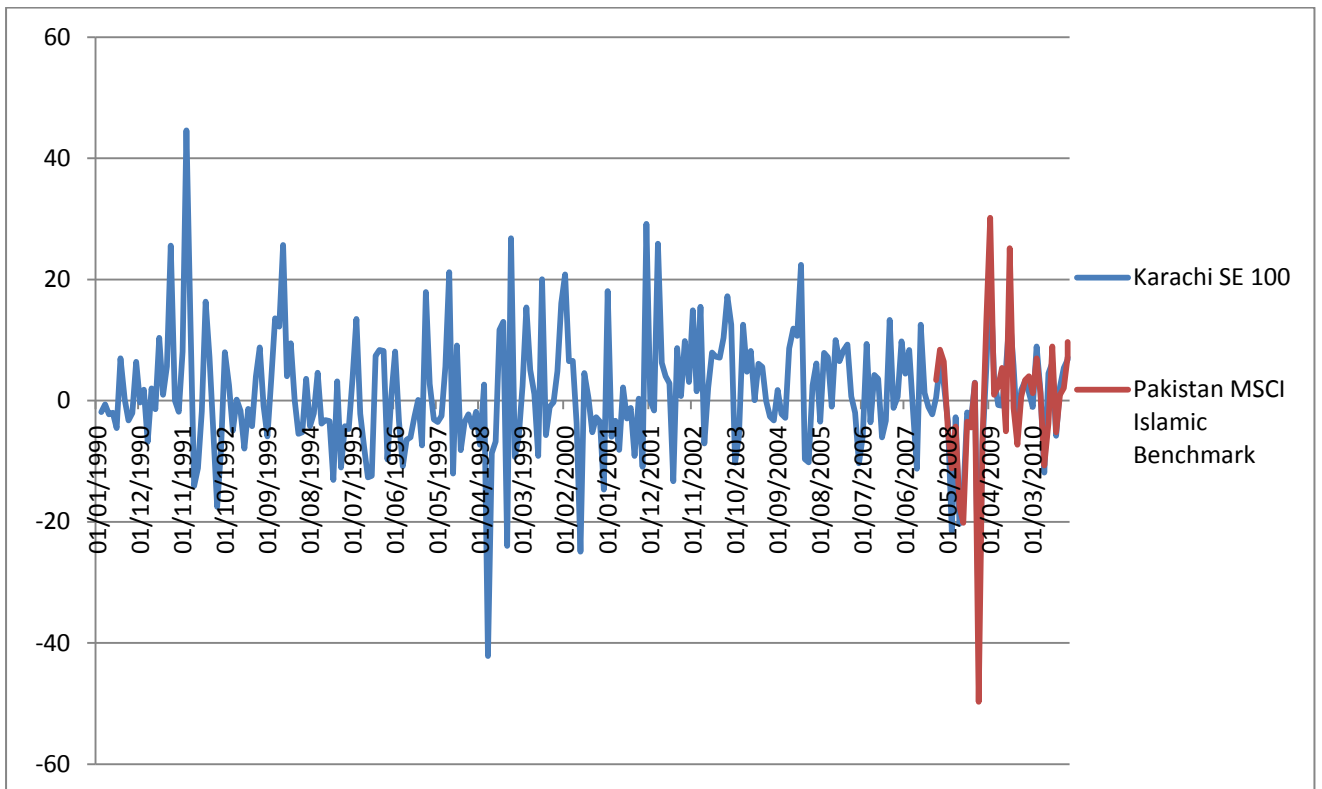
**Figure 6.9. Returns for MSCI Egypt All Share and MSCI Egypt Islamic Indices**



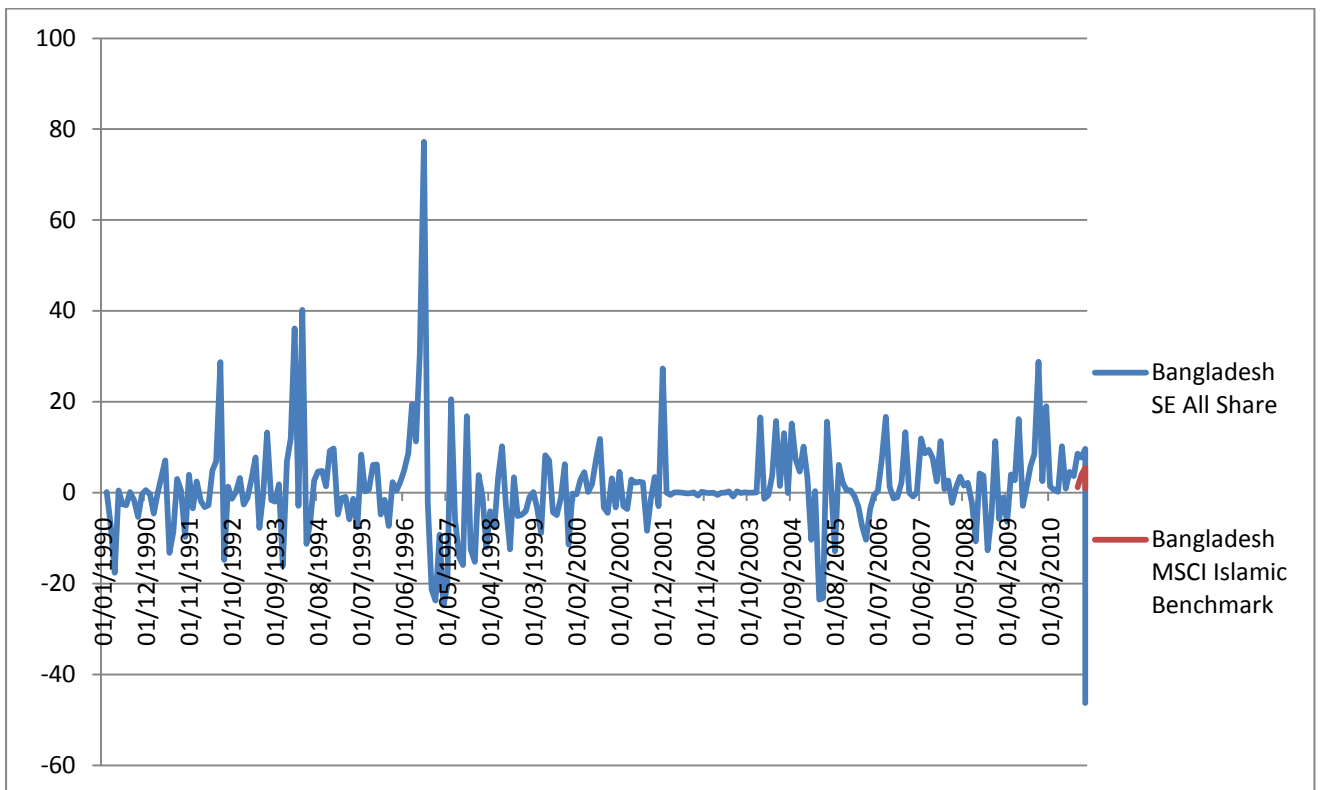
**Figure 6.10. Returns for MSCI Jordan All Share and MSCI Jordan Islamic Indices**



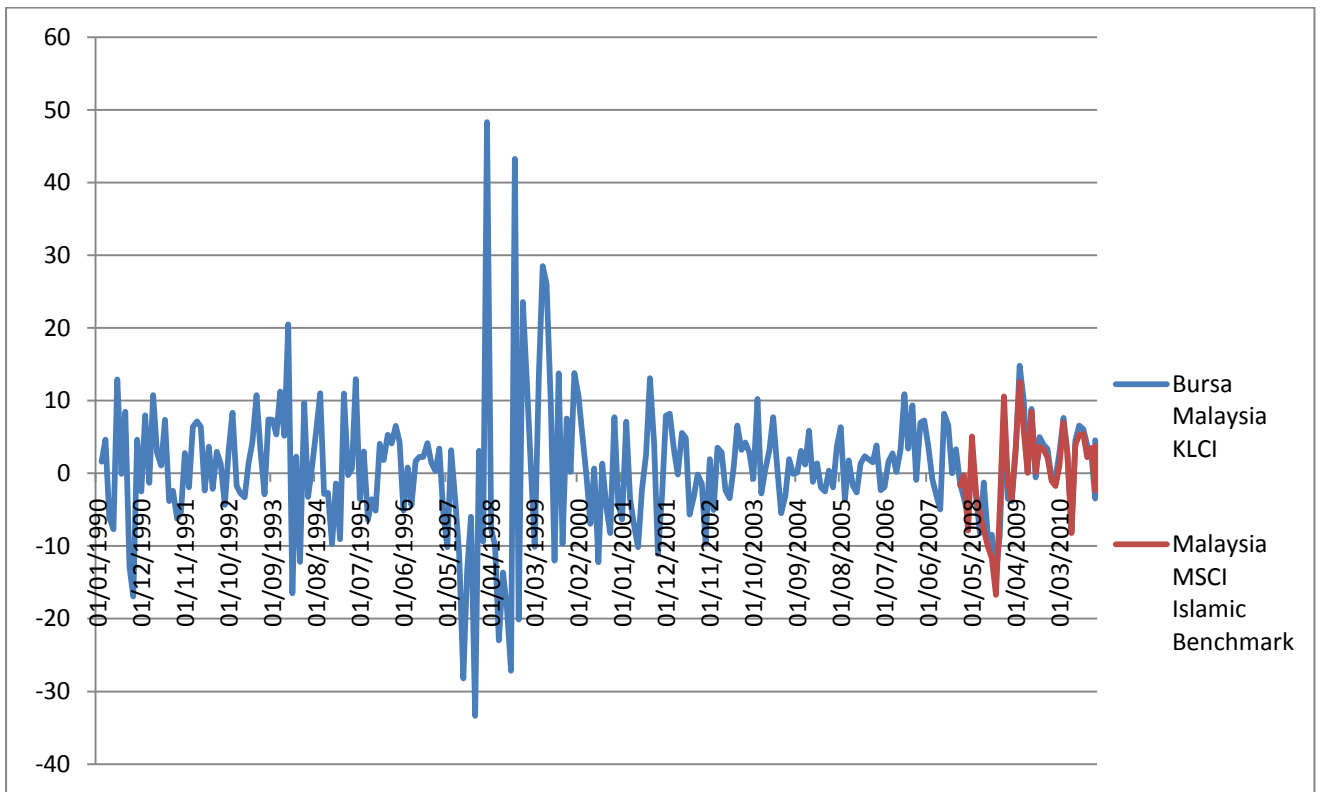
**Figure 6.11. Returns for Karachi SE 100 and MSCI Pakistan Islamic Indices**



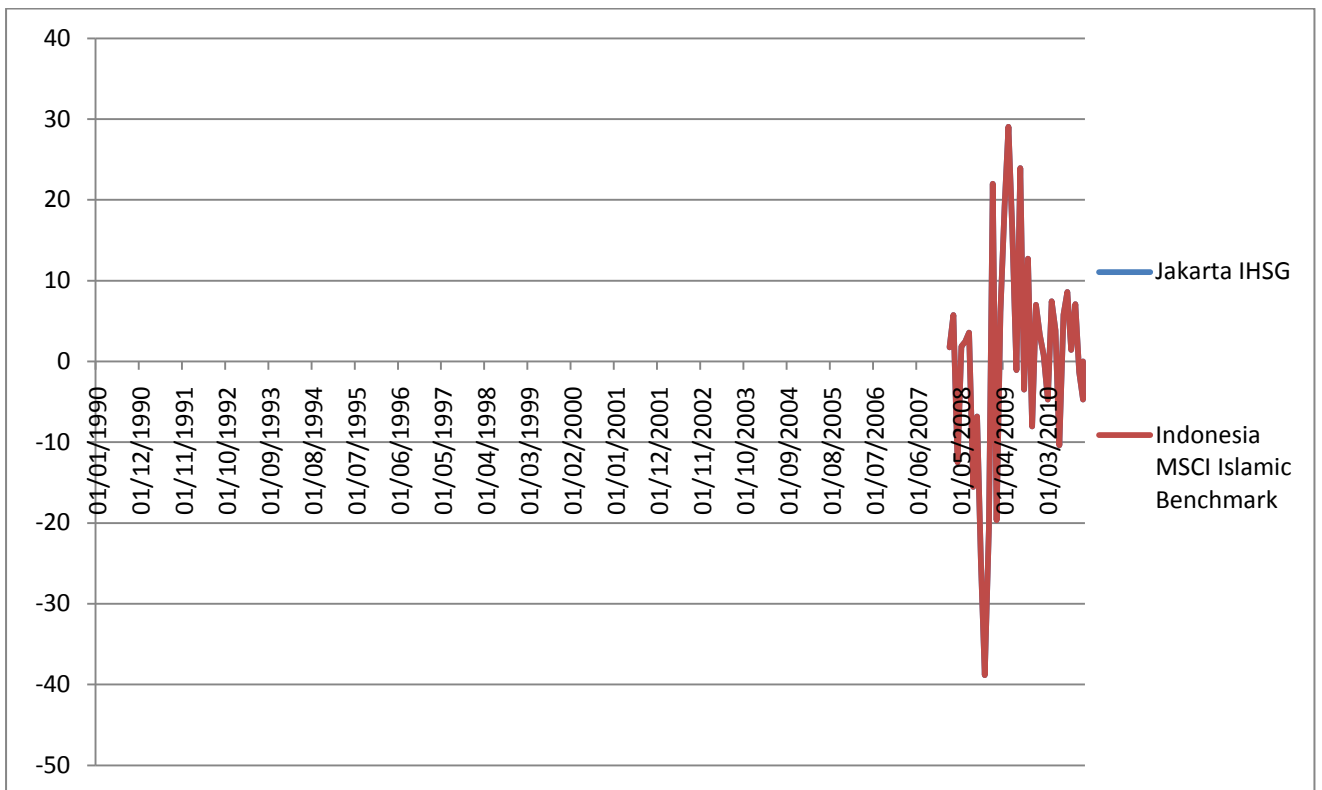
**Figure 6.12. Returns for Bangladesh SE All and MSCI Bangladesh Islamic Indices**



**Figure 6.13. Returns for Bursa Malaysia KLCI and MSCI Malaysia Islamic Indices**



**Figure 6.14. Returns for Jakarta IHSG and MSCI Indonesia Islamic Indices**



For the first part of our analysis, the tables indicate that, introduction of Islamic finance does not have a strengthening effect on the financial markets. In other words, we have not found evidence showing significant improvement on returns, with two exceptions of Istanbul Stock Exchange and Bursa Malaysia KLCI indices. It can thus be argued that Islamic finance can potentially improve the strength and mitigate the volatility of returns in financial markets, if the conditions provided. However, a closer examination of the graphs also indicates that, these two countries have actually suffered significant economic crisis in their recent histories, significantly shifting the historical returns volatility up. The returns seem to be the most volatile during the period of 1998-99 for Bursa Malaysia KLCI and 2001-02 for Istanbul Stock Exchange 100 indices. In reality these, are exactly coinciding with the periods when the home countries of these two indices were suffering from significant macroeconomic crises. Malaysia was suffering from the losses of East Asian crisis in 1998-99, whereas Turkey was suffering from one of the most significant economic crisis of their history in 2001-02.

On the other hand, these two countries also share similar characteristics. First of all, they are among the most advanced of our sample economies in terms of institutionalisation, corporate governance and accounting and disclosure standardization. Malaysia's efforts as the host country of Islamic Financial Services Board (IFSB) and one of the founders of International Islamic Liquidity Management Corporation (IILM) are significant efforts of this country in terms of institutionalization, accounting, disclosure and corporate governance. Likewise, Turkey, probably the most westernized member of our sample has been integrated into the global financial markets following the liberalization efforts in 1980s. Following its open market policy, its financial sector and markets have been developed into considerable maturity. In addition to the well established regulations for accounting principles and disclosure requirements; the strict regulation structure imposed in the wake of the financial crisis of 2001, have helped financial markets and institutions of Turkey to become arguably sounder against economic and financial crisis.

However, our results for UK financial markets have also suggesting weakness in the argument above. Since UK has been far better institutionalised, well established in the financial markets with accounting, disclosure and governance standards of relatively higher quality to any of the other countries in our sample, the increased volatility of UK financial market returns, both conventional and Islamic posits a counter argument to the discussion above.

Examining other countries, the most significant outcome is the high correlation between the returns and returns volatilities of conventional and Islamic indices, which almost suggests mimicking of conventional markets by Islamic markets. Since Islamic finance is, despite its impressive growth in the last decades, still a small branch of the global financial markets, we suggest that Islamic finance investors treat conventional indices as market benchmark for their diversification efforts. As a result, Islamic finance inevitably becomes an integrated branch of global financial markets, rather than the original aspirations of becoming a viable alternative paradigm (Asutay, 2007).

In addition, two of our country analyses provide evidence supporting the findings of Hasan & Dridi (2010) for Islamic banks. Their analysis that Islamic banks survived through the first wave of the global financial crisis relatively easy due to their investment philosophies and the maturity of their markets, but suffered much heavier losses in the second wave due to their over concentration and exposure as well as poor risk management practices, is supported by our findings on Bahrain and United Arab Emirates (UAE). Our results for these two countries

suggest that, in the second wave of the global crisis, in the second half of 2008 and 2009, Islamic financial markets in these countries have suffered heavy losses. More interestingly, while conventional indices remained relatively calm, it was the volatility of Islamic indices which have risen to unforeseen levels, imposing heavy losses for their investors. With Bahrain's reliance on its financial sector, who had suffered heavily during the crisis, and UAE's, especially Dubai's troubles on first their *sukūk* market, then in their real estate sector are the main reasons for this low performance of returns and increased volatility (Hasan & Dridi, 2010).

AS a result of the discussion and analysis above, our results indicate that Islamic finance, despite its impressive growth performance, is still a small branch of global financial markets, forcing its investors to rely on conventional, broader indices as benchmarks for performance and diversification. Our results also indicate that, despite the efforts on standardization, regulation and governance improvements and implementation of sophisticated risk management techniques, Islamic finance still has a long way improve n these areas. And finally, Islamic finance, despite its claims to be a viable alternative paradigm, is still bound by the macro conditions of the countries it is operating in and global economy.



#### **4.2. Does Islamic Finance Has Better Ties to the Real Economy?**

In the second stage of the analysis this papers tries to address the strength of the links between financial markets, in particular Islamic finance markets and the real economy. We have employed the returns of the financial markets, both conventional and Islamic and contrasted them to the GDP growth of the home economy as an indicator of the aforementioned link. The main question this stage attempts to answer, is whether Islamic finance helps the real economy to perform better? Moreover, we also progress a step further and question the ability of Islamic finance answering the requirements of real economy in comparison to the means of conventional finance. Asutay (2007) argues, the main aspirations of Islamic finance were to achieve an alternative economic paradigm, which requires risk sharing, entrepreneurship, stimulation of economic growth, and prosperity. As a result, this section also questions the divergence of Islamic finance from the aspirations of its founding fathers.

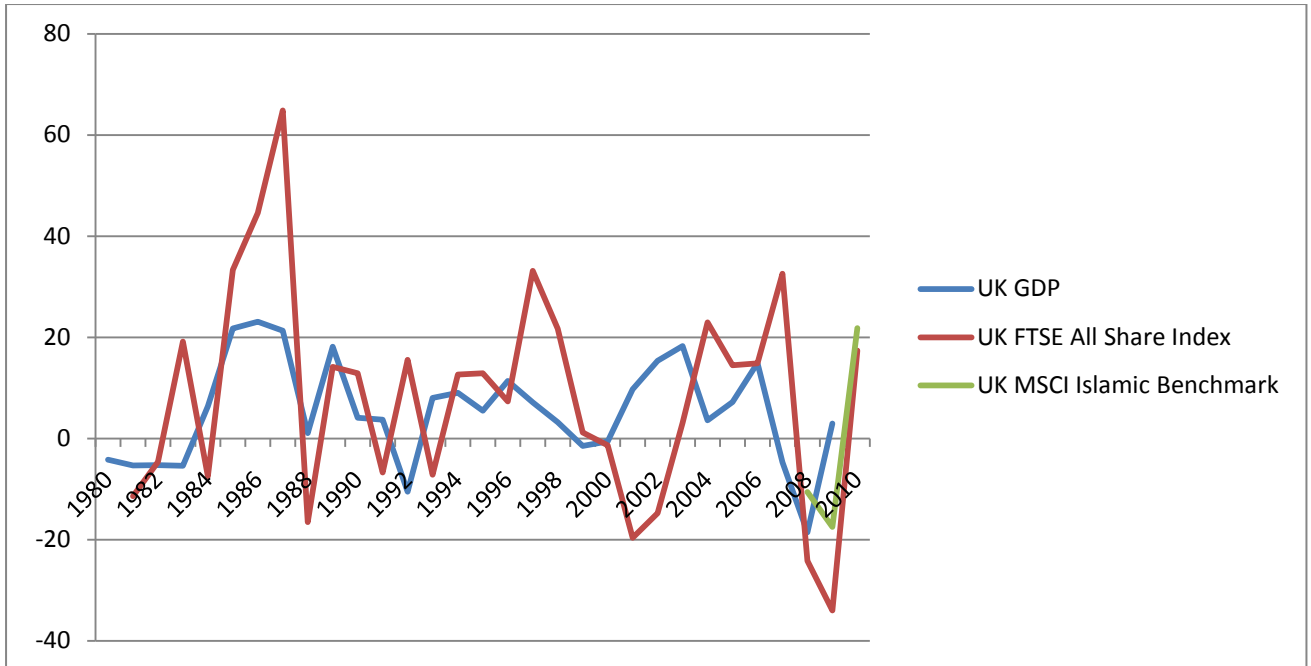
In addition to this examination of the moral foundations, this section also follows a simple logic. As discussed above, Islamic finance is a new intermediate between a significant number of Muslim investors, who were originally and willingly sidelined in the conventional financial system, because of their moral and religious concerns and reservations. As a result, by answering these concerns and reservation, it can be assumed that, these new investors and their additional funding to the system should stimulate economic growth, productivity and efficiency. In addition, since the moral background of Islamic finance is particularly emphasising economic growth and development, it can also be assumed that development of Islamic finance provides an extra boost to the growth and development efforts in the real economy.

However, our results, presented below in Figure 7, provide evidence that are in direct contradiction of this logic, and shows a much higher correlation between the financial markets, conventional and Islamic; but at the same time a reduced connection to the real economy.

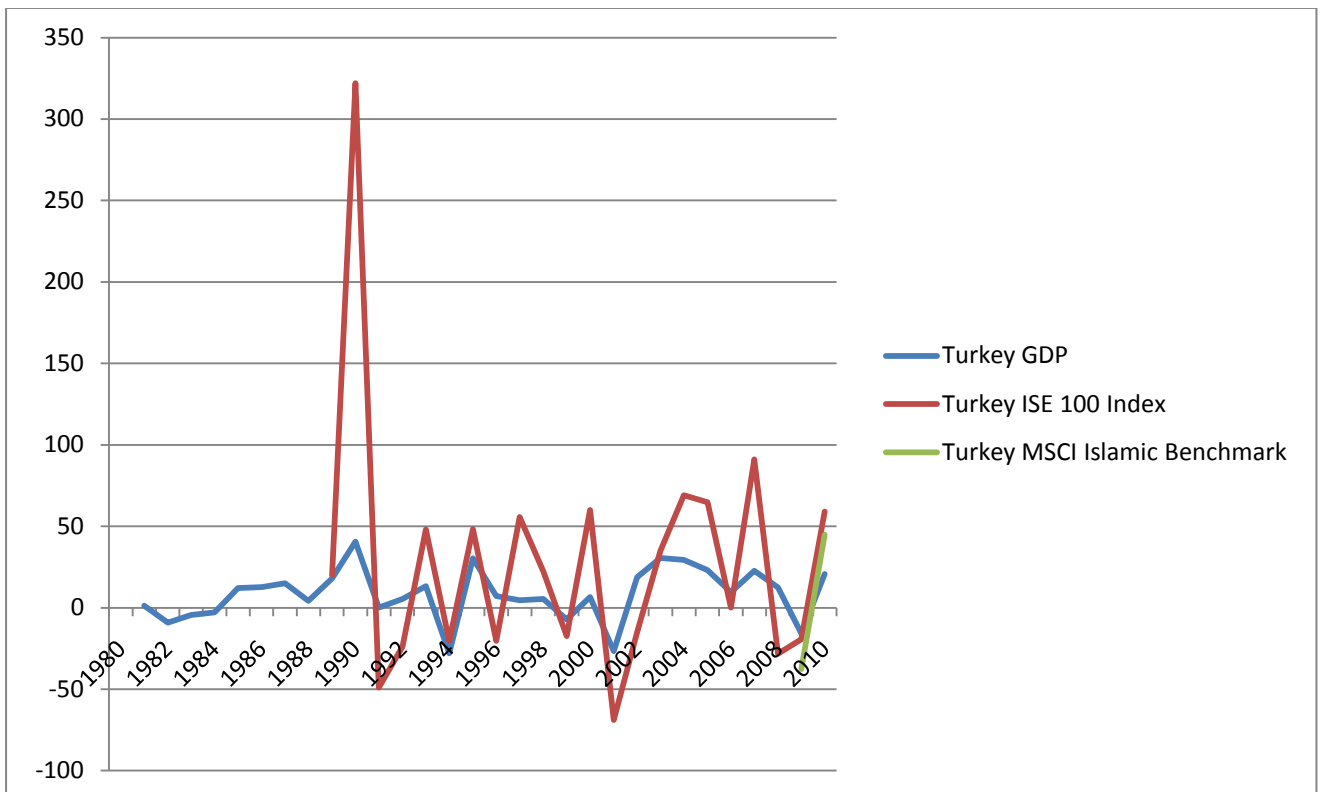
In short, our findings can be summarised as follows: First, the initial performance of Islamic financial markets, signified by the returns of the MSCI Islamic benchmark indices are all impressive. This suggest a requirement to Islamic finance as whole in the broader economy and within investors. This can also imply the hypothesis of additional capital inducing into the global economic system is correct.

**Figure 7. Volatilities in Economies. 1980-2010**

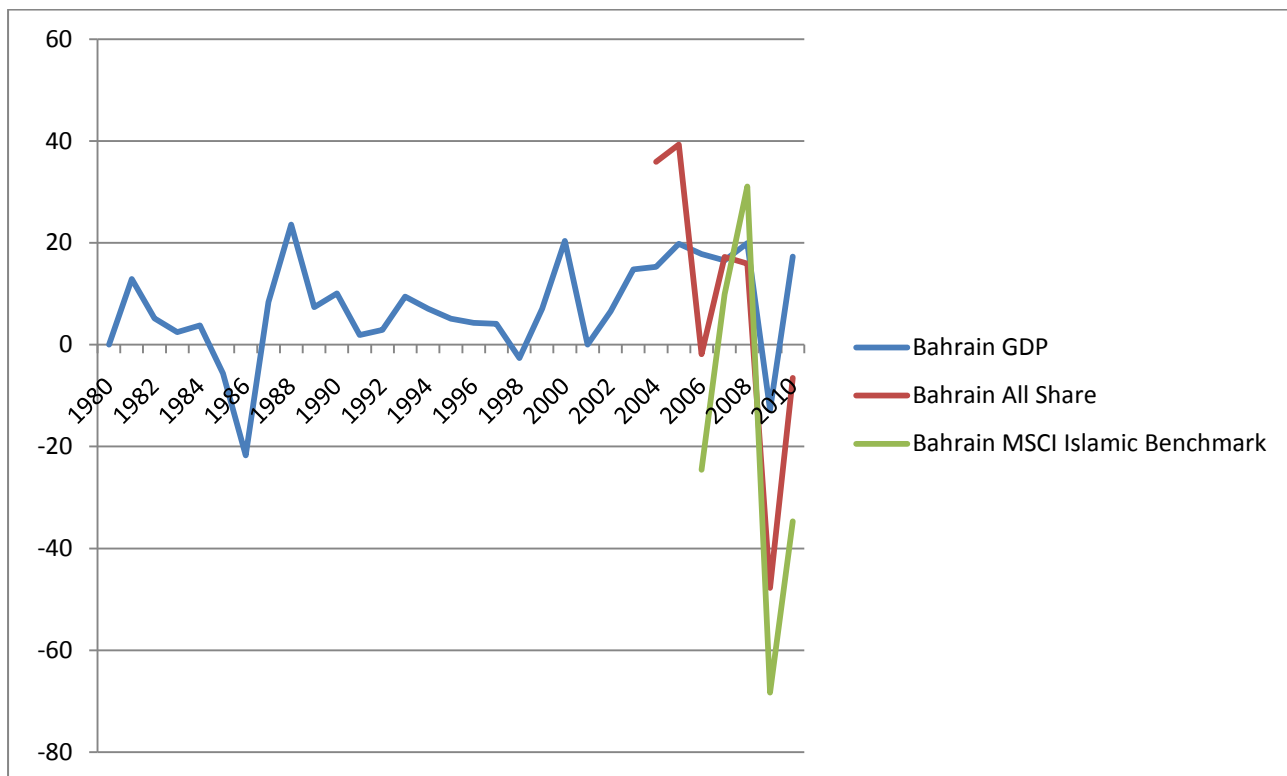
**Figure 7.1. Volatilities in UK**



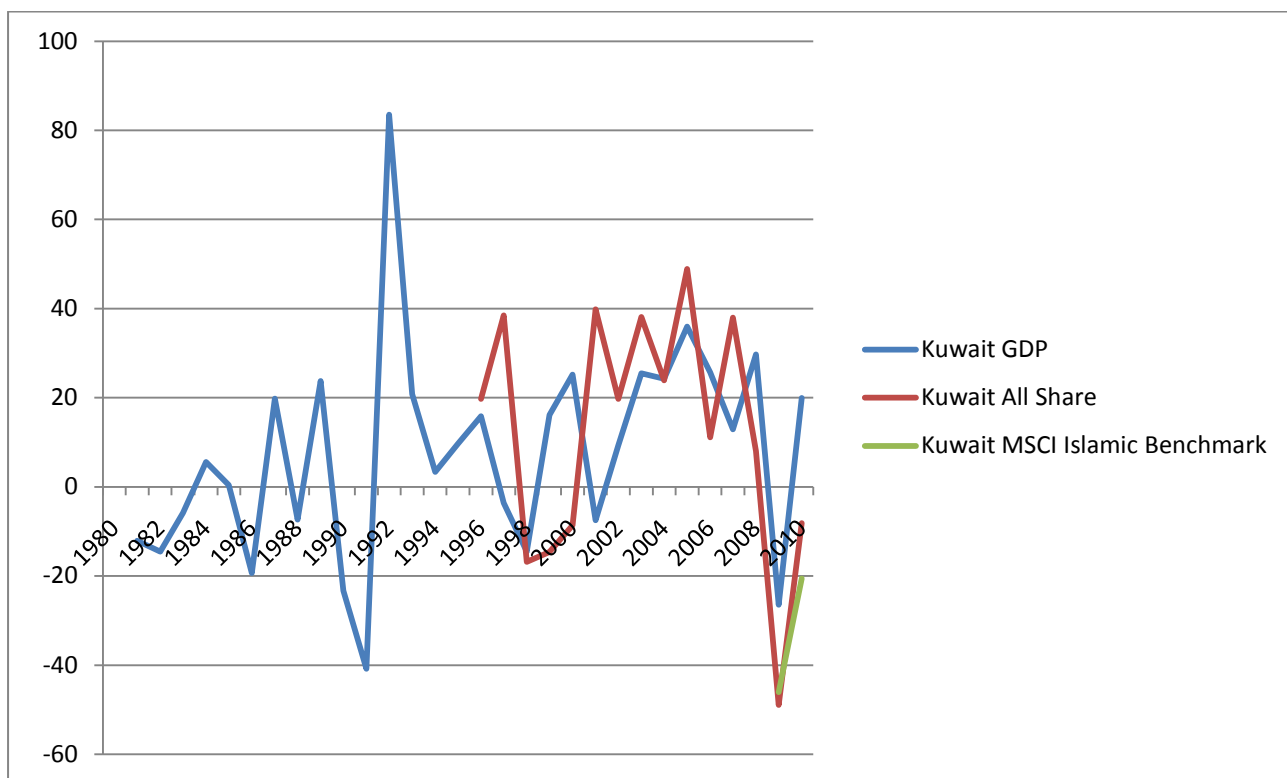
**Figure 7.2. Volatilities in Turkey**



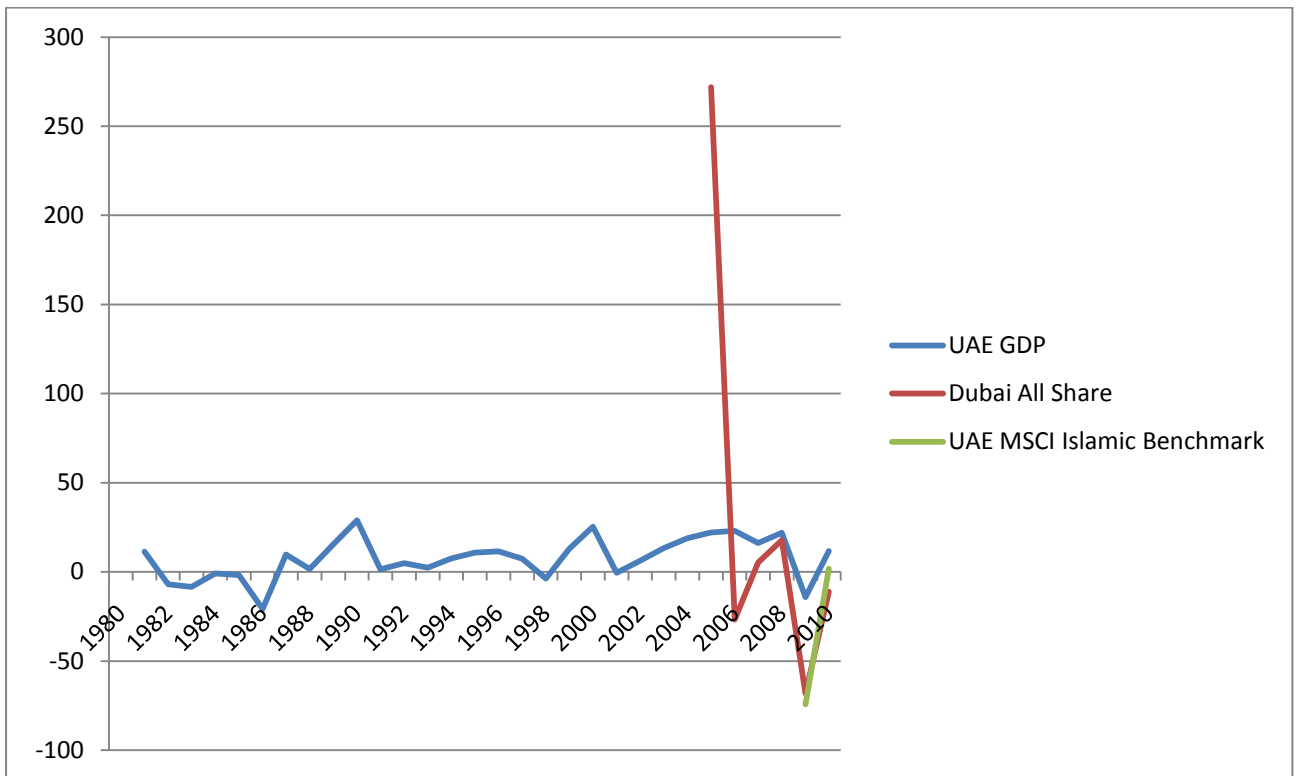
**Figure 7.3. Volatilities in Bahrain**



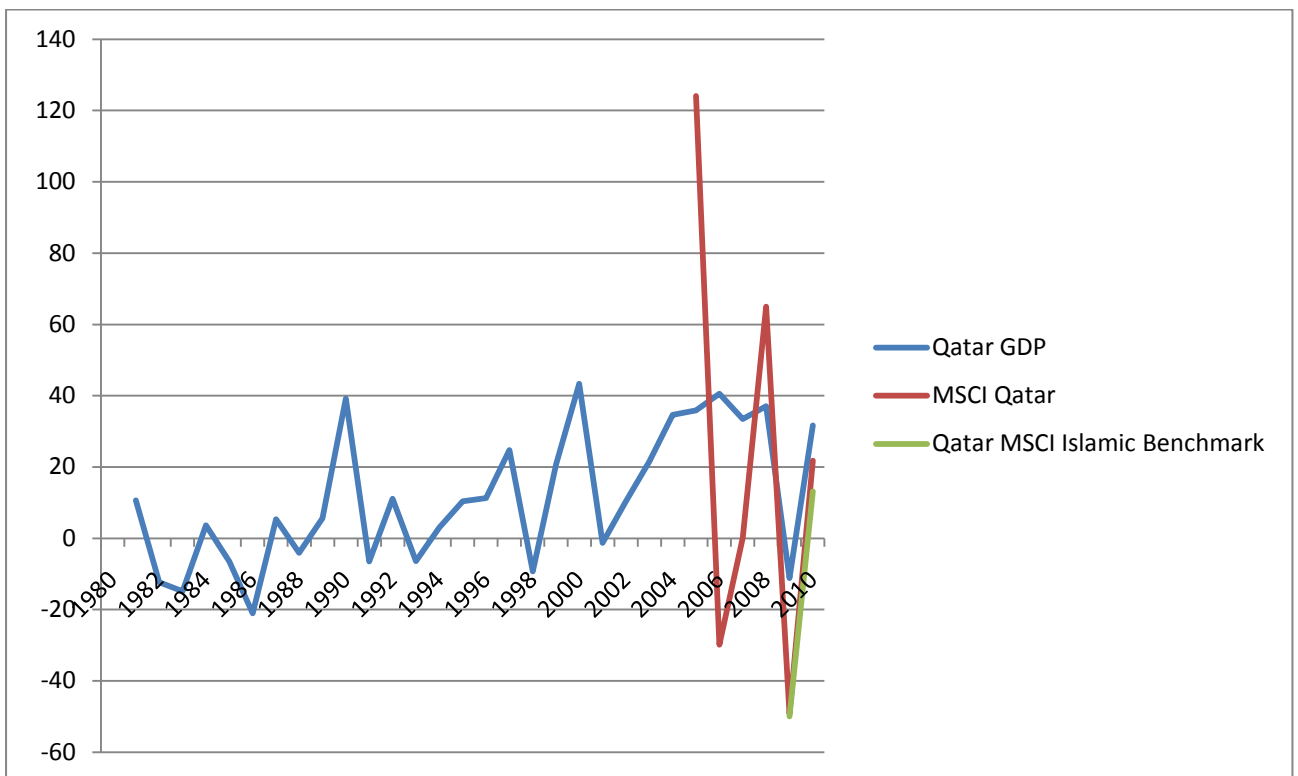
**Figure 7.4. Volatilities in Kuwait**



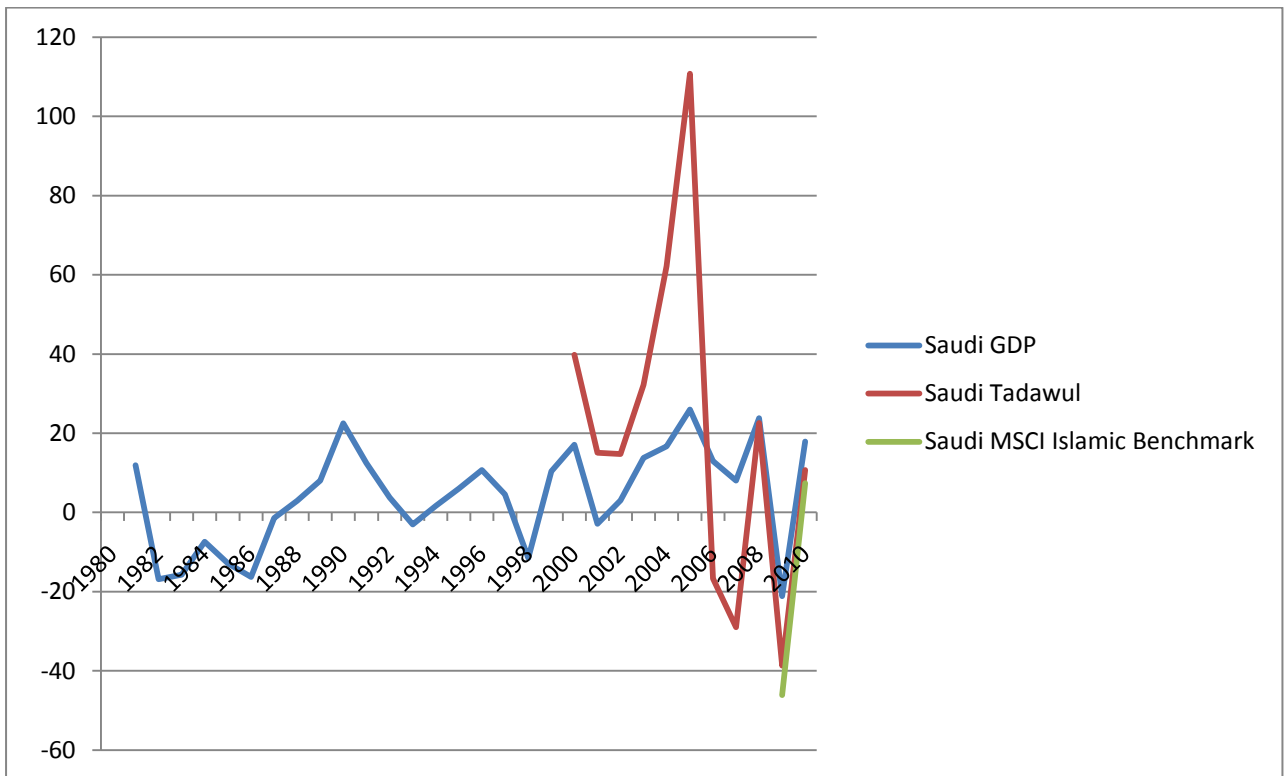
**Figure 7.5. Volatilities in UAE**



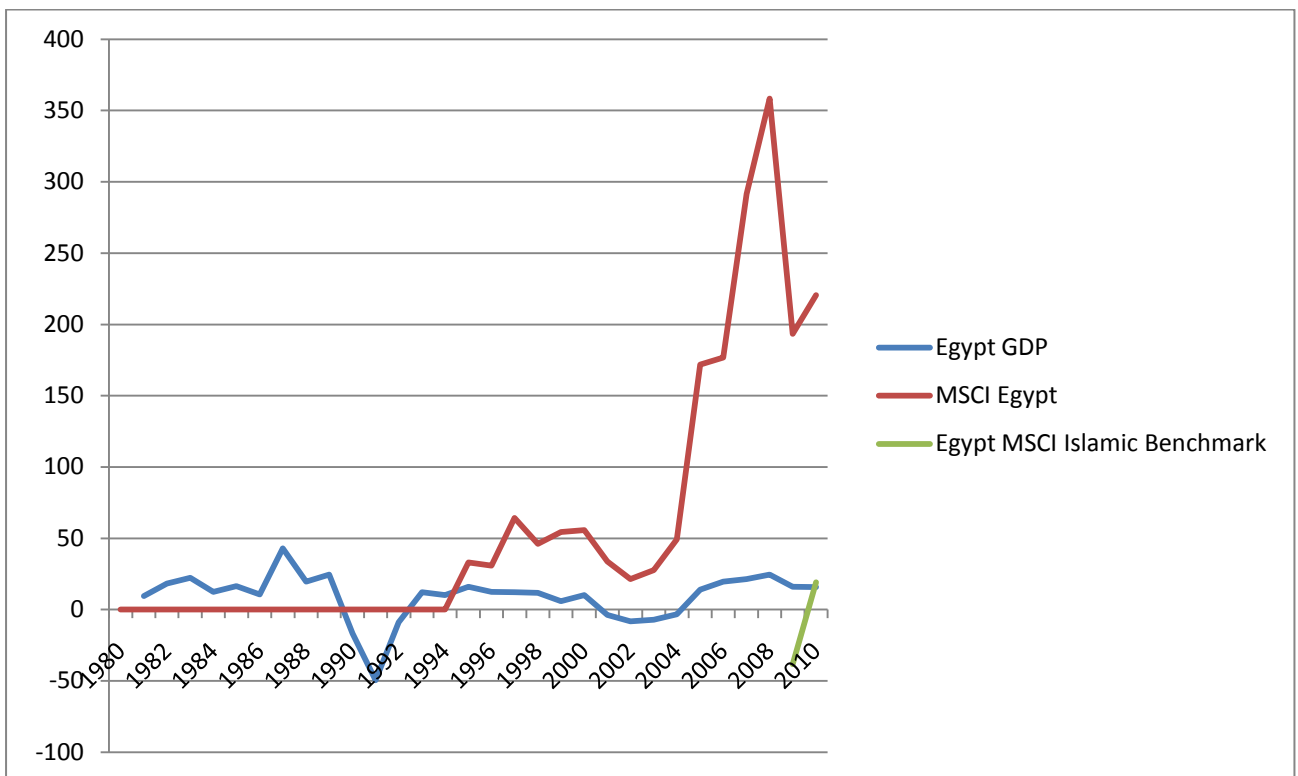
**Figure 7.6. Volatilities in Qatar**



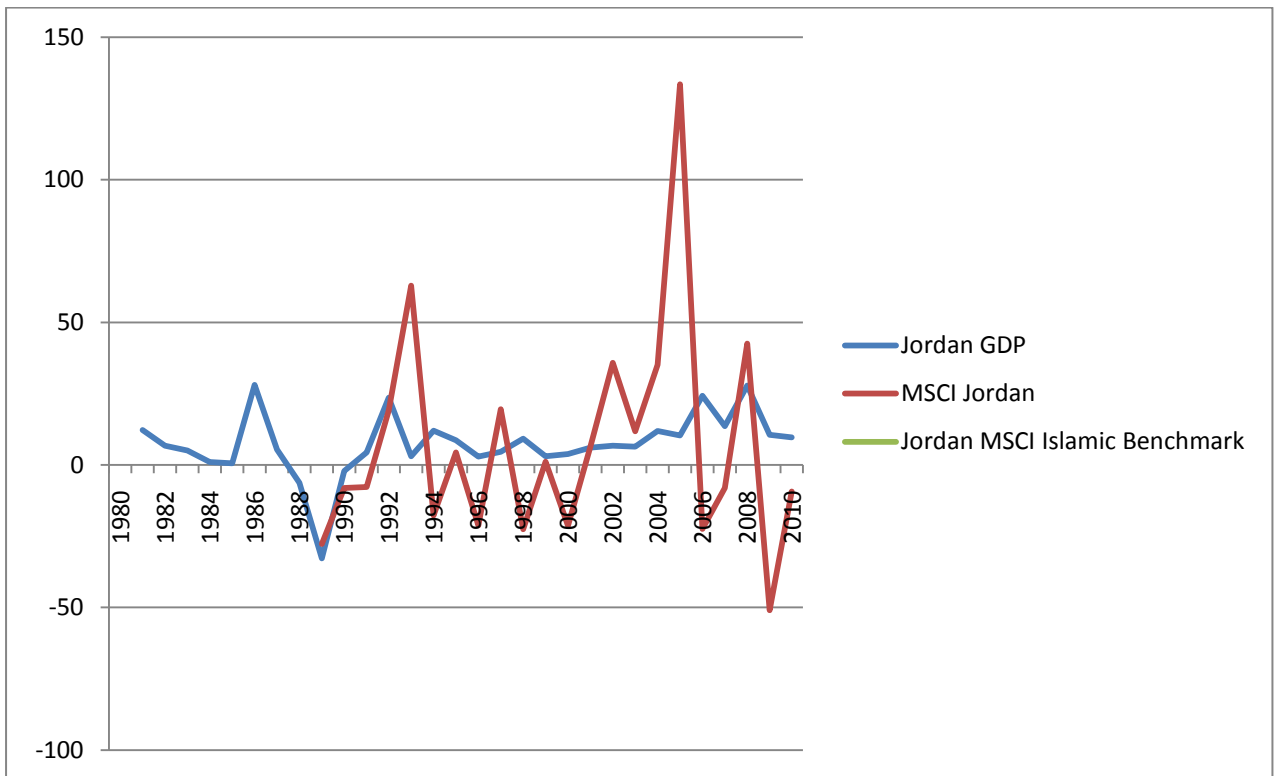
**Figure 7.7. Volatilities in Saudi Arabia**



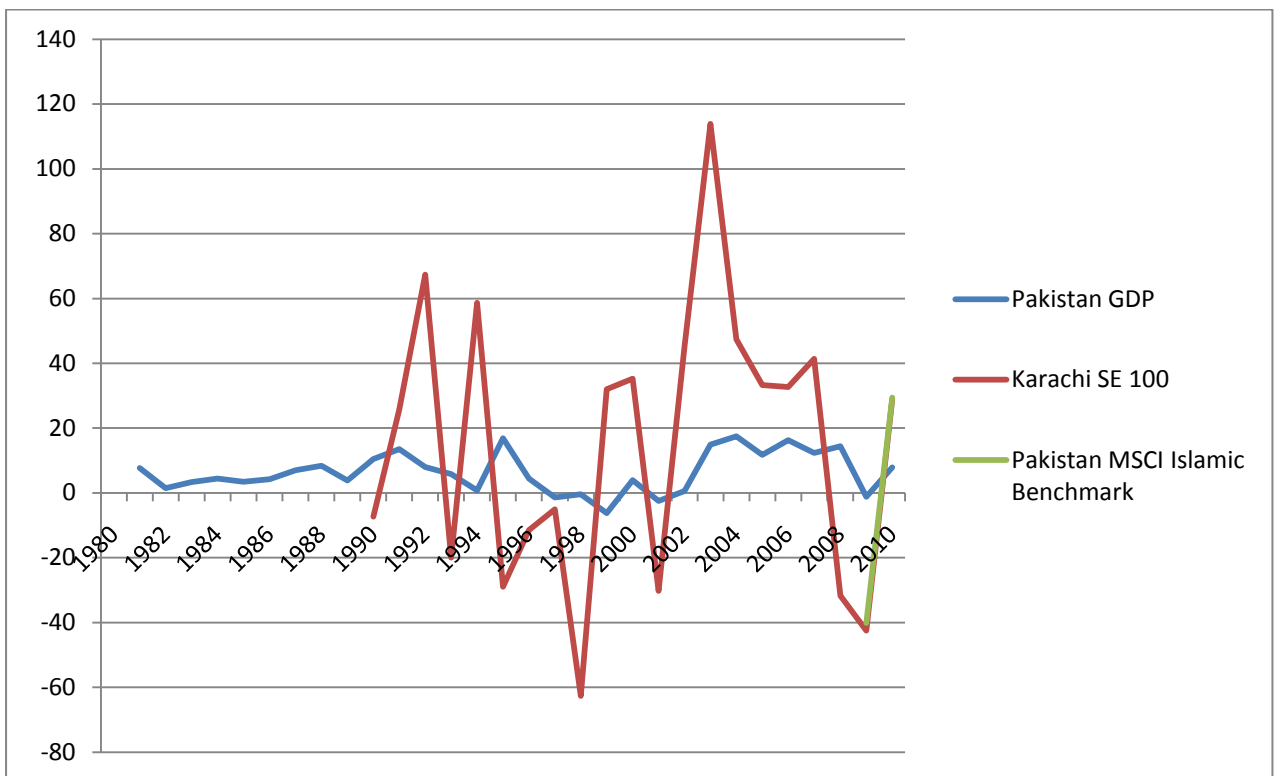
**Figure 7.8. Volatilities in Egypt**



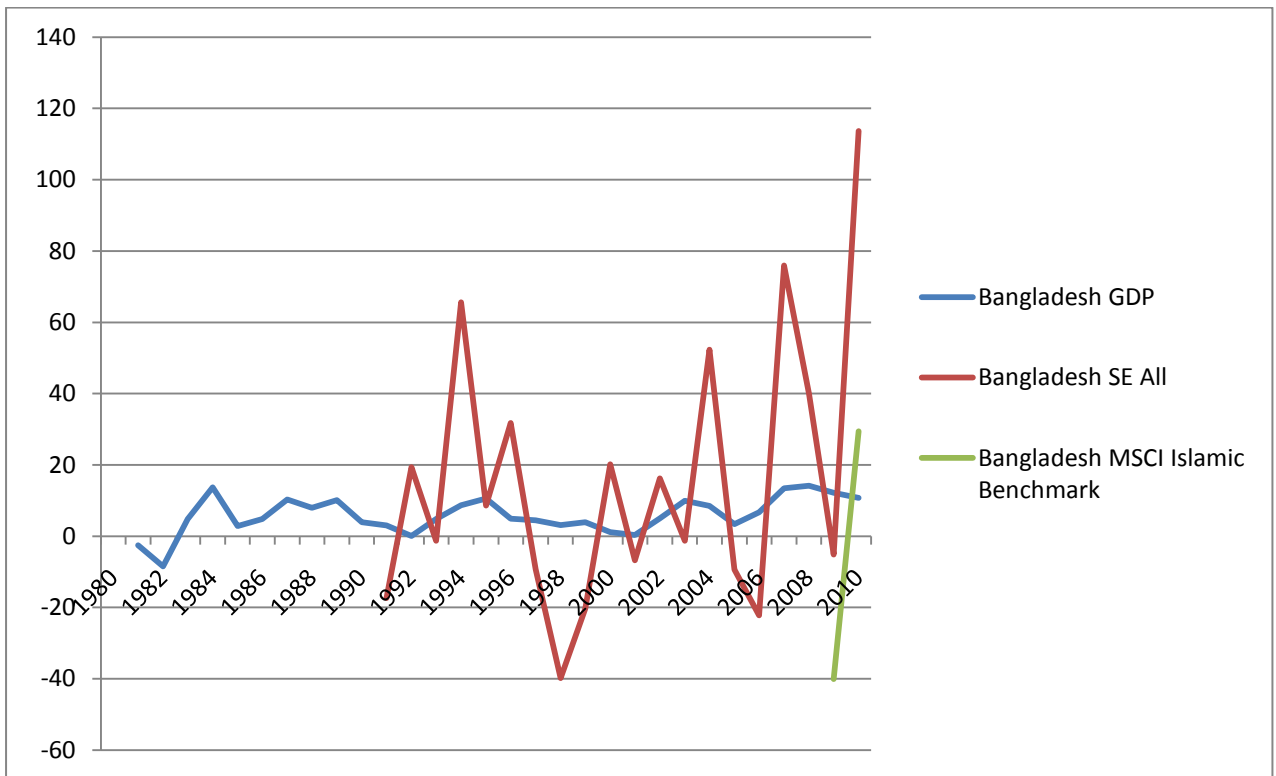
**Figure 7.9. Volatilities in Jordan**



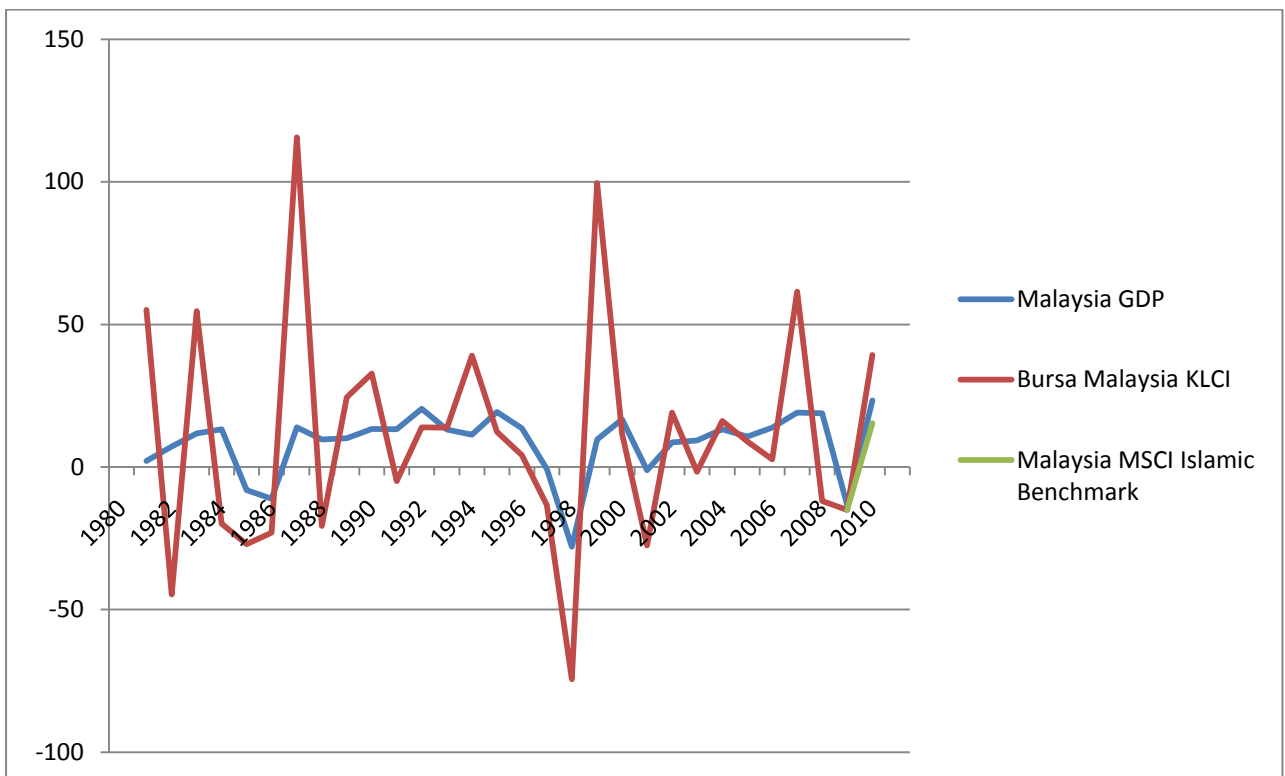
**Figure 7.10. Volatilities in Pakistan**



**Figure 7.11. Volatilities in Bangladesh**



**Figure 7.12. Volatilities in Malaysia**



However, further analysis unfortunately supports the idea of divergence from the original and intended purpose and ideals. It is a very common aspect of the economies and financial markets investigated in this study that the correlation between the conventional markets and Islamic financial markets are much higher in comparison to the relation between Islamic financial markets and the real economy. As discussed in the previous section, the mimicking of conventional finance is to the very extreme. This can be a result of the size disadvantages of Islamic finance, as well the tendency of Islamic finance investors to use the conventional markets as a benchmark for their diversification, and thus risk management purposes. While this can be protective in the times of bull markets, this kind of investment strategies can also be counter-productive and pro-cyclical in times of crisis (as suggested by Rajan (2005)). This is further supported by the findings that in almost every country in our sample, the volatility of financial market indices, both conventional and Islamic, is seen to be excessive of the volatility of the real economy.

A further evidence for the mentioned pro-cyclicality can be the common aspect of the economies and financial markets investigated. As can be seen in Figures 7.1 to 7.12; the relation between the financial markets and the real economy distinguishes at its highest level, immediately before a crash and a sudden decline in the performances of the financial markets.

As a result, our findings provide evidence that, there was a strong need for Islamic finance, and it was welcome warmly by Muslim investors throughout the world. On the other hand, after this initial welcoming response, it can be suggested that Islamic finance has moved into being an integral part of the financial system, rather than producing its own viable alternative to the weaknesses of the current global economic and financial system.



### **4.3. Does Islamic Finance Contribute to the Economic Development and Growth?**

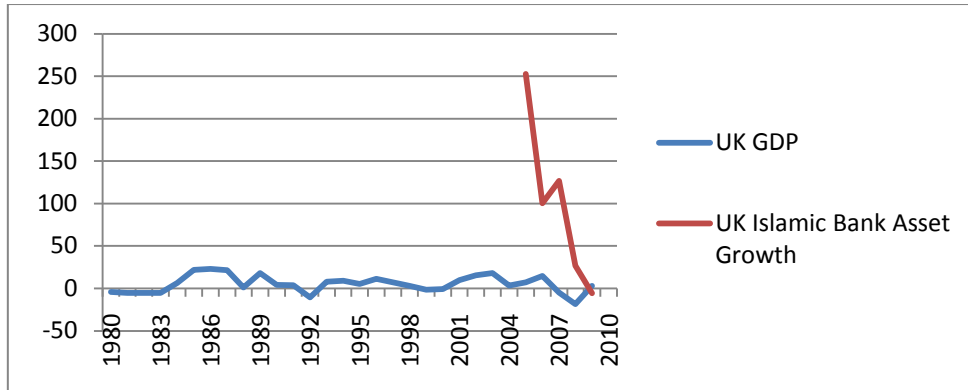
In the last stage of our three-fold analysis, we examine the direct relation between Islamic finance, in particular Islamic banking and economic growth and development. In order to examine this relationship, we have contrasted the GDP growth of the economies which host a substantial Islamic banking industry. Similar to the discussion above, the hypothesis to be tested is the potential input and boost of Islamic finance in the performance of real economy.

Our results presented below in Figure 8, shows the relationship between the growth of Islamic Banks' asset bases in an economy and the real economic growth, proxied here by GDP growth. Similar to our results above, these results also suggest a warm welcome for Islamic banks and a sudden a string initial growth, which settles into more modest levels, in most of the cases coupled by a sudden drop in the total assets of the Islamic banks, once the industry matures.

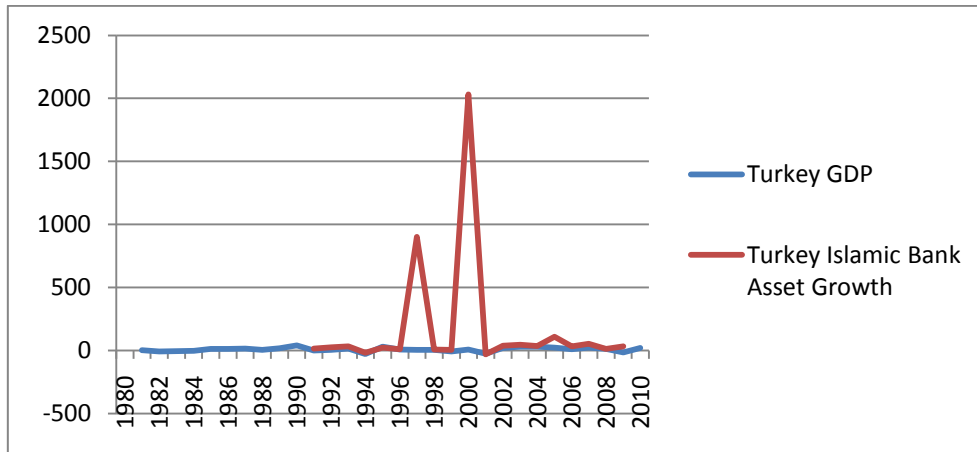
The correlation to the real economy also diminishes once the industry matures as well. With the notable exceptions of Egypt, Jordan and to an extent Malaysia, in all sample countries, the growth of Islamic banks far exceeds the performance of the real economy. However, one interesting feature our tables suggest is the timing of this divergence. In most of our countries, the growth levels of Islamic bank assets far exceed the growth of the real economy immediately before an economic crisis. Almost all of our sample countries seem to have suffered from a speculative growth, in other words an assets bubble. This suggests the speculative nature of this growth in Islamic banks' asset basis. However, it should also be noted that, this feature is not limited to the characteristics of Islamic finance only. In a very important study, Reinhart and Rogoff (2008) examine a long series of economic and financial crises through the last three centuries and argue that a speculative growth in financial sector assets which has decoupled from the real economy is one of the most important characteristics of a coming economic crisis. As a result, we can conclude that, our results in this third stage of our study also provide evidence supporting the findings of the previous sections.

**Figure 8. GDP and Islamic Bank Assets, 1990-2010**

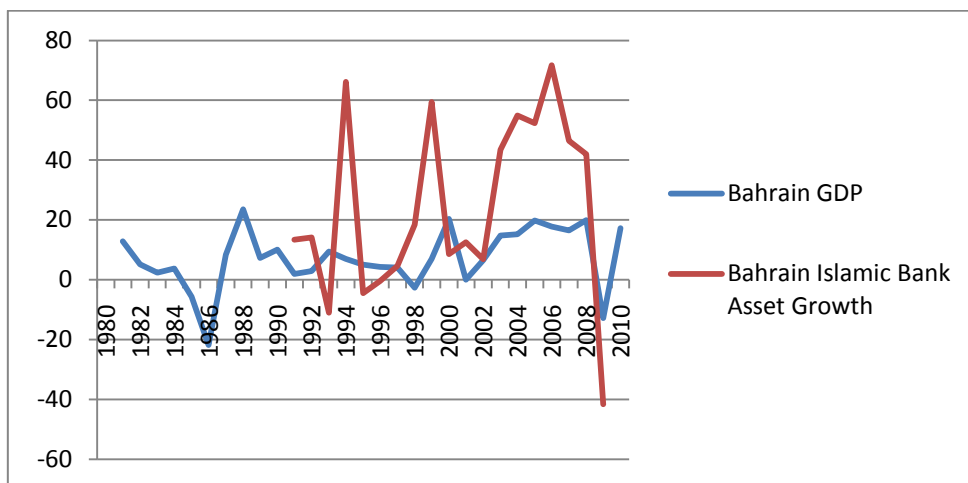
**Figure 8.1. United Kingdom**



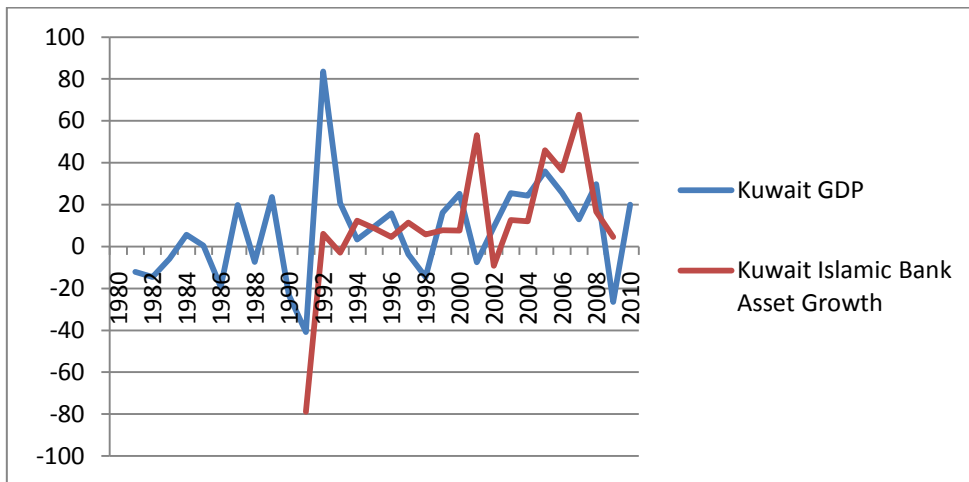
**Figure 8.2. Turkey**



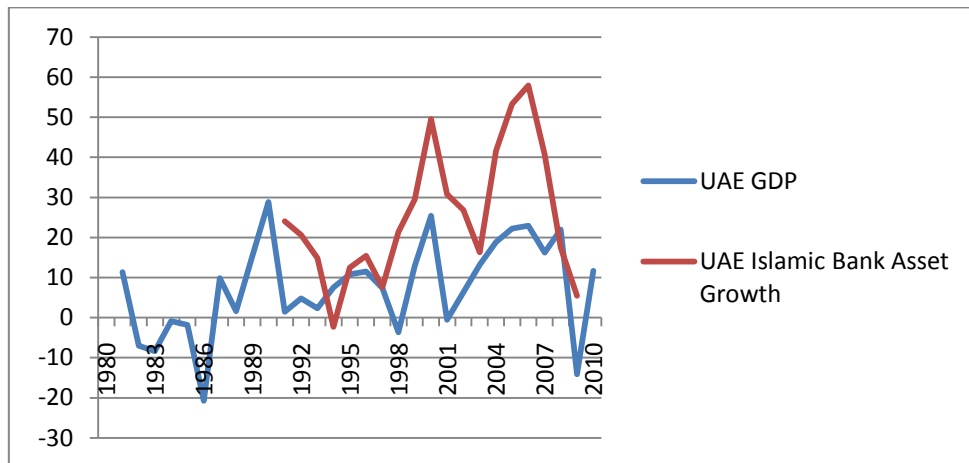
**Figure 8.3. Bahrain**



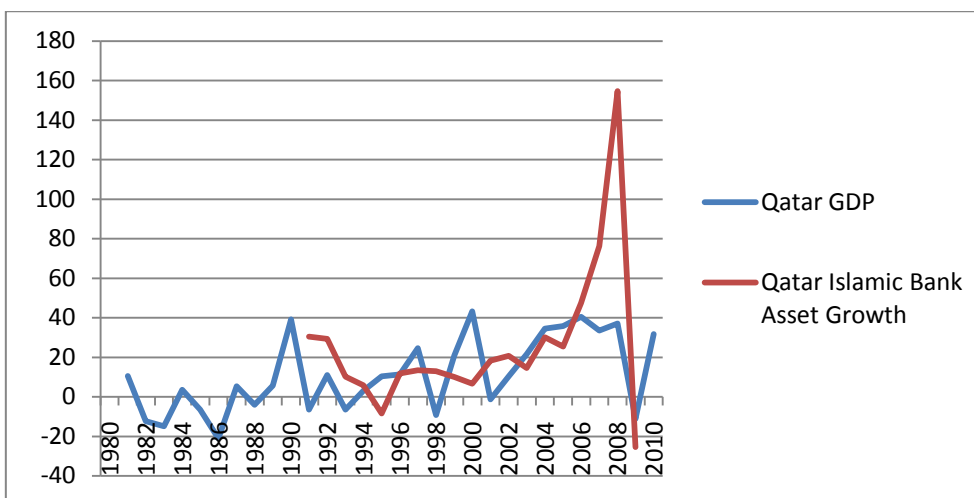
**Figure 8.4. Kuwait**



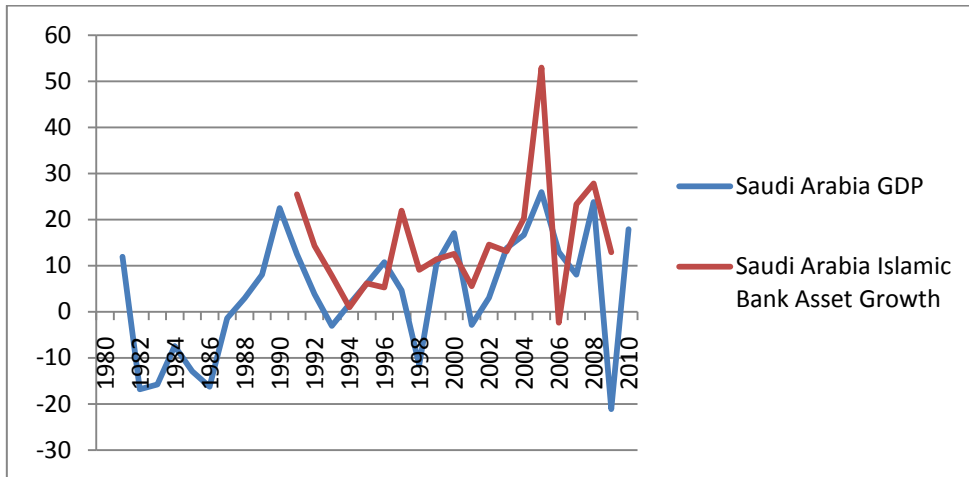
**Figure 8.5. UAE**



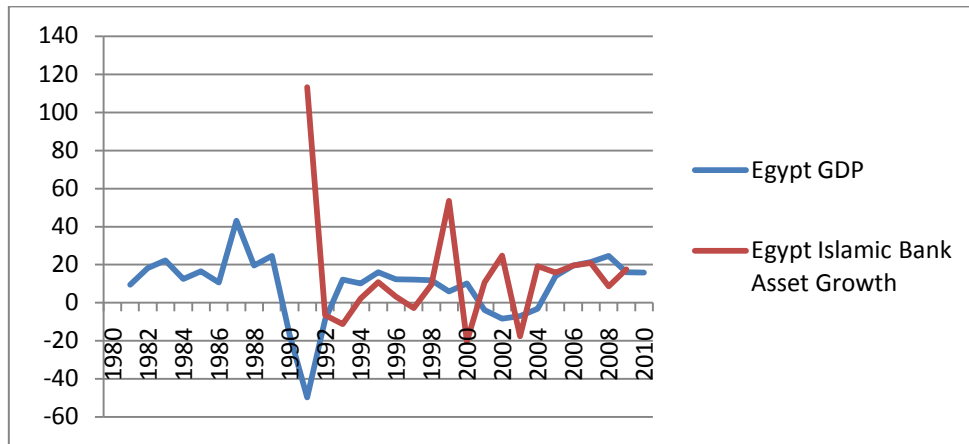
**Figure 8.6. Qatar**



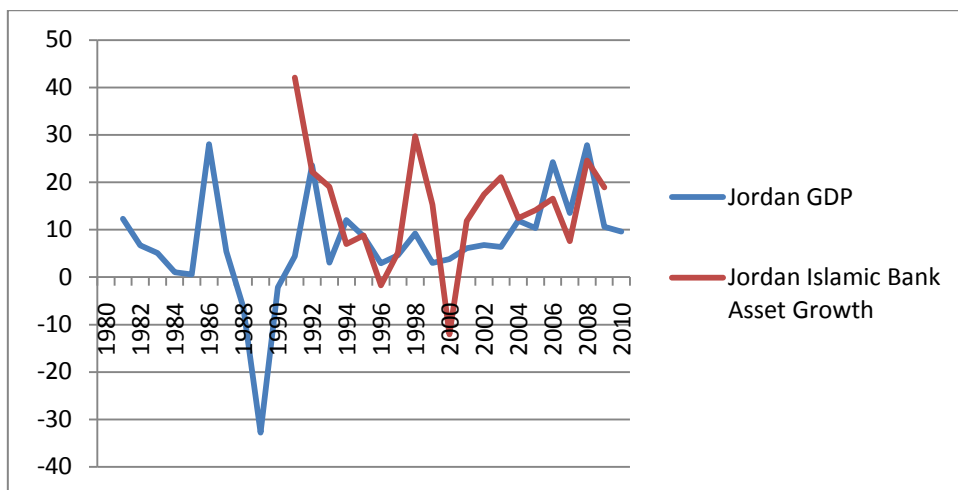
**Figure 8.7. Saudi Arabia**



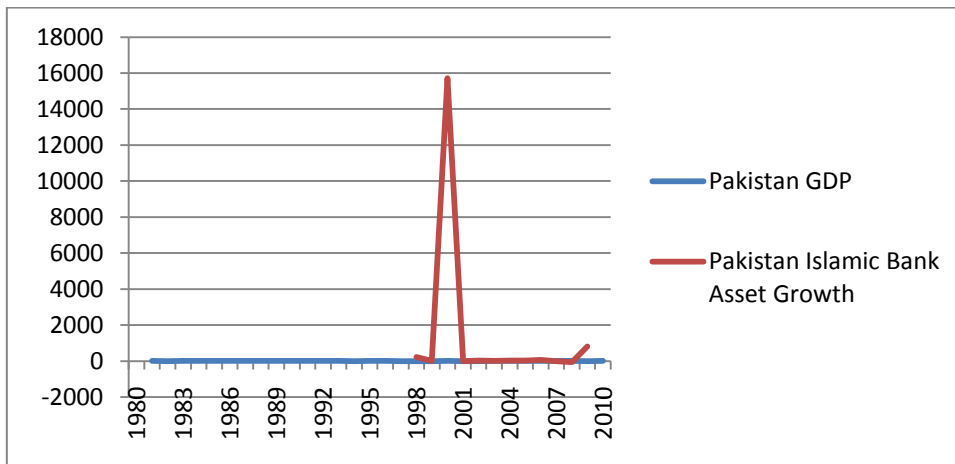
**Figure 8.8. Egypt**



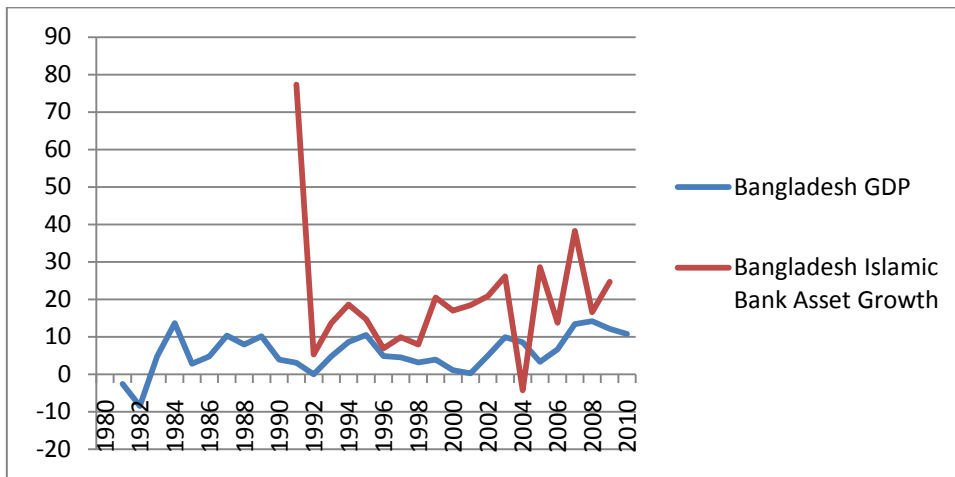
**Figure 8.9. Jordan**



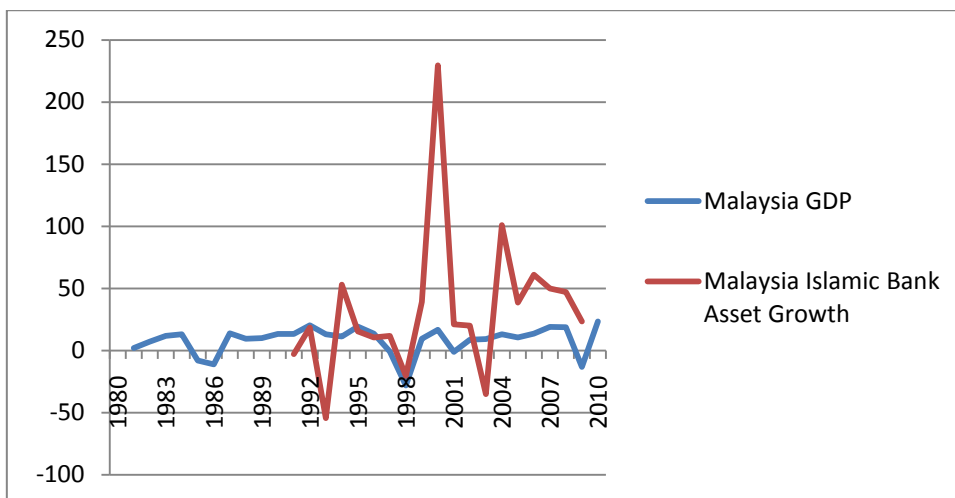
**Figure 8.10. Pakistan**

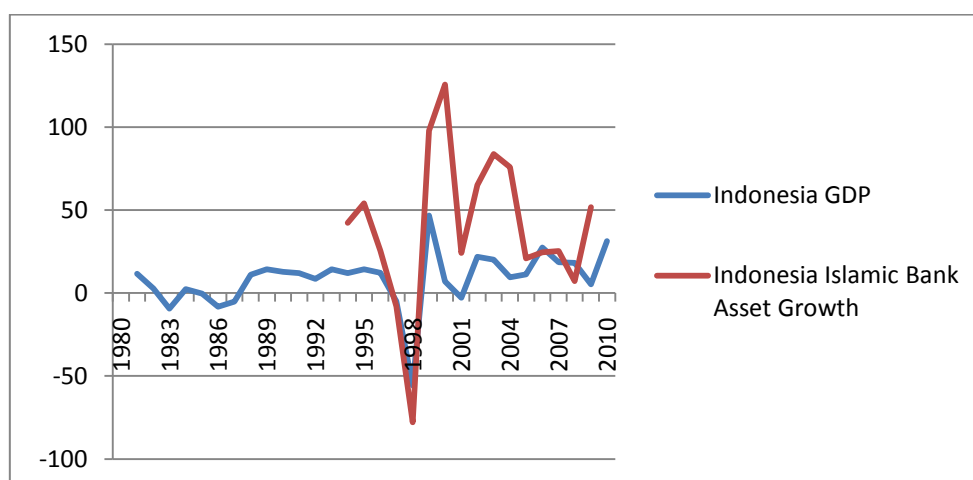


**Figure 8.11. Bangladesh**



**Figure 8.12. Malaysia**



**Figure 8.13. Indonesia**

### Concluding Remarks

Technological and methodological improvements and innovations, market liberalization, and institutional and regulatory changes have all combined leading to significant changes in the global economic and financial landscape, in particular expanding access to credit, external funding, diversification and risk sharing opportunities. Furthermore, with the ever increasing impact of globalization, both goods and financial markets are increasingly interlinked across the world; and thus no country can remain immune from the consequences of these changes.

In the wake of these recent developments, Islamic finance has become one of the fastest growing branches of global financial system, becoming systemically important in many markets and too big to ignore in others. With theoretical background emphasising risk sharing, equity-based contracts, entrepreneurship, prudence, economic growth and prosperity, Islamic finance has received a warm welcome not only from Muslim investors, but also from the broader financial system as well. As conventional financial intermediation is largely debt-based and allows for risk transfer, allowing speculation; Islamic intermediation with its theoretical foundations is asset-based, and centres on risk sharing. As a result, one can assume Islamic finance being immune to speculation and financial asset bubbles, much more risk-averse and much more closely linked to the real economy than the conventional financial system can achieve. Under these assumptions, it could be safe to say, Islamic finance could provide viable alternative investment strategies, while at the same time becoming an integrated part of the global economic and financial system.

However, our analysis in this study provides evidence of a performance distinct from these original aspirations and theoretical background. Our analysis indicate that Islamic finance has become not only a part, but also a very close follower of the conventional financial markets, leading way to asset bubbles, speculation, and divergence from the real economy. These results also imply that, Islamic finance, despite its strong ethical and moral foundations, is still prone to the most important weakness of the conventional finance; information asymmetry and principal-agent problem, in other words, incentives, governance and regulation.

As this study has defined Islamic finance itself as a financial innovation, in the light of the results above, it should be assumed that Islamic finance in its current form cannot provide a panacea to the weaknesses of the global economical and financial system. In addition, the current crisis has proven that financial managers use financial asymmetry through the means of the new complex financial innovations, and make profits at the expense of the real investors and general public. Ethics and morality aside, there is no solid evidence that Islamic finance can be immune to this problem. As a result, while the current crisis has given Islamic finance to prove its resilience, it also highlights important challenges,

In order to address these challenges and progress beyond, and in order to achieve the original aspirations of Islamic economics, our initial attempt to investigate the links between Islamic finance and real economies should be delved further. At the same time the supervisory and regulatory infrastructure should address the information asymmetry, principal-agent conflicts and moral hazard issues, as well as liquidity resolution and risk management practices in tandem with the other regulatory efforts in the global economic system. Its contributions in these efforts will determine whether Islamic finance can ever provide alternative solutions to the weaknesses of the conventional economic and financial system.

## 5. REFERENCES

Agarwal, V., Daniel, N. D. and Naik, N. Y. (2004), "Flows, Performance, and Managerial Incentives in Hedge Funds," EFA 2003 Annual Conference Paper No. 501.

Allen, F., Morris, S. and Shin, H. S. (2004), "Beauty Contests and Iterated Expectations in Asset Markets", London School of Economics Working Paper.

Archer, S., and Abdel Karim, A. (2002), "Islamic Finance: Growth and Innovation" (London: Euromoney Books).

Asutay, M. (2007), "Conceptualisation of the Second Best Solution in Overcoming the Social Failure of Islamic Finance: Examining the Overpowering of Homo-Islamicus by Homo-Economicus", University of Durham Working Paper.

Asutay, M. (2011), "International Developments & Trends in Islamic Finance and Its Ethical Implication", Paper presented in How to Regulate Islamic Financial Markets and Products, Cambridge University, 31<sup>st</sup> August -3<sup>rd</sup> September 2010.

Aziz, Z. A. (2009) "Islamic Finance: During and After the Global Financial Crisis", Istanbul, October 5.

Beck, T., Demirguc-Kunt, A. and Honohan, P. (2009), "Access to Financial Services: Measurement, Impact and Policies", *World Bank Research Observer*, 24, (1), pp: 119-145.

Beck, T., Demirgüç-Kunt, A. and Levine, R. (2007), "Finance, Inequality and the Poor", Open Access publications from Tilburg University.

Beck, T., Demirguc-Kunt, A. and Merrouche, O. (2010), "Islamic vs. Conventional Banking: Business Model, Efficiency and Stability", Policy Research Working Paper Series 5446, The World Bank.

Borio, Claudio and Lowe, P. (2002), "Asset Prices, Financial and Monetary Stability: Exploring the Nexus", BIS Working Paper No. 114, Bank of International Settlements, Basel.



Calvo, G., Izquierdo, A, and Mejia, L. (2004), “On the Empirics of Sudden Stops: The Relevance of Balance-Sheet Effects”, NBER Working Paper 10520.

Cetorelli, N. & Strahan, P. (2004) “Finance as a Barrier to Entry: Bank Competition and Industry Structure in Local U.S. Markets”, Working Paper Series WP-04-04, Federal Reserve Bank of Chicago.

Chan, N., Getmansky, M. Haas, S. M. and Lo, A. (2005), “Systemic Risk and Hedge Funds,” NBER Working Paper 11200.

Chapra, M. U. (2008), “The Global Financial Crisis: Can Islamic Finance Help Minimize the Severity and Frequency of Such a Crisis in the Future?”, Paper presented at the Forum on the Global Financial Crisis, Islamic Development Bank, Jeddah.

Chevalier, J. and Ellison, G. (1997), “Risk Taking by Mutual Funds as a Response to Incentives”, *Journal of Political Economy*, Vol. 105, No. 6: 1167-1200.

Čihák, M. and Hesse H. (2008), “Islamic Banks and Financial Stability: An Empirical Analysis, IMF Working Paper, WP 08/16.

Diamond, D. W. and Rajan, R. (2001), “Liquidity Risk, Liquidity Creation and Financial Fragility: A Theory of Banking”, *Journal of Political Economy*, Vol. 109, No. 2: 287-327.

Djankov, S., laPorta, R., Lopez-de-Silanes, F. and Shleifer, A. (2002), “The Regulation of Entry”, *The Quarterly Journal of Economics*, Vol. CXVII, February 2002, Issue 1, pp: 1-37

El Qorchi, M. (2005), “Islamic Finance Gears Up”, *Finance & Development*, December 2005, Volume 42, Number 4, <http://www.imf.org/external/pubs/ft/fandd/2005/12/qorchi.htm>.

Feldstein, M. and Horioka, C. (1980), “Domestic Savings and International Capital Flows”, NBER Working Paper No. 310.

Ferguson, R. (2003), “Monetary Stability, Financial Stability and the Business Cycle: Five Views”, BIS Papers No. 18, Bank of International Settlements, Basel.

Hasan, M. & Dridi, J. (2010), “The Effects of the Global Crisis on Islamic and Conventional Banks: A Comparative Study”, IMF Working Paper, WP 10/201.

Hoshi, T., Kashyap, A. and Scharfstein, D. (1993), “The Choice between Public and Private Debt: An Analysis of Post-Deregulation Corporate Financing in Japan”, NBER Working Paper 4421.

Humphrey, D.B. and Pulley, L.B. (1997), “Banks' Responses to Deregulation: Profits, Technology, and Efficiency”, *Journal of Money, Credit and Banking*, Vol. 29, No. 1, pp: 73-93.

International Monetary Fund (2005), “Output Volatility in Emerging Market and Developing Countries”, Chapter II, World Economic Outlook, International Monetary Fund, Washington.

Jeanne, O. (2002), “Why Emerging Market Countries Borrow in Foreign Currency”, IMF Working Paper, WP/03/177.

Johnson, S., Kaufman, D. and Zoido-Lobaton, P. (1998), “Regulatory Discretion and the Unofficial Economy”, *American Economic Review*; 88, pp: 387–392.

Kahf, M. (2003), “Islamic Economics: Notes on Definition and Methodology”, *Review of Islamic Economics*, 13, pp: 23-47.

Kashyap, A., Rajan, R. and Stein, J. (2002), “Banks as Providers of Liquidity: An Explanation for the Co-Existence of Lending and Deposit-Taking”, *Journal of Finance*, Vol. 57, No. 1, pp: 33-73.

Kiyotaki, N. and Moore, J. (1997), “Credit Cycles”, *The Journal of Political Economy*, Vol. 105, No. 2: pp: 211-248.

Knight, M. (2004), “Markets and Institutions: Managing the Evolving Financial Risk,” Paper presented in 25<sup>th</sup> SUERF Colloquium, October 14<sup>th</sup>, Madrid.

Kroszner, R. and Strahan, P. E. (1999), “What Drives Deregulation? Economics and Politics of the Relaxation of Bank Branching Restrictions”, *The Quarterly Journal of Economics*, 114(4), pp: 1437-67.

Lane, P. R. and Milesi-Ferretti, G. (2005), "A Global Perspective on External Positions", CEPR Discussion Paper No. 5234.

Lamont, O. A. and Thaler, R. H. (2001), "Can the Market Add and Subtract? Mispricing in Tech Stock Carve-outs", *The Journal of Political Economy*, Vol. 111, No. 2, pp: 227-268.

Levine, R. (2004), "Finance and Growth: Theory and Evidence", NBER Working Paper 10766.

Mauro, P. (1995), "Corruption and Growth", *The Quarterly Journal of Economics*; 110, pp: 681-712.

Merton, R. C. (1995), "Financial Innovation and the Management and Regulation of Financial Institutions", NBER Working Paper 5096.

Mian, A. (2004), "Distance Constraints: The Limits of Foreign Lending in Poor Economies" mimeo, Graduate School of Business, University of Chicago.

Nagaoka, S. (2007), "Beyond the Theoretical Dichotomy in Islamic Finance: Analytical Reflections on Murabahah Contracts and Islamic Debt Securities", *Kyoto Bulletin of Islamic Area Studies*, Volume: 1, Issue: 2, pp: 72-91.

Petersen, M. and Rajan, R. (2002), "Does Distance Still Matter? The Information Revolution in Small Business Lending", *Journal of Finance*, Vol. 57, No. 6, pp: 2533-2570.

Qian, J. and Strahan, P.E. (2005), "How Law and Institutions Shape Financial Contracts: The Case of Bank Loans", NBER Working Paper 11052.

Rajan, R. (2005), "Has Financial Development Made the World Riskier?", NBER Working Paper No. 11728.

Reinhart, C. and Rogoff, K. (2008), "This Time is Different: A Panoramic View of Eight Centuries of Financial Crises", Working paper.

Rodrik, D. (2003), "In Search of Prosperity", Princeton University Press, Princeton, NJ.

Rogoff, K. (2011), "Keynote speech: Summary of comments", Banque de France Conference, 4<sup>th</sup> March 2011, Paris.

Shin, H. S. (2005), "Financial System Liquidity, Asset Prices, and Monetary Policy", mimeo, Paper presented at the Reserve Bank of Australia, <http://www.rba.gov.au/PublicationsAndResearch/Conferences/>.

Shleifer, A. and Vishny, R. W. (1997), "The Limits to Arbitrage", *Journal of Finance*, Vol. 52, No. 1, pp: 35-55.

Tufano, P. (2003), "Financial Innovation," in *Handbook of the Economics of Finance (Volume 1a: Corporate Finance)*, Constantinides, G., Harris, M. and Stulz, R. eds. (Elsevier, 2003), pp: 307-336.

Wilson, R. (1990), "Development of Financial Instruments in an Islamic Framework", University of Durham Working Paper.

Zhuang, J., Gunatilake, H., Niimi, Y., Khan, M. E., Jiang, Y., Hasan, R., Khor, N., Lagman, A., Martin, P. B. and Huang, B. (2009), "Financial Sector Development, Economic Growth, and Poverty Reduction: A Literature Review", ADB Economics Working Paper No. 173. Asian Development Bank. Manila.