Islamic Banks, Conventional banks and Subprime Crisis: Empirical Evidence by Using DEA Approach

Amine Nafla[1] & Amine Hammas[2]

Abstract

The bad trails left by the financial crisis led many researchers to propose an adequate remedy to ensure financial stability. It is integrated in this framework paper from which we will be testing the resistance of the Islamic bank before, during, and after the period of the subprime crisis (2003-2012). To find out if Islamic finance is a real driver of financial stability, by making a comparison between the two industries, we will use the Data envelopment analysis method (DEA) by integrating a new input "Interest expense". The results do not confirm totally on one of the previous works, nor reject them, since they support the work who says that Islamic banks have kept their stability during the crisis. But those results did not agree that conventional banks are affected by the subprime crisis.

Keywords: Islamic finance, Bank, Financial stability, DEA

Paper type: Research paper

JEL classification: E6, F43, N20, O43, P50, Z12

1. Introduction

No one can deny the negative effects of the financial crisis on the stability of the financial system in developed countries such as those in development. In fact, the bad traces of the disaster prompted many researchers to break and at the same time to propose appropriate solutions. To escape from the crisis and ensure financial stability, several economists have resorted to the adoption of Islamic finance. The latter is considered a remedy, when we look its strength during the crisis at least in a lot of countries. Before the appearance of various financial troubles in 2007, the actual financial stability did not really have the chance to be studied. In fact, the number of articles has addressed this phenomenon remain timid.

But after the emergence of the financial holocaust in the United States, several studies have seen the light, the main aim of assessing the robustness of the Islamic financial system. Moreover, the majority of articles and recent studies have highlighted a comparison between Islamic and conventional banks by adopting both approaches. But our primary target remains to using DEA, the group of banks that are really attacked by the subprime crisis. It is in this context fits our paper from, which we will try to test the resistance of the Islamic bank before, during and after the crisis period. To find out whether this new system can be considered a true engine of financial stability, we will compare with their homolog. In fact, we will empirically analyze the robustness of the Islamic financial system, choosing a sample containing a group of Islamic and conventional banks divided into two categories, investment, and commercial.

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[1] Researcher in management at Higher Institute of Management of Sousse, Tunisia
[2] Professor at the Faculty of Economics and Management of Sousse, Tunisia

We begin our part by the ability of Islamic finance, namely banks in our sample, to resist facing the financial crisis. Based on our empirical results we can know whether Islamic finance can be an instant cure for at least escape from the crisis in the first place, and safeguarding financial stability in the second place. That is why we have chosen a sample that decomposes fifty six banks from eight countries of which seven belong to the MENA region. All countries have both commercial and investment banks. These last allow having more: parity for systems, transparency, accuracy, effectiveness, and credibility to our results. Besides, the originality of our paper is also emerging through the integration of a new input "Interest expense".

1.   Literature review

If we talk about the stability of the Islamic financial system, there are several theoretical works that fought this, but for practical or empirical testing, is very little. We can cite Kaleem Ahmed (2000), which analyzed the effectiveness of Islamic monetary instruments, in case of dual banking system case (Islamic and conventional) of Malaysia (an example prototype where there are two types of systems). Research shows a high level of control over the Islamic monetary instruments, but totally rejects the current policy level application of reserves and liquidity ratios on the similar Islamic bank. Kaleem Ahmed (2010) concluded that Islamic monetary instruments grow most favored and stable in case where a comparison of two banking systems, as highlighted in Malaysia.

Bashir (2000) in their empirical study has measured the performance of Islamic banks in eight countries in the Middle East. The results of the study confirm the findings of previous studies, which claim that the profitability of Islamic banks is directly related to equity and loans. Consequently, Islamic finance will be more profitable if these two variables are important and the loan to asset ratio will also proportionately high with leverage.

In the same way Abdus Samad (2004) has examined the comparative performance between conventional commercial banks in Bahrain (interest-based) and Islamic banks during the period after the Gulf War, respecting profitability, liquidity risk and credit risk, by using new ratios for performance measurement. The outputs are given, as a conclusion, there is no great difference in stability and performance compared to the profitability and liquidity, but the study shows that there is significant diversity in the credit performance.

A practical study covering 18 Islamic banks in the Gulf Cooperation Countries (GCC), East Asia, Middle East and African countries for the period 1997-2000, using a nonparametric approach, made by Yudistira (2004) explained the performance of 18 Islamic banks. The results suggest that Islamic banks were slightly inefficient during the global crisis of 1998-1999. According to the author, the main factor of scale inefficiency is the size. However, profitability has not had a significant impact both risk taking.

In fact Martin.C, Heiko.H (2008), among the pioneers who spoke about the relationship between banking stability and Islamic banks. The work stimulates that small Islamic banks are the best performing with a high degree of efficiency stabilizer for the banks in particular and the financial systems in general. In the same context, Sufien and Noor (2009) studied the technical efficiency, pure technical, and scale of Islamic banks in the MENA region and Asia, using the DEA during 2001-2006. Empirical outputs found that profitability, capitalization, and size of Islamic banks have a positive effect on efficiency. But broadly speaking, the study shows that Islamic banks in the MENA region are more exposed to the average technical efficiency. For cons, the Asian countries are more exposed to the scale efficiency and pure technical efficiency.

Further investigations have evaluated the productive efficiency of Islamic banking, based on non-parametric DEA approach, such as Chawki. EM and Hassan. O (2011), they have studied and evaluated the efficiency of Production of Islamic banks in the GCC countries. The results of this work show that the internal and external factors involved or contributed significantly to the development of Islamic banks operating efficiency scores in the GCC region.

Ali Said (2012), used the DEA method to analyze the efficiency of Islamic banking, saying increasing efficiency score during the time period between 2006-2008 with a small decline in 2009. The results, according to Ali Said, seemed well in the Middle East region and the average non-eastern countries that experienced a particularly steep increase in their efficiency scores during the crisis.

Another investigation, which highlights a comparison between Islamic and conventional banking efficiency in the Malaysian industry, according to the DEA, for the period 2003-2007, made by Ahmad and Abdul Rahman (2012). The results showed that conventional commercial banks are more efficient than their Islamic counterparts, given the technical progress and efficiency of management.

Ahmed.h and Mohamed.N (2011), using the non-parametric DEA approach, with a sample of 78 Islamic banks in 25 countries for the period 1992-2009, suggest that international Islamic banks have shown greater technical efficiency pure. The research also finds a positive correlation between bank profitability and technical efficiency levels, indicating that the most efficient banks tend to be more profitable with a strong result are those of Asia.

Shafique et al (2012) note that: "The performance of Islamic banks during the subprime financial crisis is better than traditional banks." Thus, they are "more stable". In fact, the empirical results show that the most profitable banks are those with operating expenses on assets, more actions on the assets and focused on high-income countries and demonstrating the crucial role of monetary factors in determining the profitability of Islamic banks. It's true that most studies that have been done over the past decade have mentioned the strength of Islamic banks, especially during the crisis period, but it prevents the existence of exceptions that give the favor of efficiency to conventional banks subject to adjustment. Mr. Kabir. H (2006), using both approaches shows that, on average, the Islamic banking industry is relatively less effective compared to their conventional counterpart in other parts of the world. Due to make a comparison between Islamic and conventional banking performance in Egypt Esam Mona Fayed (2013) chose a sample, which breaks down three Islamic banks and six conventional for a period of two years. The results indicate the superiority of conventional banks over Islamic banks in terms of profitability, liquidity and solvency. Thorsten.B, Asli. Ouarda.M and DK (2013) we found that Islamic banks are less efficient, however, they have better asset quality as well are better capitalized.

In order to assess whether Islamic banks can be an adequate alternative to escape the subprime crisis Romzie.R, Norazlina. Abd. W, and Zairy. Z (2013) has tried to analyze critically, using the method of data envelopment analysis DEA, pure technical efficiency and effectiveness of scale banks (banks) Islamic countries in the Middle East (79 banks) and Asian estimating performance scale. The results show that, it is true that, Islamic banks have managed to withstand and sustain operations through the crisis. However, the survey also shows that the majority of Islamic banks have inefficient scale scores.

The recent global financial crisis has not only cast doubt on the proper functioning of the Western classical bank, but also increased attention to Islamic finance, as some observers have pointed to their superior performance during the crisis Hasan and Dridi (2010). Academic researchers and policy makers as well highlight the benefits of financial products Sharia compliant.

2. Methodology

2.1 Sample and data

Our analysis is based on a sample composed of unconsolidated panel or cylinder capacity and it essentially amounts to a lack of data for some variables all throughout the estimated period "2003-2012". The choice this time is very important to assess the strength, durability, and performance of Islamic banks, especially in the period of the subprime crisis. This is why we chose a sample of twenty eight Islamic banks and the same number for conventional institutions (Annex). The mentioned sample is divided into two groups, commercial, and investment banks. The purpose of this estimate is to make a comparison before, during, and after the period of financial crisis that engulfed almost the whole world. We tried in this work to diversify our sample with implementation of the countries belonging to different regions (see Annex). We attacked the entire banking efficiency using the DEA under the assumption of variable returns to scale and by adding the input "interest expense".

2.2 Nonparametric approach : Data Envelopment Analysis (DEA)

The analysis of efficiency is the major concern of several domain theorists, given the various constraints that we can cope in the estimation of the failure, performance, and efficiency of financial institutions or business. Among the founding researchers of this phenomenon, we find Farrell (1957), which is the pioneer in the field of efficiency.

Farrell (1957) implemented the measure of a production unit based only on the case of input and single output. His study explained a measure of price, technical efficiency, and efficient production deviation. Farrell (1957) practiced his model to assess primarily the efficiency of American agriculture on a sample of 48 countries, while imposing the assumption of constant returns to scale.

However, it has not begun as a way to minimize multiple inputs and multiple outputs to a single input and virtual output. Cooper and Rhodes (1978) followed the work Farrell (1957), using a model aimed to generalize the evaluation or measurement of the efficiency of a single unit of decision-making (decision Making Unit: DMU) with a ratio of one input and one output to another framework in which the outputs and inputs are varied. Also, do not forget that the DMU is an entity that uses inputs to produce outputs.

2.3 Input and output selection

The selection of inputs and outputs is linked to the power of DEA in the discrimination between units. In our analysis, we try to measure the failure for a sample of fifty six banks (see Table 1).

Table 1: Inputs and outputs

Inputs	Outputs
Total deposits	Total Earning Assets
Fixed assets	Total Loans
Personnel expensesl[3]	
Interest expense[4]	

Created by the author

2.4 Basic model

The base model DEA (Data Envelopment Analysis) is as follows:

S: the number of measures of outputs
T: the number of measures of inputs
N: the number of decision-making units (DMUs); evaluate under constraint:

$U_r V_i \geq \varepsilon$; $\forall r , i$

Y_{ik}: the observed quantity (≥ 0) of output "i" produced by unit "k". (M1)
X_{jk} : the observed quantity (≥ 0) of the input "j" used by the unit "k" .
U_i : the weight (≥ 0) of the output r.
V_j : the weight (≥ 0) of the input i.
N : the number of units (> 0).
ε : Very small positive quantity.

Conceptually, DEA defines the total output S_k for each DMU k which, as the sum of output weight.

K= 1, …, n,

$$S_k = \sum_{i=1}^{S} u_i \, y_{ik}$$

Wherein the weight measuring units, as if the product without dimension. In this case the output of different measurement units can be integrated into the total output S_k, which is in turn dimensionless.

The total input of T_k is defined as that of the output:

K= 1,………, n,

$$T_k = \sum_{j=1}^{t} v_j \, x_{jk}$$

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[3] Comprend les salaires, les charges sociales, les frais de pension et autres dépenses de personnel, y compris les charges liées aux options d'achat d'actions personnel.

[4] L'input charge d'intérêt inclut les frais sur les dépôts, autres frais financiers et les dividendes préférés payés et déclarés.

For this reason, it is dimensionless as the output function.

We determine the efficiency (e_k) of DMU_k by using a non-linear program $P(e_k)$ given by:

Maximisation e_k

Which

$e_k \leq 1$ $e_k = (\sum\limits_{i=1}^{s} u_i\, y_{ik})/(\sum\limits_{j=1}^{t} v_j\, x_{jk})$ $K = 1,\ldots\ldots,k.$
$U_i \geq \varepsilon$ $K = 1,\ldots\ldots,n.$
$V_{j=\varepsilon}$ $i = 1,\ldots\ldots,s.$
     $v = 1,\ldots\ldots,t.$

Equation 4 defines e_k efficiency as total output (S_k) divided by the total input (T_k).

Equation (5) is subtracted from the analogous art. So $e_k \leq 1$ implies that the total output $\leq$ total input (ie). ($S_k \leq T_k$)

Equations (6) and (7) ensure that all weights are other than zero or non-null.

This non-linear program can turn into a linear program by using a nonparametric approach of Charnes and Cooper, and now it can be easily solved. Charnes and al (1978) are the pioneers who proposed the DEA approach. From the onset of this method, several areas have benefited from it until now, especially in the field of education, US forces banks, medical...

Several theoretical studies have used DEA approach for determining efficiency in several areas. The role of ε is the subject of some debate in the literature. In practice ε is a significant number, their characteristic is essentially double strands.

a) Mathematical; ensure that the denominator of the right part of the equation (4) is non-null (assuming, $\sum X_{jk} > 0$, $k = 1,\ldots\ldots n$, and at least DMUs non-null input measures).

b) Conceptual; ensures that each ratio input / output is assigned a certain weight.

2.5 Linear model

Primal form

The linearization of the model (M1) is given by the model (M2)

$$\text{Max } h_0 = \sum_{r=1}^{t} Ur\, Y_{rj_0}$$

Under constrained:

(M2)

$$\sum_{r=1}^{t} Ur\, Y_{rj} - \sum_{i=1}^{m} Vi\, X_{ij} \leq 0$$

$-Vi \leq -\varepsilon$; r= 1.........T

$-Vi \leq -\varepsilon$; i= 1.........m

Y_{rj}: observed quantity of the output r produced by the unit j.
X_{ij}: the observed quantity of input i used by the unit j.
U_r: the weight of the output r.
V_i: the weight of input i.
N: the number of units.
ε: Very small positive quantity.

We can solve the dual of (M2) as the primal, if we have in the primal t + m variables, then the dual has t + m constrained and if we have i + j constrained into the primal, so we find i + j variables in the dual.

- Forme dual

The Dual of (M2) is as follows:

$$\text{Min } Z0 - \varepsilon \sum_{r=1}^{t} s_r^+ - \varepsilon \sum_{i=1}^{m} S_i^- \qquad\qquad \text{(M3)}$$

Under constrained:

$$X_{ij0} - S_i^- - \sum_{j=1}^{n} X_{ij}\,\lambda j = 0 \qquad ; i=1.....m$$

$$-S_r^+ + \sum_{r=1}^{t} Yrj\lambda\ j = Yrj_0 \qquad\qquad ; r = 1..........t$$

$$\lambda_j, S_i^-, s_r^+ \geq 0 ; \forall\ j, r\ et\ i$$

$$\lambda_j, S_r^+, S_i^-\ et\ Z_0$$ are the dual variables.

Y_{rj}: observed quantity of the output r produced by the unit j.
X_{ij}: the observed quantity of input i used by the unit j.
n: the number of units.
ε: Very small positive quantity.

$$Z_0^*$$ Is the optimal value of Z_0 in (M 3)

The unit j0 would be efficient, in Pareto sense if $Z_0^* = 1$ and S_r^+, S_i^- are null regardless of i and r. The weight Vi and Ur defined in the model M1 regarded as dual variables that are associated with inputs or outputs respectively.

2.6 A DEA model under the assumption of variable returns to scale (VRS)

The constant returns to scale are appropriate, especially when all DMU's or the banks are operating on an optimal scale. Imperfect competition, finance constrained, can affect DMU's by making them non-operational on the optimal scale. Charnes and Cooper (1984) suggest an extension CRS DEA model for explain the situation of the VRS. If several DMU's are not operating at the optimum level, while the use of CRS result of TE measures is troubled by scale efficiency. Using VRS would focus on the calculation of TE devoid of these efficiencies of scale. The problem of the linear CRS program can be easily modified to justify the VRS by adding the constraint of convexities: N1′λ = 1:

$$\min_{\Theta,\lambda} \Theta,$$

$$\text{St} \qquad - y_j + Y\lambda \geq 0,$$
$$\Theta\ xi - X\lambda \geq 0,$$
$$N1'\lambda = 1$$
$$\lambda \geq 0,$$

This approach forms a convex curve, which includes the intersection of the planes which envelope data points that are closer to each other that the conical envelope and thus, it provides scores techniques efficiencies that are greater than or equal to those obtained by the use of the CRS model. The VRS model was used frequently in the nineties. The use of DEAP 2.1 software under variable returns to scale assumptions gives us the following results:

2.7 Analysis and discussion

The results of the analysis of efficiency under the assumptions of variable returns to scale, for most banks, regardless of industry, are a bit of that of constant returns to scale. We will make a comparison between the two types of banks (Islamic and ordinary) and also additional analysis that allows us to distinguish between investment banks and commercial ones. Tables 2, 3, 4 and 5 give us a clear idea about the look of the percentage efficiency during, before, and after the 2007 crisis, for all the banks in our sample (MENA and Malaysia).

Commercial conventional banks:

On the contrary, there are many economists who think that commercial conventional banks are keeping his efficiency score during the crisis, although it has increased to a considerable margin to 64% in 2008. The intermediation role and the low cart credits, allowed him to avoid the negative effects of the crisis. Since the main cause of the subprime crisis is linked to mortgages. In fact, the part of the mortgage is not the same as that found in investment banks. It is true that the percentage was decreased during the period "after crisis" but remains stable with an average of 50% (VRS). Following the results found by our analysis, conventional commercial banks are not affected by the reputable financial catastrophe triggered in 2007. We should not forget that we test the banking efficiency in the Gulf countries where the liquidity factor is not a problem, since these countries have a considerable income return coming of oil (see Table 2).

Table 2: Efficiency in (%) in commercials conventional banks

Efficiency Periods	Years	VRS♣	SE○	CRS♦	VRSM♠	CRSM♠
Before crisis	2003	50	28.57	28.57	39.27	26.78
	2004	35.7	28.57	21.42		
	2005	35.7	28.57	28.57		
	2006	35.7	28.57	28.57		
During crisis	2007	50	35.7	28.57	57.14	38.06
	2008	64.28	42.8	42.8		
	2009	57.14	42.8	42.8		
After crisis	2010	50	42.8	42.8	50	38.06
	2011	50	42.8	35.7		
	2012	50	35.7	35.7		

○ Efficiency Scale   ♣ Pure Technical Efficiency   **Created by the author**
♦ Technical Efficiency   ♠ Average during the period

Conventional investment banks:

If we look at the scores of efficiency of conventional investment banks, we notice that they have experienced a recession during and even after the crisis. In fact, the percentage of efficiency in our sample even touches the 0%, depending on the constant returns to scale both during and after the crisis (2009-2010). Investment banks in Jordan are almost the most affected during the crisis. However, after the crisis, Malaysian banks are the most efficient. This decrease also relates to the pure technical efficiency (0% in 2010) and both scale efficiency. The average rate of technical efficiency during the financial crisis (subprime) does not exceed 9.52%, depending on CRS and 19.04% for the VRS. The margin of efficiency is not revived until 2011 with an average of 26.16% for pure technical efficiency against 14.28% for technical efficiency.

Based on our results, we distinguish that the financial crisis had a significant impact on the bank efficiency which resulted in the failure of several banks. This decrease comes down to the nature of the investment banks that is based mainly on mortgages. In addition, the main origin of the subprime crisis is these kinds of loans which we find several debtors are not able to honor their commitments (Table 3).

Table 3: Efficiency in (%) in investment conventional banks

Efficiency Periods	Years	VRS♣	SE○	CRS♦	VRSM♠	CRSM♠
Before crisis	2003	35.7	28.57	28.57	28.56	16.66
	2004	35.7	14.28	14.28		
	2005	21.42	14.28	7.14		
	2006	21.42	14.28	14.28		
During crisis	2007	21.42	21.42	14.28	19.04	9.52
	2008	28.57	14.28	14.28		
	2009	7.14	0	0		
After crisis	2010	0	7.14	0	26.16	14.28
	2011	42.8	21.42	14.28		
	2012	35.7	42.8	28.57		

Created by the author

○ Efficiency Scale   ♣ Pure Technical Efficiency
♦ Technical Efficiency   ♠ average during the period

Islamic commercial banks

By leveraging our efficiency scores from DEA method, according to the three techniques (VRS, SE and CRS), we notice that Islamic commercial banks have experienced an improvement in their financial strength. Besides, there is an increase in average rate of efficiency, about 28.57%, in the period before the subprime crisis and to 42.86% after the crisis. This resuscitation is reasonable, given the financial and economic crisis triggered, which the United States of America in 2007 was the spark that status.

The Gulf countries covered in our sample have a close relationship with America. In fact, a large volume of transaction of the Gulf countries is deposited in USA banks. In addition, among the top oil importers from this region is the United States of America, since this represents the largest consumer of oil and its derivatives products, the recession during the period of the crisis involves the decrease of the normal volume of import, these implications reduce the wealth of the Gulf countries. Indeed, donors are obliged to move towards Islamic banks. We know that our sample is broken down into eight countries, where most if we do not say all, Islam is the dominant religion. This is why the growth rate remains reasonable. Since people are feeling, when they deposit their money in Islamic banks that they have respected sharia and they will probably move away from prohibition. But that does not prevent that there is a competition, which is manifested in Islamic investment banks that also experienced a significant improvement in efficiency scores. So pure Muslims are put between two choices, either the investment banks or the commercial banks (Table 4).

Table 4: Efficiency in (%) in commercials Islamic banks

Efficiency\Periods	Years	VRS♣	SE○	CRS♦	VRSM♠	CRSM♠
Before crisis	2003	28.57	28.57	28.57	28.57	19.64
	2004	50	35.7	35.7		
	2005	7.14	7.14	7.14		
	2006	28.57	7.14	7.14		
During crisis	2007	21.42	21.42	21.42	35.71	21.42
	2008	35.7	28.57	21.42		
	2009	50	28.57	21.42		
After crisis	2010	28.57	42.8	28.57	42.86	28.57
	2011	50	28.57	28.57		
	2012	50	35.7	28.57		

○ Efficiency Scale   ♣ Pure Technical Efficiency   **Created by the author**
♦ Technical Efficiency   ♠ average during the period

<u>Islamic investment banks</u>

Starting from the empirical results (Table 5), we can distinguish that Islamic investment banks continue to progress. Before the crisis, the percentage of average efficiency in this category amounted to 42.84% on the variable returns to scale, while 35.7% of the constant returns to scale. These rates rose during the period of the subprime crisis arriving until 50%, based on the variable returns to scale method. After the crisis of efficiency rate reached 57.14% in 2011. While, according VRS there is a 4.79% recession. This stagnation or financial stability of investment banks in the period up to the crisis:

Firstly, at the wrong sign and as well the consequences of the 2007 crisis that has left enormous damage. These have adverse effects on conventional investment banks who are the first victims since it is a home mortgage crisis. Secondly, the donors become suspicious against the conventional banks, especially the investment banks. So the majority will withdraw their deposits to avoid the loss of his fortune as happened in the United States and heads towards Islamic banking as an alternative investment to escape bad consequences. Third stability of Islamic investment banks in the crisis draws attention of many investors who see that this category is primarily far from being attacked by the harmful effects of the crisis. Secondly, the principles of these banks, especially respect Shariah oblige the banks to be out failure zone. The resistance of Islamic investment banks mainly comes to their standards that radically prohibit almost all the sources that are at the root of the subprime crisis. The Islam in principle prohibits usury and implements the concept of profit and loss sharing, requires the existence of a tangible good at a wind operation. In addition, the transfer of ownership is a prerequisite if this gets out Shariah. This is why securitization is forbidden by Islamic laws. Ethics is the main element that must be respected; each transaction or operation must honor the ethical value. We note that the main factors triggering the subprime crisis are forbidden by nature or by the rules and Islamic foundations. By adding the existence of still Shariah committees than try to control Islamic banks and encourage them to respect the rules of Islam. We can say that the quality of custodians of Islamic banks, where ethics is their basic nature allows them to keep their comfortable statutes, since the repayment of loans is a necessity mustn't is contested. By cons in conventional investment banks, we don't speak of Ethics.

Table 5: Efficiency in (%) in investment Islamic banks

Efficiency Periods	Years	VRS♣	SE○	CRS♦	VRSM♠	CRSM♠
Before crisis	2003	50	35.7	35.7	42.84	35.7
	2004	28.57	42.8	28.57		
	2005	42.8	42.8	42.8		
	2006	50	35.7	35.7		
During crisis	2007	42.8	28.57	21.42	50	26.18
	2008	50	28.57	28.57		
	2009	57.14	28.57	28.57		
After crisis	2010	35.7	28.57	21.42	45.21	26.18
	2011	57.14	35.7	28.57		
	2012	42.8	28.57	28.57		

○ Efficiency Scale   ♣ Pure Technical Efficiency   **Created by the author**
♦ Technical Efficiency   ♠ average during the period

Panorama: it's true that Islamic banks have resisted during the period of the subprime crisis, especially the investment category, which experienced a remarkable increase at the onset of the crisis. But that does not prevent that said disaster has not affected traditional commercial banks where they keep their financial stability and as well their degree of efficiency. By way of summary, we distinguish according to our empirical results that:

- Islamic investment banks are more stable than conventional investment banks.
- Common commercial banks are not affected in a meaningful way and keep the pace of efficiency throughout the three periods.
- Commercial ordinary banks are more stable than their Islamic counterparts are.
- The Islamic investment banks are more efficient than commercial investment banks and Islamic commercial banks.
- A remarkable recovery on the financial stability of conventional banks after the crisis period (from 2011).

Contributions and Comparison:

Our results confirm the work of (Ahmed.h and Mohamed.N, 2011) and (Shafique and al, 2012), but we do not agree through these works on conventional commercial banks. However, we are in agreement with (Ahmad and Abdul Rahman, 2012) the resistance of conventional commercial banks with respectable scores.

Conclusion

Today, governments are really aware that we must find a suitable remedy that allows us to escape from the subprime crisis. We have tried in this article to discuss whether Islamic finance really is an adequate choice to escape the crisis by guaranteeing financial stability least instantaneously or not. We chose the MENA region with Malaysia, as a sample for a period of ten years, which is divided into three periods "before, during, and after a crisis." The analysis is made on fifty six banks that are divided equally into two Islamic and conventional industries. We have classified, the last two industries, into two major groups, commercial, and investment in order to really find where the fault lies and what the banks have overcome the crisis by keeping their stability. That article allowed us to find out if Islamic banks are able to resist against the crisis and to specify the type of the group of suitable banks. The results do not fully confirm or reject the previous works. We can say that it is a panorama, because they support the work who say that Islamic banks have followed an increasing rate during the crisis all keeping their stability, but do not quite agree that all conventional banks affected by the subprime crisis. In our work Islamic investment banks kept their stability during the crisis with a gradual pace, through, against conventional investment banks have failed their efficiency scores are mediocre.

On the other side, commercial conventional banks keep not only their stability during and after the period of the crisis, but also with a very respectable average percentage of efficiency, see better than other groups of banks. While, Islamic commercial banks their efficiency score did not match the expectations of experts.

Annex

Banks used in our Estimates

countries	Banks	Categories			
		Islamic		Conventional	
		Investment	Commercials	Investments	Commercials
Bahrein	♣unicorne investment bank BSC ♣investor bank BSC ♣Citi islamic bank ♣National Bank of Bahrain ♣Arab Banking Corporation BSC ♣Albaraka Banking Group B.S.C. ♣Shamil Bank of Bahrain B.S.C. ♣Investcorp Bank. BCS ♣United Gulf Bank.(BSC) EC	X X X	X X	X X	X X
Jordanie	♣Jordan Dubai Islamic Bank ♣Jordan Islamic Bank ♣Islamic International Arab Bank ♣Jordan Commercial Bank ♣Arab Bank Group ♣Arab Jordan Investment Bank ♣Invest Bank	X	X X	X X	X X
Malaisie	♣Al Rajhi Banking & Investment Corporation ♣Aminve Bank ♣RHB Islamic Bank Berhad ♣Alliance Bank Malaysia Berhad ♣Bank Pembangunan Malaysia Berhad ♣Maybank Investment Bank ♣BerhadMIDF Amanah Investment Bank Berhad	X	X	X X X	X X
Arabie saoudite	♣Al Rajhi Banking & Investment Corporation ♣Islamic Development Bank ♣Islamic Corporation for the Development of the Private Sector ♣National Commercial Bank ♣Arab Petroleum Investments Corporation ♣Arab investment company ♣ Saudi investment Bank		X X	X X	X X
Kuwait	♣International investor company KSC ♣Aref Investment Group ♣First Investment Company K.S.C.C. ♣Ayan leasing&investment company ♣global investment house ♣Kuwait Finance House ♣National Bank of Kuwait S.A.K. ♣Ahli United Bank KSC ♣Gulf Investment Corporation ♣Boubyan Bank ksc ♣Kuwait International Bank	X X X X	X X X	X X	X X

Emarats Arabes Unis	♣Emirates Islamic Bank PJSC ♣Dubai Islamic Bank plc ♣Abu Dhabi Islamic Bank - Public Joint Stock Co ♣National Bank of Abu Dhabi ♣Abu Dhabi Commercial Bank ♣Sharjah Islamic Bank ♣ Abu Dhabi Investment Company	X X	 X X		 X	 X X
Yemen	♣Islamic Bank of Yemen for Finance & Investment ♣National Bank of Yemen ♣Shamil Bank of Yemen & Bahrain ♣Yemen Kuwait Bank for Trade and Investment	 X	 X	 X	 X
Sudan	♣Industrial Development Bank ♣Sudanese French Bank ♣Tadamon Islamic Bank ♣Export Development Bank	X	 X	 X	X

Created by the author

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