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Islamic finance and financial stability: A review of the literature

Ahmed Belouafi¹, Chaouki Bourakba², Karima Saci³

¹Associate Professor of Islamic Economics and Finance, Islamic Economics Institute, King Abdul Aziz University, PO Box 80214, Jeddah 21589, Kingdom of Saudi Arabia, E-mail: ambelouafi@kau.edu.sa, Phone: 00 966 542748829

²Assistant Professor, Faculty of Business and Administration, Imam Muhammad Bin Saud University, Riyadh, Kingdom of Saudi Arabia, E-mail: chawki62000@yahoo.fr

³Assistant Professor, Effat University, PO Box 34689, Jeddah 21478, Kingdom of Saudi Arabia, E-mail: ksaci@effatuniversity.edu.sa

A paper accepted for presentation at the 9th International Conference for Islamic Economics and Finance (9ICIEF), Istanbul, 09–11 September 2013.

Abstract - This paper provides a critical review of the Islamic Economics (IEs) and Finance (IF) literature that have examined the stability of the Islamic Financial System (IFS) and its institutions vis-à-vis the conventional interest-based system. The authors have been able to analyze thirty-four investigations over a thirty-year period, from 1983 to 2013.

The research aims to provide an account of the main findings and conclusions of the literature, discuss the robustness and comprehensiveness of these findings, and highlight some venues for future explorations. To meet these objectives the study utilizes an analytical “evaluative” framework as its main investigative tool.

The results identified two main periods: pre- and post-subprime financial crisis eras. The pre-crisis era has been dominated by theoretical investigations, while the post-crisis era has been dominated by empirical studies. The results, also, show that there is a big divergence between the theory and practice of IF. Theoretical studies claim the “superiority” of an IFS based on pure “equity” and participatory modes of financing, while empirical studies provide mixing results.

It is anticipated that the findings of the study will benefit academia, policy makers, industry players, and other stakeholders alike. Benefit in terms of understanding financial stability complexities and the difficulty in its measurement. More importantly, the paper highlights the contribution that the existence of Islamic financial institutions and the principles that govern their operations can make to enrich the diversity of the on-going discussion taking place in the prevailing conventional literature of Financial Stability (FS).

Keywords: Islamic banks, financial stability, Z-score, GARCH, financial ratios

List of Abbreviations

CBs Conventional Banks
CFS Conventional Financial System
FCs Financial Crises
FS Financial Stability
GCC Gulf Cooperation Council
IBs Islamic Banks

IEs Islamic Economics
IF Islamic Finance
IFIs Islamic financial institutions
IFS Islamic Financial System
LPB Limited Purpose Banking
NPA Nonperforming assets
PLS Profit and Loss Sharing

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1. Introduction

In 1985, the Federal Reserve Bank of San Francisco convened a two-day conference that gathered some leading financial experts, policy makers and academicians¹ to address the FS issue of the conventional financial system (CFS) from different angles and perspectives. The proceedings of the conference were published in a special volume titled “*The Search for financial Stability: The Past 50 Years.*”

After about a quarter of a century, in 2007–2008, the World was hit with, by far, the largest financial crisis that it had ever seen since the inflictions of the Great Depression of the late 1920s and early 1930s. The far-reaching magnitude and consequences of the recent global financial crisis has brought, once again, to the forefront the prolonged and the long-awaited issue “*the search for financial stability.*” Pro-founding questions, similar to the ones that had been addressed in the 1985 conference, have been on the surface in a more pressing manner: What is financial stability? Why is it that important? What should be done, and/or can be done, to ensure its attainment and to benefit from its effects? Last but not the least, why has it not been possible to attain such an “elusive” goal despite “the great moderation”² that was proclaimed by advocates of the deregulation in 2004—three years prior to the crisis’ eruption? And are there any “effective remedies” and/or “greatly moderated structural changes” that can be pursued to overcome the instability impasse?

Within the climate of this heated debate, Islamic financial institutions (IFIs) and the principles that govern their operations received a great deal of attention, as we will see in section III, that examined the reality of their stability as proclaimed by their proponents. Nonetheless, it has to be acknowledged that discussion surrounding stability of the Islamic financial system is not new; the available literature suggests that such a discussion can be traced back to the early 1980s. However, most if not all pre-crisis studies have been theoretically conducted on an “abstract model” assumed to be purely based on equity and participatory modes of financing. The crisis’ eruption has triggered empirical inquiries that have tried to capture the ground reality of these institutions as documented in the next section.

This research aims to provide a critical review and account of some theoretical, empirical and other investigations that have been carried out in this area. To meet the intended objectives, the study will address the following questions:

- What is FS and why is it so important?
- What are the main findings and conclusions of the reviewed literature?
- How robust are these findings and conclusions?
- What are the underlying assumptions, methods and arguments utilized to arrive at and/or to support the obtained results?

The research will scrutinize a number of carefully selected studies that have been conducted before and after the eruption of the international financial crisis.

The remainder of this paper is organized as follows: Section II explores financial stability’s definition and its importance. In section III, the literature is critically analyzed and

discussed. Section IV concludes with some remarks and venues for future elaboration.

2. Financial stability: definition and importance

Although used in economic policymaking rather frequently following the recent financial crisis, financial stability (FS) has proven to be a difficult term to exactly define and even more harder to measure (Allen and Wood 2005, Schinasi 2009, Gadanez and Jayaram, 2009, and Mohammed et al., 2012). Given the complexity of modern financial systems as well as the global trends observed in recent years, financial stability has been associated with multidimensional conditions broadly attached to the well-functioning of financial systems. Allen and Wood (2005) provided the most comprehensive conceptual framework within which financial stability can be characterized. It encompasses various elements that set up the grounding blocks for a good definition. They claim that public welfare has to be a key objective to any policy intended to establish financial stability. Also, they stressed the importance of the measurability of financial stability and the fact that it has to be under the control of a specific public authority. This would allow responsible policy makers to react in a timely manner to the early signs of financial distress and loss of stability. The entity responsible for maintaining financial stability has to have enough authority to resolve issues related to financial instability. This might influence a broad spectrum of institutions and organizations that have no direct relationship to the root cause of the observed problems. Financial stability is also considered as a dynamic concept that allows for further development in the financial system rather than rigidly prevents natural fluctuations and changes.

Given the ambiguity and impreciseness associated with defining financial stability, most authors associated the loss of stability with excessive risk, crisis and negative externalities (e.g. Ferguson 2002, Schinasi 2004, Gadanez and Jayaram 2009, Pereira da Silva et al., 2012). Hence, to attempt to clearly define what financial insatiability is, one has to look into its driving sources and identify when the financial system is said to lose its stability and function in a way that adversely impacts economic conditions. Houben et al., 2004 and Mohamed et al., 2012 suggested both Macro and Micro theoretical approaches that can explain the reasons behind the occurrence of financial instability. In the macroeconomic approach, two key drives are thought to trigger instability. These are intense fluctuations in prices and over leveraging in the economy. They argued that one of the core objectives of finance is for households, firms and government to accumulate wealth and improve fixed assets, which in turn leads to an observed increases in the prices of the associated transferable claims. Thus, too much borrowing and investment are linked to the future realization of these claims. Minsky (1959) claimed that when the economy is booming, investors are encouraged to engage in more speculative activities. The increase in assets prices increases the investor’s willingness to finance these activities through debt commitments, which drives the interest rates high. Hence, more credit is used in financing speculative activities rather than real investment projects, resulting in a fragile financial structure. If the expected

returns from the speculative activities do not exceed the debt, most speculators go bankrupt and the economy ends up in a debt deflation. This process requires sound risk management practices, particularly in relation to credit and liquidity risks, without which the financial system becomes unstable and prone to crisis.

The microeconomic approach concentrates on the importance of information asymmetry and irrational behavior of economic agents. In the instance of loss of confidence in financial institutions in response to rumors or banking credits, the withdrawal rate of economic agents deposits increases forcing financial institutions to liquidate their claims and accept possible substantial losses. This may shake the credibility of these institutions and engenders banking panics that would eventually translate into excessive instability and crisis.

Given what characterizes financial stability and the core causes and effects of its loss, it becomes apparent that for the financial system to function well and promote further growth in the economy, it needs to maintain stability. When emerging to mitigate information and transaction costs, financial systems provide one fundamental function which is “they facilitate the allocation of resources, across space and time, in an uncertain environment” (Merton and Bodie, 1995). Financial instability damages this allocation creating negatively lasting effects on outputs growth. The recent financial crisis confirmed how serious the loss of stability is, not only in relation to the scale of the financial crisis but also how fast it escalated.

3. The literature: analysis and discussion

An Overview

To facilitate the identification of the general trends that shape the literature of IF and FS on one hand, and to ease the comparison between the results of these studies on the other, the investigated sample of the literature has been divided into three main categories as illustrated in Figure (1).

As illustrated in figure (2) the sample of the researches is dominated by theoretical and empirical investigations; the latter in particular. These two categories constitute slightly above ninety per cent of the total number of the studies analyzed in this paper. This trend has given

a rise to a number of interpretations. One of this is the view that regards this orientation as evidence of the “robustness” and “soundness” of the Islamic financial institutions (IFIs) and the inherent stability feature resulting from the principles that lay the ground for their operations. In fact the limited cases of distressed IFIs since the inception of this type of intermediaries in the sixties³ till now may support this claim. The other interpretation may simply relate the literature trend to the infancy factor of the industry and its insignificant presence at the international financial stage.⁴ Indeed this argument is also supported by ground reality as the total value of the entire IF industry does not exceed the one per cent threshold of the total value of the international financial system. Whatever the argument that can be made, the authors believe that as far as FS is concerned it is so difficult to go for this argument unless substantial evidences are objectively provided and assessed from a cross examination of a large pool of the actual practices of these intermediaries.

Turning to the distribution of studies over the covered period, figure (3) shows that the subprime or the international financial crisis, as some would like to ascribe it, attracted more attention to the stability of the IFS. About seventy five per cent (25 investigations) of the reviewed studies have been conducted over the post-crisis years, while about twenty-five percent (9) has been carried out over the span of about a quarter of a century (i.e., 1983–2006).

4. Analysis and discussion of findings of the theoretical studies

Table (1) below presents a summary of the main findings and conclusions of the reviewed theoretical and case study investigations. The table, also, highlights the major utilized methods of analysis in those studies. It is apparent from the last column, on the right, that almost all studies⁵ claim the “superiority” and the inherent stability of the IFS over that of its conventional counterpart. What are the bases of such claims? And how robust are they?

From a careful examination of those treatises we found that, the authors’ elaborations have been based, implicitly or explicitly, upon the following arguments and assumptions:

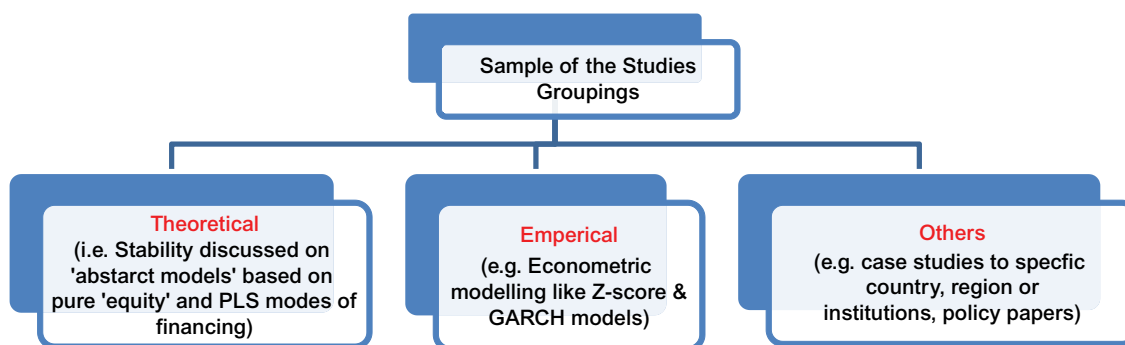


Figure 1. Categorization of the reviewed literature.

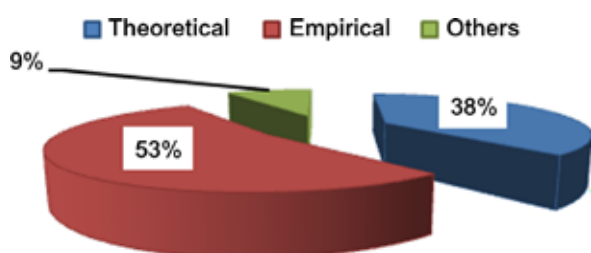


Figure 2. Distribution of the sample of the studies by category.

1. Debt and leveraging are the main driving sources of financial instability in the prevailing conventional financial system (CFS), Askari (2012). These two features are the prime result, to a large extent, of the existence of an *ex-ante* predetermined rate of return in the form of “interest” (“*Riba*” or “*Usury*”) in the current practices of the CFS. According to the reviewed literature, many renowned conventional economists, from the beginning of the 19th century until now, have observed a number of common features that precede the occurrence of financial crises (FCs), Askari et al. (2012). Among the features relating to the presence and wide practice of “interest” are the following⁶:

- An extended period of low interest rates as was the case in the subprime financial crisis of 2007–2008.⁷ Such a policy has led to the huge growth of a non-backed expansion of credit. Soros (2008) noted “when money is free [or quasi-free], the rational lender will keep on lending until there is no one else to lend to,” Askari et al. (2010). This situation has been attributed to the development of another axiom; it is the fact that “too much money is chasing too few assets.” Under such a scenario there is no other way that this “too much money” can be absorbed except through the appearance of a bubble(s) that will grow without any economic foundations. The appearance of a bubble or bubbles will feed the expansion of the unbacked credit, and the vicious circle continues until the bubble (s) burst. If such a situation arose, the huge volume of the non-backed credit will meltdown, as it was no more than mere promises that were sought to be validated at a certain point in the future. Thereafter, another cycle of the bail-outs programmes, from the tax payers money, and the cheap money through zero or bound zero interest rate policy (ZIRP), quantitative easing and other sophisticated measures will come out from the tool box of “the conventional wisdom” of policy makers to the rescue of the “too-big-to-fail” institutions and to fix other financial and economic disruptions.
- The unique status and sensitivity of interest as a “price” makes the maintenance of its “appropriate”⁸ level a very difficult, if not impossible task to attain, Stiglitz (1989) explains “*the interest rate is not like a conventional price. It is a promise to pay an amount in the future. Promises are often broken. If they were not, there would be no issue*

in determining credit worthiness. Raising the rate of interest may not increase the expected return to a loan; at higher interest rates one obtains a lower quality set of applicants (the adverse selection effect) and each of one’s applicants undertakes greater risks (the adverse incentive effect). These effects are sufficiently strong that the net return may be lowered as the bank increases the interest rate characterized by credit rationing.” Buitert (2009) went further by stating that “*debt, characterized by fixed financial commitments, can be a poor financing choice in a risky, uncertain world where the private and social costs of default are high ...*”

- Minsky (1993), whose work is well known in this domain, departed from the mainstream postulate of the Efficient Market Hypothesis (EMH) to propose the Financial Instability Hypothesis (FIH) instead, has been cited in various instances of the reviewed literature. His extensive work, in the study and analysis of financial crises, that has been carried out for about forty years⁹ led him to conclude that there is a fundamental flaw in the conventional economic system. This flaw is related to the type of financing regime and the contractual arrangements that develop over time,¹⁰ “*a fundamental property of all capitalist economies is the existence of a system of borrowing and lending based upon various margins of safety ... a debt instrument or a lease provides for payments to be made on account of both interest and principle. An equity liability has only a contingent commitment to make payments; dividends need to be paid only if earned and declared, and there is no contractual need to repay principle. For any given cash flow, from operations or from the fulfillment of owned contracts, the greater the share of equity financing in a balance sheet the greater the margin of safety that protects the owners of the non-equity liabilities.*”

It is, therefore, apparent that based on the above arguments and observations, the authors of the reviewed investigations share Chapra’s view that the inadequate market discipline in the current system is the primary cause of FCs, and this indiscipline is, in turn, the result of the risk-shifting paradigm under the “interest-bearing”

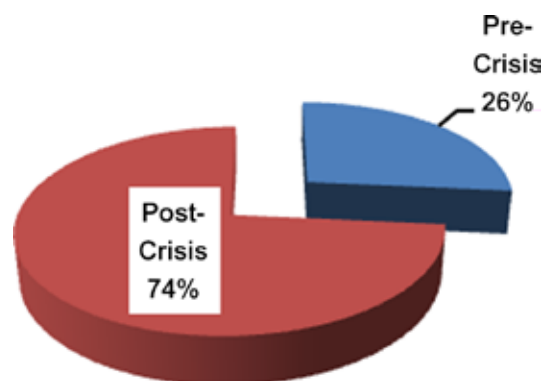


Figure 3. Distribution of studies over time.

Table 1. Summary of the findings of the theoretical and other reviewed investigations.

| Author (s) and publication year | Sample | Method of analysis | Main findings |
|---------------------------------|--------|--|---|
| Zarqa, M. A. (1983) | | <ul style="list-style-type: none"> Tentative remarks; e.g. Agreement of many conventional economists that debt financing is a major factor destabilizing investment in capitalist economies; the speculative demand for money is a source of instability in the Keynesian system; the view held from corporate finance that an increase in debt-financing (as opposed to equity-financing) of a firm increases its risk of insolvency and magnifies the relative fluctuations, "hot money" movements are a destabilizing factor, and strict prohibition of interest eliminates the loan market, and implies that all business financing must be based on various forms of equity. | <ul style="list-style-type: none"> Equity financing is intrinsically more stable than one based on interest. |
| Chishti, S. U. (1985) | | <ul style="list-style-type: none"> The relative stability of investment under the two systems of fixed and flexible returns to capital is examined through qualitative general model of two differential equations to express financing conditions and investment behavior. The model is closely related to Minsky's approach of analyzing the inherently unstable character of a financially developed and sophisticated capitalist economic systems. The added wrinkle to Minsky's model is to interpret the fixity of financing terms, vis-a-vis the uncertainty of profits to be mainly responsible for the gap between cash flows and payment commitments. | <ul style="list-style-type: none"> The spread between cash-flows (i.e., profits) and payment commitments (i.e., interest payments) which is the main source of instability in investment. The real source which generates the above-mentioned gap is the fixity of the dated payment commitments versus the uncertainty of cash flows. IF has a built-in stabilizer to reduce the volatility of investment. Islamic financing facilities make the payment commitments a function of cash flows. |
| Khan, M. (1986) | | <ul style="list-style-type: none"> Theoretical aggregate macroeconomic model is used to study the behavior of the Islamic banking system. The framework is based upon the model developed by Meltzer (1951) and extended by Fernandez (1984). | <ul style="list-style-type: none"> The Islamic banking model; based on equity and participation bears resemblance to proposals made in the literature on the banking reform in many countries, especially USA. The IB model may prove to be better suited to adjusting to shocks resulting from crises (i.e., shocks to assets are absorbed by liabilities). Thus the real values of assets and liabilities in this model would be equal at all points in time. The banking system discussed in the paper is a "two-window" model: one window for demand deposit (100% reserve + no return or interest to be paid), the other for investment purposes based on PLS or equity mechanisms (no guarantees on principal and return + no official reserve requirements). |

(Continued)

Table 1 - Continued

| Author (s) and publication year | Sample | Method of analysis | Main findings |
|-----------------------------------|---|--|--|
| Mirakhor, A. and Zaidi, I. (1991) | | <ul style="list-style-type: none"> Development and use of a simple general equilibrium model for an open-economy to compare the stability of an interest-free PLS (equity) based economy vis-à-vis the prevailing interest-based system. The study is an extension of previous researches that have been based on a closed-economy presumption (e.g. Khan (1986)). | <ul style="list-style-type: none"> Many eminent western economists (e.g. Fisher (1945), Simons (1948), Friedman (1969)) Western economists have argued that the current (one-sided liability) interest-based financial system is fundamentally unstable. The IFS has the capacity for better adjustment to macroeconomic disturbances that require the shifting of resources from the traded to the non-traded sector than does the conventional interest-based system. The IFS would be based on a “two-tier <i>Mudarabah</i>,” or the ‘two-windows model;’ 100 per cent reserve for demand deposits (i.e. deposits of this category are regarded as <i>Amanah</i> (safe-keeping), and a PLS arrangements for investment deposits. |
| Zuberi, Habib A. (1992) | Time-series data covering a period from 1973 to 1989 on Pakistan were used. | <ul style="list-style-type: none"> A modified version of the Keynesian type demand function for money has been applied. Separate estimates were made for the velocity of circulation of money. The hypothesis: public’s demand for non-interest bearing money tends to be stable relative to the interest-bearing demand for money. | <ul style="list-style-type: none"> The velocity of circulation of money has been stable. The desired demand for real money is positively related to real GDP and negatively to interest rate. The active support by the government in the operations of the banking industry can bring about the desired results. The results do not support the hypothesis that the public’s demand for money tends to be more stable in the absence of interest-bearing financial assets. |
| El-Gamal, M. (1997) | | <ul style="list-style-type: none"> The stability of the institution of Islamic banking from a micro-economic point of view, where the survival of this institution depends on its ability to maintain sound financial positions for its customers (devout Muslims, and others). An evolutionary game-theoretic model of the dynamics of Islamic banking in the existence of other interest-based financial institutions. | <ul style="list-style-type: none"> “The necessary and sufficient condition for Islamic banking to survive in the long run is the existence of agents who are willing to interact symmetrically with the Islamic and the interest-based parts of the economy, and that those agents deal amongst themselves in an Islamic way.” The Malaysian experiment of a dual-system that support and regulate the two “tiers;” Islamic and conventional may support the author’s finding. |

| | | | |
|---------------------------|---|---|---|
| Chapra, M. U. (2005) | <p>Observations about recent crises. Examples: The US stock market crash of 1987, the bust of the Japanese stock and property market bubbles in the 1990s, the 1992–93 ERM breakdown, the Mexican crisis of 1995.</p> | <ul style="list-style-type: none"> • Systemic and intellectual analysis based on observing the recurrence of financial crises over the past few decades. • Arguments and analysis of some conventional economists and institutions about the imbalances created by interest-based instruments. | <ul style="list-style-type: none"> • “Interest” creates market indiscipline because of the assurances given to a depositor or a banker to claim a return without participating in the risks of the banking business. • Greater role for equity and risk sharing instruments to bring market discipline and stability to the financial system. |
| Chapra M U. (2008 & 2009) | <p>Observations about recent crises. Examples:</p> <ul style="list-style-type: none"> • The US stock market crash of 1987 • The Asian crisis 1997–98 • The Long-Term Capital Management (LTCM) collapse in 1998 • The “dot.com” bubble burst in 2000 • The US sub-prime mortgage crisis of 2007 | <p>Intellectual analysis and arguments based on:</p> <ul style="list-style-type: none"> • The “impossibility” of designing a new financial architecture without first determining the primary cause (s) of the crisis or crises. • The work of eminent Western economists; e.g. Fisher, Simon, Galbraith, Minsky and Rogoff with regard their analysis of the recurrence of Financial crises (FCs) and their “call” for Greater reliance on equity financing.” • The absence of the “risk-sharing” element in financial practices created the “market indiscipline,” and thus the culmination of the abnormalities of “debt explosion,” “high leverages,” and speculation. | <ul style="list-style-type: none"> • The false sense of immunity from losses introduces a fault line into the system. • One of the major causes of these crises is the absence of risk-sharing.; Risk-sharing along with the availability of credit for primarily the purchase of real goods and services = greater market discipline + reduction in instability. • Greater role for equity financing, but debt still has a role to play. • The widening of the “housing finance cooperative” schemes to cater for the needy like the “sub-primers”. But the pool of money sources should be extended to include: banks, corporations and rich individuals. |
| Askari et al. (2010) | | <ul style="list-style-type: none"> • Sequence of analysis and arguments to conclude the inherent stability of the IFS vis-à-vis the inherent instability of the CFS. The analysis has been based on: • Deduction of the common factors that led to FCs to draw the general pattern of the identification and sequence of these factors. • The factors that led to the crises are absent in the IFS. • The proposed plans to eliminate crises factors from the financial sector like the Chicago plan and Limited Purpose Banking (LPB) proposed after the INFC are of equity nature of the financial claims and obligations. These proposals resemble the IFS which is an equity-based system. • A theoretical model to prove the inherent stability of the IFS. This model is based on the classical assumption of full employment equilibrium besides total preclusion of debt and debt trading. | <ul style="list-style-type: none"> • The general pattern displayed by the historical record of FCs reveals that “each episode was preceded by rapid credit expansion, a speculative boom and excessive price volatility in one or more asset classes. This boon is then followed by a burst of that asset. This in turn leads to asset price deflation and banking failure.” • “Conventional banks (CBs) fail to meet inherent stability conditions even in the presence of prudential regulations.” • “The instability of the conventional finance is not limited to the role of commercial and investment banks.” |

(Continued)

Table 1 - Continued

| Author (s) and publication year | Sample | Method of analysis | Main findings |
|---------------------------------|---|---|---|
| Iqbal Z & Mirakhor A. (2011) | <ul style="list-style-type: none"> • Systemic and intellectual analysis of the prolonged episodes of financial turbulences and some of the proposals that have been suggested by some eminent conventional economists. • The Chicago plan, the limited purpose banking (LPB), and the analysis of conventional economists like Fisher, Allais & Minsky have been cited to prove the inherent instability of the conventional financial system. • Besides the reference to the credit multiplier and money creation under the conventional system as endogenous features that feed the persistent instability of the conventional system. | <ul style="list-style-type: none"> • “The credit multiplier notion is irrelevant for IF. The corresponding notion is savings multiplier.” • The main principles of IFS like the prohibition of interest contribute to its inherent stability. • IBs do not create and destroy money through the credit multiplier as is the case under CBs. • “The classical model, based on full employment, is representative of an Islamic economy where interest is precluded.” • “An IFS is a PLS equity-participation system.” • The equity-based system is not an alien to the Western thinking in financial intermediation. • Under the IFS maturities of assets and liabilities are assumed to be matched. • “Only a financial system along Islamic principles is immune to instability.” • “For a given regime of financial institutions, the lesser the weight of debt refinancing, the greater the stability of the system to be.” • “The Islamic system would not be expected to experience deep boom and bust cycles.” One of the reasons for this feature; “IBs do not create and destroy money.” Besides financing is tied to real activities, no speculation, gambling and the like.” • The ideal IFS would be based on “two-window” model of intermediation; 100 per cent reserve for demand deposits, and a PLS mechanism for investment deposits. This last feature will eliminate the rigidity of the interest-based system in its guarantees of principals and “returns = interests” in isolation from the performance of real activities. | <ul style="list-style-type: none"> • “Government bailouts of existing banking system neither present long term solution to the problem nor give assurance that similar crises will not happen in the future.” • “Evidence at hand strongly suggests that IF is well endowed to deliver noteworthy contributions towards a more healthy and stable international economy”. For instance, “the principle of, “no pain, no gain” embedded in the Islamic financial structure ... [can] help introduce greater discipline into the financial system.” |
| Hassan M K and Kayed R. (2010) | <ul style="list-style-type: none"> • Systemic analysis of the causes of the crisis and measuring these causes against the intrinsic principles of the Islamic financial system. • The resilience of the IFS is seen through the absence of the factors that led to the sub-prime crisis; “Such crisis would not have occurred under an Islamic financial system – due to the fact that most, if not all, of the factors that have caused or contributed to the development and the spread of the crisis are not allowed under the rules and guidance of <i>Shariah</i>.” | <ul style="list-style-type: none"> • “Government bailouts of existing banking system neither present long term solution to the problem nor give assurance that similar crises will not happen in the future.” • “Evidence at hand strongly suggests that IF is well endowed to deliver noteworthy contributions towards a more healthy and stable international economy”. For instance, “the principle of, “no pain, no gain” embedded in the Islamic financial structure ... [can] help introduce greater discipline into the financial system.” | <ul style="list-style-type: none"> • “Government bailouts of existing banking system neither present long term solution to the problem nor give assurance that similar crises will not happen in the future.” • “Evidence at hand strongly suggests that IF is well endowed to deliver noteworthy contributions towards a more healthy and stable international economy”. For instance, “the principle of, “no pain, no gain” embedded in the Islamic financial structure ... [can] help introduce greater discipline into the financial system.” |

- Theoretically, it would be impossible for a crisis resulting from the factors that triggered the like of the subprime mortgage crisis to take place in the Islamic capital markets sector.” This is due to several reasons: among them are: ban on interest, ban of selling what one does not own or possesses, ban “to sell a debt against a debt, IF is based on equity capital rather than debt.
 - The above results are based upon many assumptions. The foremost among them is “Muslims always practice Islam and abide by its teachings in financial activities and daily life.”
 - “There is no absolute assurance that IF, once mature, will weather a similar financial crisis in the future unless it commits itself to being *Shariah*-based (the substance) rather than *Shariah*-compliant (the form).” Therefore, only “an honest implementation of Islamic theory of finance is potentially capable of solving, and in all probability averting, such crises from happening.”
 - “The absence of debt and leverage, financial failure is localized and prevented from infecting the entire financial system.”
 - “Commercial banks to restrict their mandates to two activities: (i) cash safekeeping (100% reserves against checking deposits), and (ii) investing client money in a mutual fund.
 - “Full government monopoly in the issuance of currency. Commercial banks are barred from “money creation.”
 - “The tax bias against equity finance must be removed, if policymakers want to eliminate recurring of financial crises.”
 - “Policy makers must discourage excessive borrowing, leveraging, and risk-shifting and instead encourage risk-sharing and equity finance.”
 - “Performance of Islamic banks during the global financial crisis is better than conventional banks.” Thus they are “more stable.”
 - “Risk in IBs is less than their conventional counterparts, because of their interest free nature.”
 - “Because of the global financial crisis there is an increasing demand for Islamic Financial systems in the Western world.”
- Askari, H. (2012)
- The analysis has been based upon the following arguments:
 - The assertion that “The Quran prohibits debt based contracts” and “Islam offers a system that prohibits all debt”
 - “An Islamic bank is assumed to match deposit maturities with investment maturities”
 - Stability of the IFS is seen through the “lenses” of the instability of the conventional system. The analysis is based “debt prohibition or elimination and its associated characteristic “risk-shifting” to “equity and participatory financing” with “risk-sharing” as its main instinct. Use of some recent financial turbulence, such as the US subprime as an evidence for that.
 - “Conventional banking is based on a fractional reserve system that creates money and encourages borrowing and leveraging.” Assets and liabilities mismatch has become a chronic feature of such a system.
 - Proposals to reform CFS close the IFS are neither new nor alien in the West (e.g. the Chicago Plan and LPB).
 - The research is based on a descriptive framework by extracting important information and conclusions about IB performance from various reports and studies during the recent financial crisis of 2008.
- Shafique et al. (2012)

(Continued)

Table 1 - Continued

| Author (s) and publication year | Sample | Method of analysis | Main findings |
|-------------------------------------|---|--|--|
| | | | <ul style="list-style-type: none"> • “It is proven through all reports, past records, famous authors and experts views that there is a less impact of global financial crises on Islamic banking system.” |
| Other Studies | | | |
| Chapra, M. U. (2007 ¹⁵) | <ul style="list-style-type: none"> • The East Asia crisis. • The collapse of the hedge fund Long-Term Capital Management (LTCM); • Foreign exchange market instability; and • The prevailing imbalances in the US economy | <ul style="list-style-type: none"> • This work reviews a number of financial crises and reasons behind them to determine the root cause or “cause of all causes” | <ul style="list-style-type: none"> • The fault line or “the root cause” in the international financial system resulting from the lack of adequate market discipline because of the absence of explicit risk-sharing. • Greater reliance on equity financing is a prime remedy of the fault line in the interest-based FS, but debt financing should not be totally ruled out, “the share of equity has to be increased and that of debt is to be reduced substantially.” • The introduction of greater discipline in the financial system, which the prohibition of interest has the potential of ensuring, along with more effective regulation and supervision, should go a long way in substantially reducing volatility in the financial market and promoting faster development. |
| Ali, S. S. (2006 & 2007) | 1 IB during the banking and Financial crisis of 2000–2001 in Turkey | <ul style="list-style-type: none"> • The author utilizes the “natural experiment” or a case study by studying the factors that lead to the closure of one Islamic finance house in Turkey. • The author utilized the “listing approach;” list all the plausible causes of bank failures identified in various other studies in context of conventional banks and relate them to how, why, and to what extent they are relevant for Islamic banks. • Analyze the role of each of the “listed factors” in the context of <i>Ihtlas Finans</i>. • Provide some lessons for strengthening Islamic banks. | <ul style="list-style-type: none"> • Concentration of IBs assets in fixed return <i>Murabahah</i> contracts has exposed them to various risks leading to instability. However, they still retain the sharing feature on the deposits side which is a cushion for their stability. • The problem of <i>Ihtlas Finans</i> was less likely to be insolvency, which was the case in many conventional banks, but liquidity crisis. • Capital Adequacy ratio in <i>Ihtlas Finans</i> (5.39%) was less than other SFHs (7%), and much below the prudential measure of 8 per cent recommended by Basel Committee. |

- Deterioration of the liquidity ratio of IFH from 4.22% in 1999 to 0.53% by the end of 2000 during the crisis.
- Exchange rate shocks coupled with liquidity crunch and eroded depositor confidence in the banking system were among the external factors that precipitated a run on *Ihtas Finans* before it collapsed.
- Weak regulatory system for Special Finance Houses (SFH) and lack of official support also contributed to its collapse.
- Weak internal management, imprudent financing within the group, and poor crisis management strategy as some of the differentiating factors.
- There is a need to think and have a clear understanding of the nature of Islamic banking.
- “The Islamic financial services industry has thus been in a relatively stronger position to weather the global financial crisis, demonstrating its robustness as a stable form of financial intermediation.”
- “The inherent features of Islamic finance have the potential to serve as a basis to address several of the issues and challenges that have surfaced in the conventional financial system during the current crisis.”
- Inherent strength of IF derived from its key underlying principles; establishing a close link between the financial transactions and productive flows that will generate legitimate income and wealth.
- “The features and value proposition inherent in the Islamic financial model can have the potential to contribute to global financial and economic stability.”
- Recommendation for the establishment of an Islamic Financial Stability Forum.

Islamic Financial Service Board (IFSB) (2010)

A sort of policy-oriented exploration based on:

- Analysis of the basic features of IF, the theoretical composition of the balance sheet of a typical IB and their relevance to financial stability enhancement.
- Examination of the current state of the industry and Islamic indices.
- The existence of a *Shariah* board “adds another level of oversight which inherently safeguards against irresponsible practices.”
- Discussion of eight building blocks “to promote a resilient and efficient Islamic financial system.”
- “When embraced in its entirety, these essential features of IF reduce the risk of financial instability.”

mechanism and the absence of risk-sharing as is the case under equity and participatory modes of financing system, Chapra 2007. According to Chapra, instead of making the depositors and the bankers share in the risks of business, it assures them of the repayment of their deposits or loans with interest. This situation has created “carelessness havoc” in the behavior of depositors and bankers alike; in such a way that they pay little attention to the soundness of the “finanee” to concentrate on the guarantees and collaterals that they get. Thus to restore market discipline to the system, according to this analysis, a shift has to take place from the heavy reliance on debt financing based on interest-bearing instruments, to more of the like of equity financing and this will take us to the next point; the nature of financial intermediation in an IFS according to the postulations of these authors.

2. The IFS framework utilized in the analysis of the treatises is the one that is presumed to be based on “total” or “pure” equity and PLS participatory modes of financing. This model has been derived on the basis of the authors, explicit or implicit, convictions that this is the “Islamic” system that ought to be sought according to the requirements stipulated in the basic sources of Islam. For instance, some authors rely on their presumption that “the Qur’an prohibits debt based contracts,” and “Islam offers a system that prohibits all debts” as evidence to support their claim. To further strengthen this argument, these authors proclaim that the sort of the “IFS” they propose goes in “spirit,” if not in line, with the reforms or the specified proposals of some conventional economists in the aftermath of major financial turbulences. The Chicago plan of the 1930s and Limited Purpose Banking (LPB) of Chamley and Kotlikoff (2009) have been mentioned as illustrative examples. Furthermore, there has been other explicit reference to IF principles by other economists in the light of the unfolding inflections of the 2007–2008 financial crisis. Buiter (2009), an ex-LSE professor of economics, for instance, states that if too much debt is part of the problem, reducing that level through equitization is part of the solution. In stressing upon this point Buiter referred to the application IF principles, in particular “a strong preference for profit and loss-sharing and risk-sharing arrangements and a rejection of “Riba” or interest-bearing debt instruments.” Two years later Rogoff (2011), a Harvard economist, echoed a similar tone, “we need to recognize that the real problems [in the financial system] are rooted in excessive concentrations of debt ... If G-20 governments stood back and asked themselves how to channel a much larger share of the imbalances into equity-like instruments, the global financial system that emerged just might be a lot more robust than the crisis-prone system that we have now.” He went further to point out that “perhaps scholars who argue that Islamic financial systems” prohibition on interest generates massive inefficiencies ought to be looking at these systems for positive ideas that Western policymakers might adopt.” Chong and Ming-Hua (2009), also pointed out that the profit and loss sharing system subjects interest-free banks to greater market discipline.

The above points (1 and 2) represent the fundamental assumptions that the authors have used in their analysis to support the FS superiority of the IFS over that of its conventional counterpart. Nonetheless, it has to be noted that these sorts of studies tend not to give due consideration to very fundamental issues. Among these are: the application of the “aspired model” is, at the end, bound by the strong adherence of “humans” on one hand, and the laws and regulations that prevail at the time of the application, on the other. Both factors are determinetal in success or otherwise of the “ideals” that are presumed in these researches. Some authors did acknowledge these facts by highlighting the tax and regulatory “biases” of most, if not all jurisdictions, towards debt instruments, particularly interest-based modes. Others have pointed out to the “heterogeneity” fact of economic agents under an applied IFS, where the whole Islamic system is not fully applied. Therefore, they questioned the “realisticity” of the presumption that “Muslims always practice Islam and abide by its teachings in financial activities and daily life,” El-Gamal, (1997) and Hassan and Kayed (2010). The degree of such an adherence varies considerably. Moreover, “adherent” or “practicing” Muslims are not living in an “isolated” village. Their societies, their economic and financial dealings do interact with economic agents of other faiths and cultures. Such reality will affect the sort of the “possible” and probably “plausible” financial model for that society or community. In the light of these and other factors some have gone further by acknowledging the “inaccurate” proposition of the “pure” equity financing regime under the Islamic system to be the “only plausible” model. For instance, in an unpublished note Zarqa¹¹ (2012) states, “I asserted [in the 1983 article] that in an Islamic system ... all business financing must be based on various forms of equity ... I realized later that this assertion is not justified, neither by Islamic Shariah nor by the reality of Muslim economies past or present. This being the case, it becomes important to further examine the stability implications of Islamic debt¹² vs. conventional debt.” Hence, it is a gross error to rule out debt and debt instruments completely from an Islamic financial system, as some have suggested. This would neither be feasible nor possible.

Moreover, the assertion that Islam “prohibits” debt is an inaccurate interpretation of the Islamic point of view. Consulting the basic sources of Islam; *Qur’an* and *Sunnah* proves the contrary. For instance the longest verse in the *Qur’an* is the verse of debt (Chapter 2: Verse 282). Ironically, this verse came straight after the latest and the strongest verses that have prohibited and condemned *Riba* in a very explicit and comprehensive manner. This verse provides detailed measures and procedures that can be implemented to safeguard the interest of the parties entering into debt contacts, including deferred and installment sales. As a result, throughout the history of the Muslim societies present and past dealing with debt instruments have been practiced. Indeed, there are “discouraging” statements in the basic sources of Islam against the “unnecessary” use of debt,¹³ but this does not make the issue “illicit” or “impermissible.” There has to be a clear understanding and distinction between the two positions. Moreover, current practices of the IF industry has shown insignificant presence of PLS products on the assets side of these institutions. For instance, Al-Shubaily

(2011)¹⁴ found that PLS modes of financing on the asset side of twelve Saudi banks constitute no more than three (3) per cent of the total assets of these institutions. In Malaysia, on the other hand, the situation is even worse. According to Chong and Ming-Hua (2009) “only 0.5% of Islamic bank financing is based on the PLS paradigm of *Mudarabah* (profit-sharing) and *Musharakah* (joint venture) financing.”

On the liability side in the Malaysian case “*Mudarabah* (profit-sharing) deposits, which account for 70% of total Islamic deposits, are more predominant,” Chong and Ming-Hua (2009). But this “theoretical” arrangement has to be treated carefully as Chong and Ming-Hua (2009) have shown in their work that “Islamic deposits are not really interest-free, but they are very similar to conventional-banking deposits.”

In spite of the above reservations, it has to be acknowledged that IBs have shown relative stability to the first wave of the last international crisis of 2007–2008. As a result, their “theoretical” proposition of pure equity or “superficial” link of financing to real activities may bring more discipline to the financial system’s behavior. And this takes us to the asset-backing principle that govern the operation of IFIs. This principle has not been discussed thoroughly in the reviewed theoretical studies. Discussion of the effect and impact of such a principle is left to the empirical part in the section that follows.

Finally the essential message that the authors would like to make centers around the greater role that should be given to risk-sharing paradigms in the world of finance as opposite to risk-shifting paradigms that dominate the current shape of the financial system, “*whether the reforms implemented are called the Chicago Plan, Limited Purpose Banking, or Islamic finance, the message is unified: the world needs a financial system that reduces risk-shifting and debt financing in favour of risk-sharing and equity financing in order to create a financial system that promotes growth and minimizes instability.*” Askari (2012).

The authors of this research believe that there is a strong case for this “plea” and in the aforementioned analysis and argument. This plea deserves due consideration if policy makers and economists would like to widen the prospects beyond the “tool boxes and policies” of the conventional wisdom.

5. Analysis and discussion of the findings of empirical studies

As for empirical studies whose main findings and tools of investigation are presented in Table (2), it is apparent that about sixty per cent of them used Z-score and GARCH models, while the remaining utilized other techniques as demonstrated in Figure (4) below. It is also evident that the approach followed in the research is examining the stability of IF from a micro-perspective with a particular reference to Islamic banks. This is primarily due to the fact that Islamic banks, like their conventional counterparts, aim at financing the economy by channeling depository funds from savers to investors. As a result of this special character this kind of institutions has historically been heavily regulated.

To this extent both Islamic and conventional entities may be presumed to look identical if the argument stops here. However, this is not the case. The adopted platform of IBs is different in that they reject the use of interest rate and engage in profit and loss sharing projects attached tightly to real assets. Boumediene and Caby (2008) agreed that due to the risk sharing principle and asset diversity, Islamic banks are more immune to negative shocks. However, this theoretical argument has to be tested empirically in order to assess the extent to which Islamic banks are exposed to financial instability. The level of stability has been widely measured in conventional literature using the Z scores, and it has not been an exception in IF literature as is shown in figure (4) and table (2). For instance, the Čihák and Hesse (2008) investigation was one of the most influential empirical studies that looked at the stability of Islamic banks. They measured financial stability using the Z accounting scores defined as $z = (k + \mu) / \sigma$, where k is equity capital, μ is average return as percent of assets, and σ is standard deviation of return on assets as a proxy for return volatility. Assuming the returns are normally distributed, Čihák and Hesse (2008) utilized the Z scores to measure the number of times the standard deviation is covered by the realized returns. Hence, a lower Z score indicates a higher insolvency risk. Mitra, and Worrell (2005), Čihák and Hesse (2008), Beck et al. (2010), Shahid and Abbas (2012), Masood et al. (2011), Gamaginta and Rokhim (2012) and Altaee et al. (2013) all used the Z scores to proxy for financial stability. Čihák and Hesse (2008) (2010) claimed that the strength of such variable lies in that it is an objective variable as it intends to measure insolvency risk regardless of the specific characteristics that frame the functioning of any bank Islamic or conventional. However, one potential weakness associated with it is that, it does not take into account the fact that Islamic banks apply more protective strategies through having their investments backed up by real assets. Also, the profit and loss sharing principle allows these banks to pass on a proportion of their risk to the investors which reduced their overall exposure to risk and financial instability.

Unlike the theoretical studies, the findings of empirical researches are not so conclusive in one direction or the other. The situation is rather mixed. Some support the theoretical “superiority claim,” others go in contrast with that and a third category may be considered as “neutral.” How robust and conclusive are these results? And, what can explain about their departure from theoretical findings?

Several possible factors can be mentioned to explain this position. Two prime elements are at the forefront; these are:

1. The “applied business model” of IBs is almost identical to the conventional interest-bearing one. It is neither a “two-tier *Mudarabah*” nor a *Wakala* (agency) based model as was proposed by the “pioneers” and other “theoreticians” of IEs and finance. It is rather a specially “engineered” debt model, particularly on the assets side, to be *Shariah*-compliant through the work of *Shariah* advisory boards, lawyers and practitioners. The guiding adopted framework, in the development of Islamic financial instruments, has been to design products in such a way that these modes are, almost, equivalent in economic and risk

Table 2. Summary of the findings of empirical studies.

| Author (s) and publication year | Sample | Method of analysis | Main findings |
|--|---|---------------------------|---|
| 2-1 - Empirical studies based on Z-score & GARCH models | | | |
| Martin Čihák & Heiko Hesse (2008) | 77 Islamic banks and 397 conventional banks in 20 countries during the period 1993–2004. | Z-scores indicator | <ul style="list-style-type: none"> • Small Islamic banks (with assets under US\$ 1 billion) were financially more solid than conventional banks of the same size. • Large Islamic banks were less solid than conventional banks of the same size. • Small Islamic banks are financially more solid than large Islamic banks. • Market share of Islamic banks does not have a significant impact on the financial strength of other banks. |
| Aniss Boumediene & Jérôme Caby (2008) | 14 Islamic banks and 14 conventional banks in nine countries. Over the periods of 2005–2009. | E-Garch and GJR-Garch | <ul style="list-style-type: none"> • Islamic banks were at least partially immune to the subprime crisis, and that these banks were not subjected to the same risks as conventional banks. |
| Thorsten Beck, Asli Demirgüç-kunt & Ouarda Merrouche (2010) | 89 Islamic banks and 397 conventional banks in 20 countries during the period of 1995–2010. | Z-scores indicator | <ul style="list-style-type: none"> • Islamic banks seem more cost-effective than conventional banks in a broad cross-country sample. • Conventional banks that operate in countries with a higher market share of Islamic banks are more cost-effective but less stable. |
| Sayd Farook, M. Kabir Hassan & Gregory Clinch (2010) | 50 Islamic banks and 150 conventional banks with a minimum of 5 years of data and a maximum of 15 years from period 1991–2005 in sixteen countries. | Z-score indicator | <ul style="list-style-type: none"> • The negative association between profit distribution management and financial stability is inconclusive. • Fixed rate asset concentration is almost invariably associated with lower financial stability. • There is some support for a negative association between profit and loss asset concentration and financial stability. |
| Masood, et al. (2011) | 30 paramount Islamic banks functioning in different countries of the world for a period from 1998 to 2008. | Z-score indicator | <ul style="list-style-type: none"> • Smaller IBs are more stable than larger IBs. • Large IBs have greater income diversity than the smaller IBs. |
| Abde Elrahman Ezahi Saaid Ali (2011) | Bank-level data of 39 full-fledged IBs in 17 selected countries. | Z-score indicator | <ul style="list-style-type: none"> • IBs are associated with higher credit risk, but with lower overall risk. • IBs are financially stable. |
| Ghassanand Gendouz (2011) (in Arabic) | 6 Banks in Saudi Arabia: 4 conventional and 2 Islamic, over the period 2005 to 2009. | Z-score indicator | <ul style="list-style-type: none"> • Mixed results. There is no clear evidence of the superiority of IBs. Insignificance presence of IBs in the Saudi financial system does limit contribution to the stability of the whole system. |
| Asa'ad Hamieed O. Al-ali & ImaneYousfi (2012) | 10 conventional banks one (1) Islamic bank in Jordan over the period of 2005–2010. | Garch, Egarch & GJR-Garch | <ul style="list-style-type: none"> • Islamic bank were more stable than conventional banks. |

| | | | |
|---|---|---------------------------------|---|
| Muhammad Ali Shahid & Zaheer Abbas (2012) | 06 Islamic banks and 10 conventional banks in Pakistan during the period of 2005–2010. | Z-score indicator | <ul style="list-style-type: none"> • Small Islamic banks tend to be financially stronger than small conventional banks. • Large conventional banks tend to be financially stronger than large Islamic banks. • Small Islamic banks tend to be financially stronger than large Islamic banks, which may reflect challenges of credit risk management in large Islamic banks. • market share of Islamic banks had a significant impact on the financial strength of other banks. • The Islamic banks in general have a lower degree of stability compared to the conventional ones. • Small Islamic banks relatively have the same degree of stability with small conventional banks. • During the crisis period of 2008–2009, Islamic banks and conventional banks tended to have the same relative degree of stability. • The stability of full-fledged Islamic banks (BUS) is lower than Islamic business units (UUS). |
| Gamaginta & Rofikoh Rokhim (2012) | 12 Islamic banks and 71 conventional banks in Indonesia during the period of 2004–2009. | Z-score indicator | <ul style="list-style-type: none"> • Islamic banks had higher stability than conventional banks except for small Islamic banks. • Credit risk and income diversity are the most common cause of insolvency for Islamic banks. • Income diversification is a cause of insolvency for small and large Islamic banks in Southeast Asian countries. • An increase in LIBOR leads to a decrease in z-scores in small Islamic banks in Southeast Asian countries. • In Southeast Asian countries, large Islamic and conventional banks cannot coexist in the same system without crowding out effects in a competitive market. |
| W. Rajhi (2012) | 467 conventional banks and 90 Islamic banks for the period 2000–2008 in 16 countries: 6 Southeast Asian countries and 10 MENA countries | Z-scores indicator | <ul style="list-style-type: none"> • There is no empirical evidence that supports the hypothesis that says “there is a difference between the z-score of Conventional banks in the Gulf Cooperation Council (GCC) countries and Islamic banks in the same region for all three periods.” |
| Altraee et al. (2013) | Total observations are 653 for 97 banks: 405 observations are for 55 Conventional banks and 248 observations are for 42 Islamic banks covering the period 2003 to 2010. | Z-score as a dependent variable | |
| 2-2 - Other empirical studies | | | |
| Remali Yusoff Rodney Wilson (2009) | Malaysian banking system from period 1983–2001 | OLS Equations: | <ul style="list-style-type: none"> • <i>Shariah</i> Compliant Deposits are more stable than their conventional equivalents. • The Islamic banks sharing deposits equation. • The conventional interest-based deposits equation. |

(Continued)

Table 2 - Continued

| Author (s) and publication year | Sample | Method of analysis | Main findings |
|--|---|--|---|
| Maher Hasan and Jemma Dridi (2010) | The research uses bank-level data of 120 banks (90 conventional & 30 Islamic), in 8 countries, covering the period 2007–10. | Financial ratios: Four indicators were; changes in (1) profitability; (2) bank lending; (3) bank assets; and (4) bank ratings. | <ul style="list-style-type: none"> IBs have been affected differently than CBs. In terms of profitability, IBs fared better than CBs in 2008; large IBs have fared better than small ones.” This was reversed in 2009 as the crisis hit the real economy. IBs “credit and asset growth performed better than did that of CBs in 2008–09. The growth was at least twice higher in IBs than that of CBs. IBs showed stronger resilience, on average, during the global financial crisis. Factors related to IBs “business model helped contain the adverse impact on profitability in 2008, while weaknesses in risk-management practices in some IBs led to larger declines in profitability compared to CBs in 2009. “Adherence to <i>Shariah</i> principles precluded IBs from financing or investing in the kind of instruments that have adversely affected their conventional competitors and triggered the global financial crisis”. |
| Kassim, H. (2010). | 194 banks have been used in the study; 50 Islamic and 144 conventional. | <ul style="list-style-type: none"> The study measures financial stability using three important indicators: <ul style="list-style-type: none"> BS ROAV which is computed as the standard. Deviation of ROA. BS Tobin Q, which we calculate by equity by earnings. Banks liquidity (BSLIQ). | <ul style="list-style-type: none"> IBs are more capitalized than CBs. IBs reported very small Nonperforming assets (NPA). GCC CBs have higher liquidity levels than IBs. Consumer confidence levels in IBs are higher than CBs in this region which operates both banks in parallel. |
| Hatem Derbel Taoufik Bouraoui Neila Dammak (2011) | Financial indexes of France, United States, Indonesia and Saudi Arabia, cover the period 16/07/1997–15/12/2009. | VAR model | <ul style="list-style-type: none"> The transmission of the current crisis is weak in the markets which are based on Islamic finance. |

| | | | |
|---|---|--|--|
| Zouaoui and Redif (2011) (in Arabic) | 4GCC IBs (2 in UAE, 1 in Qatar, and 1 in SA) over the 2007–2009 period. | Markowitz (Optimal portfolio theory) | <ul style="list-style-type: none"> IBs are quite resilient to crises” shocks as indicated by the good performance of some indicators such as growth in profitability, and the volume of provided credit. |
| Sutan Emir Hidayat & Muhamad Abduh (2012) | 8 Islamic banks in Bahrain from period 2005–2010. | Financial ratios | <ul style="list-style-type: none"> Islamic banking industry is not totally crisis-proof; Financial crisis does give an impact upon the Islamic banking performance, particularly in Bahrain, but the effect comes after the crisis period. |
| Hajer Zarrouk (2012) | The research uses data covering 2005–09 for 20 Islamic banks in five GCC countries. | <ul style="list-style-type: none"> The study focuses on an inter-temporal comparison of the performance of Islamic banks before and after the global financial crisis in the GCC region. In this study uses 12 financial ratios to assess IBs’ performance. The ratios have been grouped under four categories: (a) profitability; (b) liquidity; (c) risk and solvency; and (d) efficiency. | <ul style="list-style-type: none"> The study suggests that Islamic banks fared differently from country to country during the global financial crisis. Factors related to the IF model helped to contain the adverse effect on performance in 2008. However, weaknesses in risk management practices in some Islamic banks led to larger decline in performance in 2009. The performance of IBs in the UAE declined more than that in the other countries. Islamic banks loan growth was higher during the crisis. Overall IBs seem to be “relatively sound” during the crisis. |

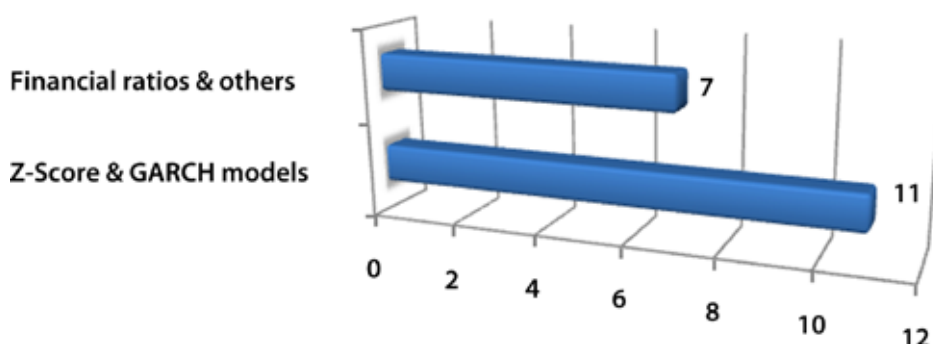


Figure 4. Distribution of empirical studies between econometric and other techniques.

characters to conventional debt instruments. Was this model pushed by the “unsupportive” regulatory regimes in many jurisdictions, or was it impacted by fierce competition of conventional banks, or was it driven by the profit maximization “short-sighted doctrine” of the “runners” and shareholders of these intuitions? These and other arguments have been in circulation for some time, but the fact is that this applied model is far from the “theoretical ideal” that was, and is still advocated by many Muslim economists, some jurists (*Fuqha*), and even some pioneer practitioners.

2. The nature of empirical investigations involves the sense that they are very difficult, if not impossible, to arrive to the same conclusions all the time and by different or the same authors. These investigative tools are constrained by a number of factors; especially in the case of IBs. The paramount among these are:
 - Sample size, number of observations, and time span. The data provided in the table below highlights this issue very clearly.
 - Data availability, quality, and reliability are major obstacles in arriving at a very robust findings and conclusions. Many of the reviewed work have utilized commercial databases like Bankscope, while others have used Islamic Banks and Financial Institutions Information (IBIS) of the Islamic Development Bank (IDB) and *Zawya*. Furthermore, most, if not all investigations have consulted, in one way or the other whatever they have been able to obtain of the available financial reports produced by IBs to overcome some of the shortcomings in those data bases. In spite of the tremendous effort carried out by some authors, the lack of a unified or an internationally recognized accounting standards for IFIs is another dimension that should not be underestimated in affecting the results of quantitative investigations in Islamic economics and finance. A longstanding and very experienced Western economist, Volker Nienhaus (2012),¹⁶ emphasized this point very clearly in discussing the “research and academic careers” of IEs and finance in Western higher education. Nienhaus pointed out that many “talented students choose interesting topics for empirical studies, but did not recognize the

serious shortcomings of the data they used.” Nienhaus went further to state that “many cross-country comparisons of Islamic and conventional banks – for example with respect to efficiency or profitability – use Bankscope data. This data base suffers from a number of misspecifications and gaps with regard IBs¹⁷.” There is, even, another deeper dimension that many may not be able to detect due to their limited knowledge in IF instruments and practices. It is the issue of the product and instruments names; under such circumstance “even if the data was complete, a researcher can arrive at gross misinterpretations of IF in comparison to conventional finance if he or she does not consider that the same name can have different meanings for different institutions.”¹⁸

- The comparison and groupings inconsistency in some investigations in terms of putting at par the fully-fledged institution with an Islamic “unit” or “window” to derive some conclusions between these diverse entities.

The above remarks should not be interpreted as a call for the abandonment or drop of quantitative tools to examine particular issues in IEs and finance. The main message is the fact that a researcher and/or an investigator have to be cautious and aware of the limits and constraints of such tools, in interpreting the results or in drawing some lessons and policies.

Finally, despite all that has been said about “the applied business model” of IBs and the reservations that have been made against its practices, it has to be noticed that during the first wave of the subprime crisis the institutions of this model proved to be more resilient than their conventional counterparts. Was that due to their “insignificance” presence at the international financial stage, or was it due to their “conservative” policies as some authors have tried to highlight? The authors of this research discovered that regardless of any reason that was given to underestimate this fact, almost all of the reviewed empirical studies pointed out that IBs did not engage in the very toxic assets that brought renowned and long-established conventional institutions to a halt. However, some IBs have been affected by the second wave of the crisis (i.e. when the real economy was hit). And this is true. For those authors who have stressed this fact to prove that these institutions, like their

conventional counterparts, are not immune from the effects of FCs, this argument may not serve their end. On the contrary, the argument may support its antithesis, which states that IBs have “built-in” premises that may shield them from the fragility that conventional banks suffer from. These premises are derived from the basic tenets that govern the operations of IBs. In this regard the asset-backing principle may prove to be a very useful feature that allows Islamic institutions to absorb financial shocks more than their conventional counterparts.¹⁹

6. Concluding remarks

In this paper a considerable amount of financial stability literature about Islamic Economics and finance has been reviewed and assessed thoroughly. Based upon the analysis and the discussion carried out in the previous sections, the following remarks can be made:

- Despite the tremendous efforts that have been devoted to financial stability over the recent past and before, the world is still “*in search*” for its attainment.
- Given the interdependence and the complex interactions of different elements of the financial system within its inner structure, and the interaction with the real economy, FS proves to be a very difficult term to be accurately defined and even harder to measure. As a result, the construction of a “useful” macro model that encompasses these delicate aspects is still far from realization. But it might be a worthwhile exercise to devote some effort to overcome the stalemates that surrounds this issue.
- It seems that the subprime financial crisis that hit the US economy in late 2007 has triggered more interest in the stability of the IFS and its institutions. Over the past five years about five studies have been produced per year in comparison to less than one study being carried out in the pre-crisis era.
- Theoretical literature about IFs financial stability has almost been unanimous in its assertion of the superiority claim of this system over its conventional counterpart. The underlying assumptions and arguments of these treatises have been identified as: the endogenous fragility of the conventional interest-bearing financial system as demonstrated by the recurrence of FCs, the resemblance of the proposed financial reform plans to the IFS, and the “pure” equity and participatory financial instruments of the “ideal” IFS. In contrast, empirical studies are not so conclusive in one direction or the other. A number of factors have been identified and explored to examine the basis of the divergence between the findings of these two important blocks of the reviewed work.
- Two fundamental tenets have been highlighted from this review to constitute important “built-in” features that may stand behind the inherent stability of the IFS. These are: risk-sharing and asset-backing principles. This by no means should be interpreted as an underestimation or unimportance of other tenets of IF, on one hand, and the fact that the current practices of IFs adhere strictly and “whole-heartedly” to these paradigms.

- The current regulatory, supervisory and tax framework proved to be biased towards interest-bearing debt instruments. This fact has been pointed out, not by the authors of the reviewed literature but by other prestigious institutions like the IMF and other conventional economists. Therefore, if policymakers incline to achieve certain degree of stability, a shift has to be made to provide a “level playing field” for equity modes of financing.
- Chapra and the “IMF-World Bank Muslim economist” professionals, like Khan, Mirakhor and Iqbal, have been the most proactive researchers in this aspect of the IFS. Their work has been persistently carried out from the mid-1980s until now. As a result, can an “Islamic” hypothesis that pinpoints the “cause of all causes” of FCs be developed out of rich analyses and literature?
- Though debt is discouraged under the IFS, this should never be equated to a “total” ban of debt and debt instruments. Therefore, there is a need for the “revisiting” of “Islamic theorems” of financial intermediation to assess their relevance and practicability. Thus, there might be a variety of models to cater for the various needs and to adapt to certain impediments and realities.
- History has shown that the regulatory and supervisory financial framework is a prerequisite for the successful implementation and safeguarding of financial systems. The IFS is not an exception in that. Hence, to exalt the system’s optimality, an enabling environment for its nourishment needs due consideration in many conventional jurisdictions.

Notes

1. Like Robert Holland who spent twenty five years (25) at various positions in the Federal Reserve System (FRS or the Fed), and the distinguished classical historian of financial crises: Charles Kindleberger. In his opening remark Mr. Holland asserts that the “instability” is deeply rooted in the prevailing system. ***“I do not believe that financial instability is born of bad management or lousy regulation. It is inherent in the kind of financial system we have built and seem to like.”*** Robert C. Holland, 1985. “The Problem of Financial Stability,” in “The Search for financial Stability: the Past 50 years” (ed.), Federal Reserve Bank of San Francisco, p1.
2. This was the title of the remarks made by Ben Bernanke, the then Governor of the Fed and its current chairman, at the meetings of the Eastern Economic Association in Washington, DC, on February 20, 2004. Bernanke concluded his remarks by explaining what is meant by this “phenomenon” and the possible factors that may have attributed to its rise: “The Great Moderation, the substantial decline in macroeconomic volatility over the past twenty years, is a striking economic development. Whether the dominant cause of the Great Moderation is structural change, improved monetary policy, or simply good luck is an important question about which no consensus has yet formed. I have argued today that improved monetary policy has likely made an important contribution not only to the reduced volatility of inflation ... but to the reduced volatility of output as well.” Ben S. Bernanke, 2004, “The Great Moderation”, www.federalreserve.gov, accessed April 29th, 2012.

3. In his exploration of the failure of *Ihlas Finans*, in Turkey in 2001, Salman Syed Ali (2006 & 2007) mentioned some of the distressed IFISs; “Bank *Taqwa* was closed in 2001. *Faisal* Islamic Bank closed its operations in the UK for regulatory reasons.” According to the available sources there have been some other incidents; the *Mit-Ghamer* experiment of the sixties in the rural of Egypt was brought to an end for political reasons, Kuwait Finance House went into difficulty in 1984 due to lack of diversification in its investment portfolio. With regard Faisal Bank that has been mentioned by Ali, it must be noted that Faisal Bank never operated in the UK. It was Al-Baraka International that had operated in the UK and ceased its operations in early 1990s, but it was able to honor all deposit obligations without any troubles, (Wilson 1999: 428).
4. The value of the entire industry does not constitute more than 1 per cent of the total value of the conventional financial total assets.
5. There are two exceptions to this general trend; one is explicit the other is implicit. The explicit is represented by Dr. Naqvi (1981, p. 127) who holds the view that a wholly equity-based system “will be highly unstable.” This is because, according to him, equity-financing, in contrast to interest-financing makes the return on investment “a function of business conditions in general and of the efficiency with which the enterprise is being run. Hence an element of uncertainty is introduced into the investor’s expectations. Hence, to hedge against the probability of a loss, ways and means must be found, through some kind of deposit insurance scheme, to guarantee ... the normal value of deposits. [Otherwise] ... not only the banking system, but the entire economy will become highly unstable.” (Naqvi, p. 136). The implicit view is that of El-Gamal (1997). His study departed from the prevailing theoretical framework to construct a model based on “close-to-reality” postulation as he portrays.
6. It has to be noted that we are not denying or underestimating the contribution of other factors in triggering or worsening FCs, like the lax regulations it is, rather, a consistency of methodology that forced us to limit the discussion to factors relating to interest.
7. Yet these low or even zero-rates are presented as remedy tools in the aftermath of FCs. This paradox indicates the puzzling dilemma of the existence of interest rate itself.
8. A level that makes the economy grew, for quite a lengthy period of time, without booms and busts. It should be noted, here, that the concern is not normal business fluctuations relating to the ups and downs of the real economy, but rather the “abnormal” episodes that the economies suffer from as a result of the financial turbulences. The authors found this distinction very important as noted by the French Economist Paul Leroy-Bealieu (1843–1916) and probably others.
9. His first work appeared in 1957, and the last 1996; the year he passed away.
10. Minsky believes in the variety of capitalist systems.
11. We are very thankful to him for this and for sending us a soft copy of his 1983 article.
12. While accepting the possibility of establishing IFS based on debt Zarqa noted that: “(a) re-financing of old debt by issuance of new debt and (b) selling of debt to third parties, are both strictly prohibited”, under such a system.
13. See Al-Suwailem (1999). “*Mawqif As-Shariah Al-Islamiyah Mina Ad-Dayn* (The Stance of *Shariah* on Debt).” Reprinted in Al-Suwailem (2011). “*Qadayah Fil Iqtisad Wa At-Tamweel Al-Islami* (Issues in Islamic Economics and Finance), pp. 11–104.
14. Youssef Al-Shubaily. 2011. p.2
15. The paper appeared in July 2007; a date before the eruption of the crisis in August of the same year. As a result it has been counted among the pre-crisis studies as displayed in figure (3) above.
16. Volker Nienhaus. 2012. In “Islamic Finance at Western Higher Education: Developments and Prospects” (Ed), Belouafi et al. pp. xxv–xxvi.
17. The consolidated and unconsolidated issue, as pointed out by Cihák and Hesse (2008), is a typical example of that.
18. The authors of this research came across an incident similar to this in a financial report of a GCC IB where the institution named an item in its balance sheet as an “installment or deferred” sale, whereas in reality it was a “*Tawarruq*” transaction that is widely practiced in this region, especially in Saudi Arabia.
19. One of the reviewers of the paper suggested that it might be a worthwhile, or even a better exercise, to compare Islamic banks with conventional banks of similar size in the non-Muslim countries or conventional banks of any size in Muslim countries. If that has been done, it would be interesting to highlight the respective results separately. If there would be no significant difference in performance/stability, this might indicate that “asset backing” in Islamic banking may, in practice, mean more or less the same as “old style prudent banking” in conventional banks. We first thank the reviewer for this remark, and second we think that this is an interesting dimension that has not been looked at in the literature. Therefore, future research might explore this issue.

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