# Financial Performance For Islamic VS Conventional Financial Institutions During The Global Financial Crisis [2008] : Statistical Comparative Study

# الأداء المالي للمؤسسات المالية الاسلامية مقابل المؤسسات المالية التقليدية خلال الأزمة المالية العالمية [2008] : دراسة احصائية مقارنة

**Doc Lachenani Khaled**[*]

University of Blida 2, Algeria

**Received:** 13/02/2020 **Accepted:01/12/2020 publication :30/11/2020**

**Abstract**: This research aims to test and compare the financial performance of financial institutions during the 2008 global financial crisis, based on a random sample of traditional and Islamic financial institutions, and using a set of financial indicators such as return on investment, limited return on investment, return on property rights for 31 traditional financial institutions and other Islamic institutions to test differences in financial performance, and efficient management of investment activities. Research results showed that Islamic financial institutions are more efficient Achieving revenues and the optimal allocation of financial resources during the global financial crisis.

**Keywords:** Financial Performance, Islamic and Conventional Financial Institutions performance, The Global Financial Crisis, financial stability, Efficient management of financial activities.

**Résumé**: Cette recherche vise à tester et à comparer la performance financière des institutions financières pendant la crise financière mondiale de 2008, sur la base d'un échantillon aléatoire d'institutions financières traditionnelles et islamiques, et à utiliser un ensemble d'indicateurs financiers tels que le rendement des investissements, le rendement limité des investissements, le rendement des droits de propriété de 31 institutions financières traditionnelles et autres institutions islamiques pour tester les différences de performance financière et une gestion efficace des activités d'investissement. Les résultats de recherche ont montré que les institutions financières islamiques sont plus efficaces allocation optimale des ressources financières pendant la crise financière mondiale.

[*] The name Corresponding author: Lachenani Khaled

**Mots clés:** Performance financière, performance des institutions financières islamiques et conventionnelles, La crise financière mondiale, stabilité financière, efficacité de gestion des activités financières.

**ملخص**: يهدف هذا البحث الى اختبار ومقارنة كفاءة الأداء المالي في المؤسسات المالية والمصرفية خلال الأزمة المالية العالمية لسنة 2008، بالاعتماد على عينة عشوائية من المؤسسات المالية التقليدية والاسلامية، وباستخدام مجموعة من المؤشرات المالية ك العائد على الإستثمار، العائد الحدي على الإستثمار، العائد على حقوق الملكية ل 31 مؤسسة مالية تقليدية وأخرى اسلامية لاختبار الفروق الموجودة في الأداء المالي، وكفاءة إدارة الأنشطة الإستثمارية، حيث اثبتت النتائج الاحصائية للبحث أن المؤسسات المالية الإسلامية أكثر كفاءة وقدرة على تحقيق العوائد وعلى التخصيص الأمثل للموارد المالية وذلك خلال الأزمة المالية العالمية.

**الكلمات المفتاحية**: الأداء المالي،أداء المؤسسات المالية الإسلامية والتقليدية، الأزمة المالية العالمية ، الاستقرار المالي، كفاءة إدارة الأنشطة المالية.

## I- Introduction :

The 2008 fall global financial crisis has generated a lot of discussion about the need to research or develop solid, safe financing alternatives capable of providing financial and economic stability and achieving the desired returns for investors, replacing the risky financial practices and transactions that characterized the period before the global financial crisis. It also highlighted Islamic finance and transactions, which many specialists acknowledged are solid and capable of providing the financial stability needed to achieve economic stability, create growth, and avoid financial crises, given that these products are based on specific legal controls that cannot be compromised, and that they are linked to the real economy. Despite the significant growth and rapid worldwide spread of Islamic financial services and products, there are more than 300 institutions operating according to the Islamic financial system and methodology, but deep analysis and quantitative studies are still in their infancy. But through this paper, we're going to try, depending on statistical tools and methods, to find out: **which financial systems are more efficient at managing financial resources and achieving revenue during the financial crisis?** based on a random sample of financial institutions representing both types of finance.

### I-1. Previous Studies:

There are some studies associated with this paper, (Martin & Heiko, 2008) it looked at the issue of financial stability in Islamic banks compared to conventional banks, by analyzing a time series during the period 1994-2004 in many countries, and using ALTMAN standard for the financial safety of institutions known as (Z-core), the study concluded that:

- small Islamic banks are more stable than small commercial banks;
- while big commercial banks and small Islamic banks outperform big Islamic banks in the degree of stability because of the limited risk management standards of the latter.

(Bourkhis & Sami Nabi, 2013) The researchers conducted a standard study using the Altman Index for financial stability in a sample of 34 Islamic banks and 34 traditional banks in 16 countries during the period 2007-2008, in order to find out their impact on the health and safety of Islamic banks and their traditional counterparts. The regression analysis showed that there are no significance distinctions regarding the impact of the crisis on the health of Islamic and traditional banks.

(Abdi, 2010) This Phd Thesis it's all about whether there's empirical evidence that Islamic banks are more stable than traditional banks, especially during times of financial crisis. Using the Z-core model of a group of Malaysian and Bahraini banks, the study found that Islamic banks are still unable to show a significant competitive advantage in terms of financial stability over their traditional counterparts, but are highly rated in terms of performance improvement and stability.

**I-2. Study deference and Importance:**

The Paper aims primarily to prove the objective and realistic theory of the argument that Islamic finance is considered a good alternative for traditional finance in light of the recent global financial crisis, especially after successive financial crises have proven to be inherent in the traditional financial system and have become a feature of its characteristics among what is known as the economic cycle.

To test which systems are more efficient in managing financial activities, more capable of achieving returns on investments (operating assets), and on property rights, this study was based on the premise that the community in which they are tested is:

- Traditional financial institutions community
- Islamic Financial Institutions community

According to a random sample.

## II. Methods and Materials:

Based on the random sampling method, research hypotheses are tested using the data extracted from the balance sheets of 31 Islamic financial institutions and 31 Islamic financial institutions spread over different geographical regions and different environments, in order to test the differences in financial performance and efficiency in the management of investment activities during the 2008-2012 global financial crisis.

**II-1. Statistical Study Hypothesis**

In order to reach the objectives of the statistical study, there are assumptions on which to make the required analyzes, and we have therefore formulated the following assumptions:

**II-1.1. First hypothesis: (H0)**: The average return on investment in the IFI community is equal to the average return on investment in TFI , which means that there is no difference between Islamic and traditional financial institutions (they belong to the same community) So : $\mu ROI_I = \mu ROI_T$

**(H1):** The average return on investment in the IFI community is not equal to the average return on investment in traditional financial institutions, which means that there is a difference between Islamic and traditional financial institutions (belonging to two different societies) That means: $\mu ROI_I \neq \mu ROI_T$

**II.1.2. Second hypothesis: (H0)**: The marginal average return on investment in the IFI community is equal to the marginal average return on investment in traditional financial institutions, which means that there is no difference between Islamic and traditional financial institutions (belonging to the same community)

So: $\mu MROI_I = \mu MROI_T$

**(H1):** The marginal average return on investment in the IFI community is not equal to the marginal average return on investment in traditional financial institutions, which means that there is a difference between Islamic and traditional financial institutions (belonging to two different societies)

That means: $\mu MROI_I \neq \mu MROI_T$

**II.1.3. Third hypothesis: (H0):** The average return on property rights in the IFI community is equal to the average return on property rights in traditional financial institutions, which means that there is no difference between Islamic and traditional financial institutions (belonging to the same community)

So: $\mu ROE_I = \mu ROE_T$

**(H1):** The average return on property rights in the IFI community is not equal to the average return on property rights in traditional financial institutions, which means that there is a difference between Islamic and traditional financial institutions (belonging to two different societies)

That means: $\mu ROE_I \neq \mu ROE_T$

**II.2**: **Study Community, Sample and Used Variables**

**II.2.1**. **Sample Study Community**

The study aims primarily to prove the objective and realistic theory of the argument that Islamic finance is considered a substitute for traditional finance in light of the recent global financial crisis, especially after successive financial crises have proven to be inherent in the traditional financial system and have become a feature of its characteristics among what is known as the economic cycle.

To test which systems are more efficient in managing financial activities, more capable of achieving returns on investments (operating assets), and on property rights, this study was based on the premise that the community in which they are tested is:

- Traditional financial institutions community

- Islamic Financial Institutions Community

A random sample was based, consisting of:

- 31 traditional financial institutions in 13 countries (Japan, Canada, Australia, Denmark, France, Germany, India, Ireland, Russia, Saudi Arabia, Slovakia, United States of America).
- 31 Islamic financial institutions in 11 countries (Saudi Arabia, Qatar, Jordan, United Arab Emirates, Bahrain, Kuwait, Sudan, Bangladesh, Malaysia, Pakistan, Turkey).

And looking at the financial lists of the financial institutions, published on their web sites, three variables were chosen to test the statistical hypothesis, **(ROI, MRI, ROE)**

**II.2.1.1. Return On Investment: (ROI)**

This indicator measures how successful an organization is in using its investments to generate returns; considering the environmental factors and strategic choices surrounding the organization.

This indicator is also cited on the efficient management of financial resources in the enterprise, regardless of the source of such resources, as a reflection of the efficiency of financial resources invested in the enterprise for net profits.

Some authors argue that the effectiveness of the money invested in making profits should be measured on the basis of profit before rather than after taxes, (H. Gibson, 2001) which is the trend with which the research researcher conducted his study, because of the different rates of tax on profits among the different countries to which the sample institutions belong.

The rate of return on investment is calculated according to the following relationship: (tax after net profit)/(assets total)

**II.2.1.2. Return On Equity: (ROE)**

This ratio measures the profitability of the enterprise with respect to property rights, the efficiency of management in the exploitation of the assets of the corporation's owners, and its ability to make profits from those funds. (Matar, 2006, pp. 40-41)

The royalty may be calculated according to the following relationship: (Tax after net profit)/( **Property** Rights)

**II.2.1.3. Marginal Return On Investment: (MRI)**

The rate of return on investment is useful for testing the efficiency of managing financial activities in each sample.

The limited return on investment reflects the development in the efficiency of the management of financial activities in each financial institution of the random sample. Consequently, the results obtained can be circulated to the community from which both samples were withdrawn, after examining the differences between them statistically. (Hashem Rashwan, 2008, pp. 96-112)

**II.2.2. Study Variable:**

Based on the income list of the random sample of financial institutions under consideration, the return is calculated as follows:

**II.2.2.1. Calculate average return on investment**:

In order to extract the average return on investment for each financial institution over five years and then calculate the average return on investment for the sample together, we follow the following steps:

- **Revenue calculation:**

Revenue = pre-tax profits - minority rights

Since the sample includes financial institutions from different States, which means a clear difference in the tax rates imposed, the effect of the tax on profits has been excluded from the net profit account.

- **Investment calculation:**

Based on the balance sheet of the financial institution, the investments that are included in the revenue realization are calculated, and for financial institutions, the intended investments are calculated as follows:

Investment = total assets - fixed assets

fixed assets do not yield direct returns and have therefore been excluded from invested capital.

- **Return on investment calculation:**

After the two previous steps have been completed, the return on investment at the end of each financial year for each of the two sample shall be calculated in accordance with the following relationship: Return/Investment = R/I = ROI

- **Average return on investment :**

We calculate the average return on investment for each financial institution belonging to the random sample studied, and over a period of 5 years (2008-2012) as a percentage, in accordance with the following relationship:

$$\text{ROI} = \frac{\sum_{n=1}^{5} ROI}{n} \text{ X } 100$$

- **MRI extraction**:

We estimate the return function of each financial institution during the period under study, using the program curve expert 1.4

So the return function takes the formula: R= F(I), and it takes the form: R=a+bI+cI2

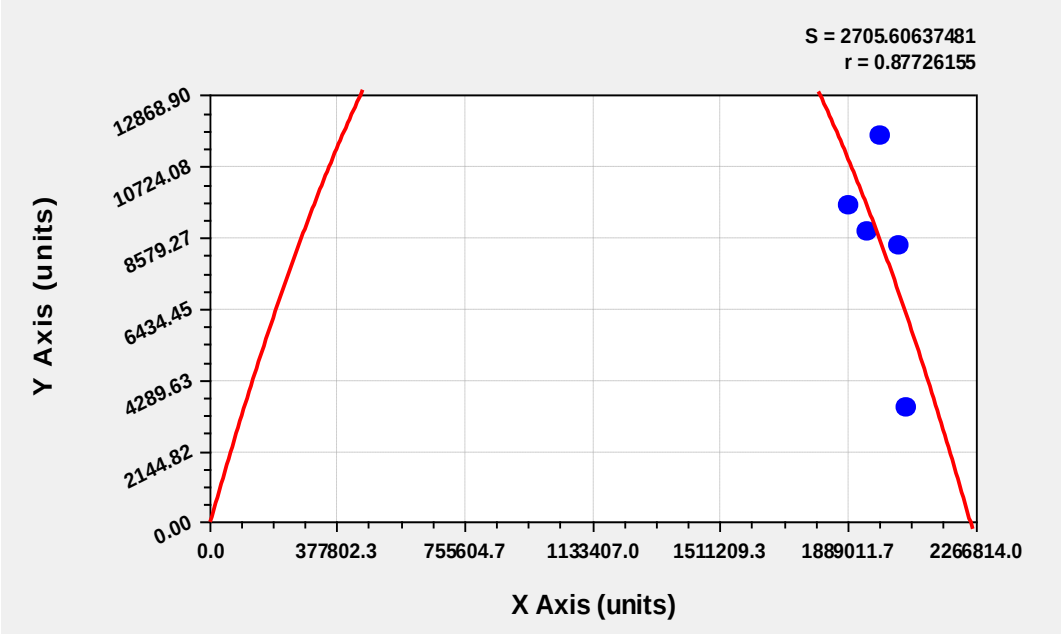
MRI is defined as: $\frac{dR}{\text{dI}}$ at the end of 2012.

This is the first derivative of the return on investment function, and by compensating for the last investment in the last year (2012) we get the Marginal return on investment, and the following example illustrates this:

- We find the return on investment function using the program (curve expert 1.4,) by entering the investment values in the variable X box, the return values in the variable Y box, and by using the quadratic fit, we get the return curve for the financial institution in question, where the financial theory indicates that the return on investment takes the form of a negative slope, and a great value when it approaches Value investment infinity (E.Copeland, Weston, & Shastri, 2005, p. 32)

And here's how it looks:

**Figure 01:** Describes the yield function curve for the BNP Paribas during the period (2008-2012)




**Source**: curve expert 1.4 Output

And we can extract the return function form:

$y= - 0.00000001607x^2 + 0.036154x -6,000725$

- The Marginal return on investment, which represents a change in return as a proportion of the change in investment, can be extracted in the last fiscal year considered by:

$y`=0.036154 - 0.00000003214x$

The value of investments in the last fiscal year of 2012, where:

$y` = MRI = 0.036154 - 0.00000003214(1889971) = -2,46026$

The financial statements of the various financial institutions of the sample in question are dealt with in the same way.

We get the following results: **(See Annexe 01 and 02 tables)**

## III. Statistical Hypothesis Testing :

This research includes testing the study hypotheses that aim to identify the differences between the average returns on investments and the marginal returns on investments and returns on property rights, between two random samples of traditional and Islamic financial institutions, we trying to verify statistically that these differences were the result of the randomness of the sample, and therefore that the results can be distributed to the two study communities, or whether they are a result of the superior method of managing investments (money) in the community for the other, and that Five consecutive years from 2008 to 2012, which was a period of global financial crisis.

**III.1. Test of average equality between sample Islamic and traditional financial institutions**

After calculating the return on investment for each financial institution from the sample for a full five years, which is supposed to be a period of financial crisis (2008-2012) in order to know which financial system is more efficient, stable and yield for investors during financial crises.

The average return on investment for each financial institution is then calculated according to the relationship: ROI = $\frac{\sum_{n=1}^{5} ROI}{n}$

**III.1.1. Exploratory testing**

However, before testing statistical study hypotheses, it must be known to what extent the use of laboratory tests is appropriate for this purpose, and therefore the following conditions must be met:

- The sample is withdrawn from a community whose data is folow the normal distribution;
- Homogeneity: that is, the standard variations or deviations of the communities from which samples are drawn are equal;
- random
- independence ;
- metric data: data for quantum variables.

The random, the independent sampling, the metric data condition are theoretical conditions that are not statistically tested, because the samples that the researcher has pulled are assumed to be random, independent samples .

As for the conditions of moderation and homogeneity, they are statistically available (Al-Rabeeah, 2007, p. 109)**.**

**III.1.1.a. Homogeneity test:**To see the equal contrast between the two sample studies of the return on investment variable, this test is performed in addition to a distribution test for the data in order to identify the appropriate statistical tests for testing the research hypotheses later, so we use the following hypotheses:

$H_0 : \sigma^2 ROI_{I=} \sigma^2 ROI_T$

$H_{1\ :} \sigma^2 ROI_I \neq \sigma^2 ROI_T$

at significance level of 5%.

**Table 01:** Shows The Results of the Equal Variance Test (F-Test)

| | $ROI_I$ | $ROI_T$ |
|---|---|---|
| Moyenne | 2,71080771 | 0,53911071 |
| Variance | 6,825504698 | 3,478808957 |
| Observations | 31 | 31 |
| Degré de liberté | 30 | 30 |
| F | 1,962023435 | |
| P(F<=f) unilatéral | 0,034862343 | |
| Valeur critique pour F (unilatéral) | 1,840871688 | |

**Source:** Excel output based on Annexe 01 and 02 tables.

**Table 01** shows that the result of Fischer's test of equal contrast between the sample of Islamic financial institutions and their traditional counterparts at a significance level equal to 5% is 3.48%, which is below the level of 5%, and therefore the zero (H0) hypothesis that the variation between the two samples is equal is rejected, and the alternative (H1) hypothesis that the inequality is not equal is accepted.

The result of this test is therefore useful in the absence of uniformity between the two study samples.

**III.1.1.b. Moderation test**

The test of data moderation is one of the conditions that must be met in order to identify the appropriate statistical testing of the study hypothesis, as well as other conditions that, if combined, enable a researcher to use the parametric statistical testing (parameter), and if no conditions are met, the researcher uses non-parametric statistical testing to test his study hypothesis.

Sample moderation is tested under the following hypotheses:

- (H0) : Sample data is withdrawn from a community whose data is follow the normal distribution
- (H1) : Sample data is drawn from a community whose data does not follow the normal distribution

at significance level of 5%.

**Table 02:** shows the results of the distribution test

**Tests of Normality**

| | | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | CODES | Statistic | df | Sig. | Statistic | df | Sig. |
| samples | 1 | ,202 | 31 | ,002 | ,643 | 31 | ,000 |
| | 2 | ,320 | 31 | ,000 | ,585 | 31 | ,000 |

a. Lilliefors Significance Correction

**Source:** SPSS 16 output based on Annexe 01 tables.

- From the results of the Kolmogov-Smirnov test and the Shapiro-Silk test of the data distribution test, we notice:

Kolmogov-Smirnov 0.202 Sig. It's equal to 0.002 for the sample of Islamic financial institutions, which is statistically significant at a 5% significance level.

since Sig's value is below the level of 5%, the zero hypothesis is rejected and the alternative hypothesis is accepted, so we say that ROI in Islamic financial institutions do not follow the normal distribution.

- Shapiro-Wilk test is equal to 0.643 and Sig. It's equal to 0.000 is a statistical function at 5%, for Islamic financial institutions, so the zero hypothesis is rejected and the alternative hypothesis is accepted.
- Kolmogov-Smirnov test is equal to 0.320 and Sig. It's equal to 0.000 for the sample of traditional financial institutions, which is statistically significant at a 5% significance level, since Sig's value Below the level of the 5%, the zero hypothesis is rejected and the alternative hypothesis is accepted, so we say that ROI in traditional financial institutions do not follow the normal distribution.
- Shapiro-Wilk test is equal to 0.585 and Sig. It's equal to 0.000, which is a statistical function at 5% significance level, for traditional financial institutions, so the zero-sum hypothesis is rejected and the alternative is accepted.

As a result, we can said that there is no statistical evidence that the variable of (ROI) in Islamic financial institutions as well as traditional ones is follow the normal distribution.

**III.1.1.b. Results**:

After we have tested the equal variability of the return to investment variable, the limit return on investment in each sample, and the persistence of the heterogeneity of the two eyes, as well as the absence of evidence of normal distribution of data, the parameter tests cannot be conducted as a test of the research hypothesis, which requires that the data be homogeneous and follow the Normal distribution, **so we use a non parametric test, to test the hypothesis.**

The Man-Whitney test is widely used as a substitute for a test of independent samples (Al-Hakim, 2004, p. 324).

It's one of the most highly non-parametric tests used to compare data from two separate samples.

**III.1.2. Testing the first ROI hypothesis**

Since we've shown statistically that the data are not homogeneous as a result of Fisher F-Test, and that it doesn't follow the normal distribution according to the Kolmogov-Smyrnov and Shapiro-Wilk tests, it's not possible to use the test for independent samples, so we're using the Mann-Whitney test.

**Table 03:** Shows Results of Mann-Whitney test

| probability | test statistic | Average grade | |
|---|---|---|---|
| Sig. (P.Value) | Z | Second sample | first sample |
| ,000 | -4,906 | 20.26 | 42.74 |

**Source:** SPSS 16 output based on Annexe 01 and 02 tables.

We notice that the sig value. equal to 0,000 and it's statistically significant at a significance level of 0.05 so the zero hypothesis is rejected and the alternative hypothesis is accepted. Compared to the average grade, it is 42.74 in the Islamic financial institutions and 20.26 in the traditional financial institutions.

We therefore conclude that the average return on investment in the (IFIs) is not equal to the average return on investment in the (TFIs) at a significance level of 5%.

**III.2. Average equivalence test for marginal returns on investments**

Using the previous method, we get the return function of each financial institution individually, and then we calculate the (MRI) at the last calculated fiscal year (2012) to figure out the rate of return that can be achieved if new financial investments are injected into the financial institution, which gives us an idea of its efficiency in revenue realization and asset management.

**III.2.1. Exploratory testing**

**III.2.1.1 Homogeneity test**

We test the homogeneity of the two samples by testing the isosceles of the two samples, using F-Test

**Table 04:** Fischer's test results (F-Test)

| | $ROI_I$ | $ROI_T$ |
|---|---|---|
| **Moyenne** | 2,796109774 | 0,50858271 |
| **Variance** | 22,27279887 | 23,6436442 |
| **Observations** | 31 | 31 |
| **Degré de liberté** | 30 | 30 |
| **F** | 0,942020555 | |
| **P(F<=f) unilatéral** | 0,435572909 | |
| **Valeur critique pour F (unilatéral)** | 0,543220914 | |

**Source:** EXCEL output based on Annexe 01 and 02 tables.

(Table 04) shows that the result of Fischer's test is the equal contrast between the sample of Islamic financial institutions and their traditional counterparts; At a significance level of 5%, the test is equal to 43.557%, which is uper than 5%, and therefore the zero hypothesis (H0) that the two samples are equal is accepted, and the alternative (H1) hypothesis that the two samples are not equal is rejected.

- The result of this test is therefore consistent with the two categories of study for the marginal return on investment.

**III.2.1.2 Moderation test**

The moderation of the sample concerning the variable limit returns on investment in Islamic and traditional financial institutions is tested on the following assumptions:

- (H0) : The Sample data is withdrawn from a community whose data is follow the normal distribution.
- (H1) : The Sample data is withdrawn from a community whose data is not follow the normal distribution.

**Table 05:** Describes the results of the Normal distribution test

**Tests of Normality**

| | CODES | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| SAMPLES | 1 | ,171 | 31 | ,021 | ,921 | 31 | ,026 |
| | 2 | ,240 | 31 | ,000 | ,799 | 31 | ,000 |

**Source:** SPSS 16 output based on Annexe 01 and 02 tables.

Based on the results of the Normal distribution test, we find that:

- Kolmogov-Smirnov · 0.171 Sig. It's equal to 0.021 for the sample of Islamic financial institutions, which is statistically significant at a 5% significance level, since Sig's value. Below the significance level of 5%, the zero hypothesis is rejected and the alternative hypothesis is accepted, so the (MRI) in Islamic financial institutions are not follow the Normal distribution.
- Shapiro-Wilk test is equal to 0.921 and Sig. 0.026 is a statistically significant at 5%, for Islamic financial institutions, so the zero hypothesis is rejected and the alternative hypothesis is accepted.
- Kolmogov-Smirnov · 0.240 is Sig. It's equal to 0.000 for the sample of traditional financial institutions, which is statistically significant at a 5% significance level, since Sig's value. Below the level of the 5%, the zero hypothesis is rejected and the alternative hypothesis is accepted, so we say that the limit returns on investment (MRI) in traditional financial institutions do not follow the normal distribution.
- Shapiro-Wilk test is equal to 0.799 and Sig. It's 0.000 and it's a statistically significant at 5%, for traditional financial institutions, so the zero hypothesis (H0) is rejected and the alternative (H1) is accepted.

**III.2.2. Test of the second hypothesis of the marginal return on investment**

**Table 06:** Shows the results of the Mann-Whitney test

| probability Sig. (P.Value) first sample | test statistic Z | Average grade | |
|---|---|---|---|
| | | Second sample | first sample |
| 0.016 | 2.415- | 25.97 | 37.03 |

**Source:** SPSS 16 output based on Annexe 01 and 02 tables.

We notice that the sig value. equal to 0.016 and it's statistically significant at a moral level of 0.05

Compared to the average grade, we find that it is 37.03 in Islamic financial institutions, and 25.97 in traditional financial institutions.

Therefore, we say that the average return on investment in Islamic financial institutions is not equal to the average return on investment in traditional financial institutions at a significance level of 0.05.

So the zero hypothesis (H0) is rejected and the alternative hypothesis (H1) is accepted.

**III.3. Test of average returns on equity equality**

After calculating the return on property rights for each financial institution belonging to the random sample and over a period of five years, according to the relationship: (Pre-Profit Tax)/(Total Assets), depending on the different rates of revenue taxation in the different countries to which these institutions belong,

We calculate the average return on each organization's property right for 5 years.

We then run statistical tests to find out the differences in the financial performance of financial institutions belonging to the Islamic and traditional financial system, as follows:

**III.3.1. Exploratory testing**

**III.3.1.1. Homogeneity test**

**Table 07:** Shows Fischer's test results (F-Test)

| | $ROI_I$ | $ROI_T$ |
|---|---|---|
| Moyenne | 0,368871742 | 0,078343645 |
| Variance | 0,676897416 | 0,138839091 |
| Observations | 31 | 31 |
| Degré de liberté | 30 | 30 |
| F | 4,875409446 | |
| P(F<=f) unilatéral | 2,00991E-05 | |
| Valeur critique pour F (unilatéral) | 1,840871688 | |

**Source:** EXCEL output based on Annexe 01 and 02 tables.

Table 07 shows that Fischer's test result for the sample of Islamic and traditional financial institutions at a significance level equal to 5% is equal to 487.54% and is larger than the significance level of 5%. As a result:

We Accept the zero (H0) hypothesis that the contrast between the two samples is equal, and the alternative hypothesis (H1) that the two samples do not equal is rejected.

The result of this test is therefore consistent with the two categories of study for equity returns.

**III.3.1.2. Moderation test**

We test the moderate return on equity in Islamic and traditional financial institutions based on the following hypothesis:

- (H0) : Sample data is withdrawn from a community whose data is follow the normal distribution
- (H1) : Sample data is drawn from a community whose data does not follow the normal distribution

**Table 08:** Results of the Normal distribution test

| | factor | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| simples | 1 | ,379 | 31 | ,000 | ,374 | 31 | ,000 |
| | 2 | ,338 | 31 | ,000 | ,543 | 31 | ,000 |

**Source:** SPSS 16 output based on Annexe 01 and 02 tables.

Based on the results of the Normal distribution test, we find that:

- Kolmogov-Smirnov · 0.379 Sig. It's equal to 0.000 for the sample of Islamic financial institutions, which is statistically significant at a 5% significance level, since Sig's value. Below the significance level of 5%, the zero hypothesis is rejected and the alternative hypothesis is accepted, so the (ROI) in Islamic financial institutions are not follow the Normal distribution.
- Shapiro-Wilk test is equal to 0.374 and Sig. 0.000 is a statisticaly significant at 5%, for Islamic financial institutions, so the zero hypothesis (H0) is rejected and the alternative hypothesis (H1) is accepted.
- Kolmogov-Smirnov · 0.338 is Sig. It's equal to 0.000 for the sample of traditional financial institutions, which is statistically significant at a 5% significance level, since Sig's value. Below the level of the 5%, the zero hypothesis is rejected and the alternative hypothesis is accepted, so we say that the return on investment (ROI) in traditional financial institutions do not follow the normal distribution.
- Shapiro-Wilk test is equal to 0.543 and Sig. It's 0.000 and it's a statistically significant at 5%, for traditional financial institutions, so the zero hypothesis (H0) is rejected and the alternative (H1) is accepted.

## IV- Conclusion:

Through this paper, we tried to investigate which financial systems are more efficient and capable of managing financial resources; during periods of financial crisis, channeling available funds to appropriate investments capable of delivering the right returns for shareholders and investors.

This was based on a comparison between the performance of two random samples, consisting of 31 Islamic financial institutions and 31 traditional financial

institutions, to test the assumptions on which this study was based. The following results show us:

- There is a statistical indication that the average return on investment in both the Islamic financial institutions' community and the traditional financial institutions' community is not equal.

The average return on investment to the IFI community is larger than the average return on investment in the community of traditional financial institutions.

- There is a statistical indication that the marginal average return on investment is not equal in both the Islamic financial institutions' community and the traditional financial institutions' community.

The IFI community's marginal average return on investment is larger than the marginal average return on investment to the traditional financial institution community.

- There is a statistical indication that the average return on equity is not equal in both the Islamic financial institutions' community and the traditional financial institutions' community.

The average return on equity in the IFI community is higher than the average return on equity

in the community of traditional financial institutions.

Based on the preceding, we can say that it has been proven experimentally that Islamic financial institutions are more efficient, more capable of delivering revenues, and more capable of allocating financial resources in the global financial crisis.

This supports the trend that the Islamic finance system, with its institutions, mechanisms, formulations, and unique philosophy, is one of the most important alternatives to traditional finance, through which successive crises have weakened it.

## V- Appendices:

**Annexe 01 : shows the calculated (ROI, MRI, ROE) in the sample of Traditional financial institutions**

| | | ROI | MRI | ROE |
|---|---|---|---|---|
| **TFI 1** | Aichi Bank | 0,209416 | -1,51562 | 0,0401 |
| **TFI 2** | BMO FINANCIAL CORPORATION | 0,716587 | 2,29813 | 0,1348 |
| **TFI 3** | Austria Bank | 0,574333 | 0,726703 | 0,0721 |
| **TFI 4** | Bank of America | 0,102462 | -0,804626 | 0,010003 |
| **TFI 5** | Bank of Quizland | 0,502242 | -1,50247 | 0,0758 |
| **TFI 6** | Bank of Nordea | 0,610817 | 5,05214 | 0,1515 |
| **TFI 7** | Royal Bank Canada | 1,018372 | 2,46783 | 0,1928 |
| **TFI 8** | Tatra Bank | 1,552285 | 2,04508 | 0,1674 |
| **TFI 9** | Banque Saudi Fransi | 2,121944 | 0,728677 | 0,1351 |
| **TFI 10** | Barclays-Bank | 0,25297 | 0,221801 | 0,0905 |
| **TFI 11** | Cathay Bank | 0,530607 | -15,8553 | 0,0335 |
| **TFI 12** | Européen Investment Bank | 0,502961 | 0,6794 | 0,0482 |
| **TFI 13** | Toronto Bank | 0,811207 | -0,853078 | 0,1277 |
| **TFI 14** | Iwat Bank | 0,148135 | 1,2355 | 0,0257 |
| **TFI 15** | LLOYDS BANKING | -0,021589 | -0,274396 | 0,00505 |
| **TFI 16** | Commerz Bank | -0,17072 | 0,526813 | -0,0448 |
| **TFI 17** | Commonwealth Bank | 1,13279 | 1,71439 | 0,1895 |
| **TFI 18** | Kotak Mahindra Bank | 2,086858 | 0,32502 | 0,1656 |
| **TFI 19** | Bnp Paribas | 0,426108 | -2,46026 | 0,1009 |
| **TFI 20** | Scotiabank | 1,031947 | 1,12499 | 0,1744 |
| **TFI 21** | Macquarie group not Bank | 0,859078 | 2,45477 | 0,5212 |
| **TFI 22** | Mashreq Bank | 1,344718 | 1,37753 | 0,904 |
| **TFI 23** | Ahli United Bank | 1,107862 | 2,55228 | 0,1042 |
| **TFI 24** | ALFA BANK | 1,86421 | -0,642725 | 0,1866 |
| **TFI 25** | Bank of kyoto | 0,381144 | 0,890523 | 0,0587 |
| **TFI 26** | Hsbc North America Holdings inc | 0,101119 | 1,47321 | -0,0213 |
| **TFI 27** | Discover Financial Services | 4,222476 | 7,15388 | 0,3076 |
| **TFI 28** | Fifth Third Bancorp | 0,546563 | -5,10911 | 0,0403 |
| **TFI 29** | ZIONS BANK CORPORATION | -0,126628 | 16,5466 | -0,0132 |
| **TFI 30** | TD Bank US Holding | 0,811207 | -0,853078 | 0,1277 |
| **TFI 31** | Anglo Irish Bank | -8,336811 | -5,95854 | -1,683 |
| | | 0,53911071 | 0,50858271 | 0,078343645 |

**Annexe 02 : shows the calculated (ROI, MRI, ROE) in the sample of Islamic financial institutions**

| | | ROI | MRI | ROE |
|---|---|---|---|---|
| **IFI 1** | Bank Aljazira | 0,556635 | 2,50451 | 4,574 |
| **IFI 2** | Habib Bank | 1,660493 | 1,6404 | 1,3819 |
| **IFI 3** | Al Rajhi Bank | 3,808194 | 0,246783 | 0,2374 |
| **IFI 4** | Alinma Bank | 1,156052 | 2,50068 | 0,01156 |
| **IFI 5** | Bank Albilad | 0,5298 | 8,58513 | 0,0052 |
| **IFI 6** | Quatar Islamic international Bank | 4,493928 | -1,11411 | 0,21182 |
| **IFI 7** | Al Rayane Bank | 4,923392 | 0,0539506 | 0,22462 |
| **IFI 8** | Quatar Islamic Bank | 4,291913 | -1,52695 | 0,189778 |
| **IFI 9** | Jordan Islamic Bank | 5,880605 | 5,07526 | 0,74199 |
| **IFI 10** | Islamic international Arab Bank | 0,995682 | 2,86766 | 0,12099 |
| **IFI 11** | Abu Dabi Islamic Bank | 2,585235 | 5,03229 | 0,22019 |
| **IFI 12** | Shariqah Islamic Bank | 3,786208 | 2,41678 | 0,13951 |
| **IFI 13** | Dubai Islamic Bank | 3,298436 | -10,2403 | 0,28569 |
| **IFI 14** | EmIrates Islamic Bank | 3,907749 | -0,657938 | 0,419723 |
| **IFI 15** | Bahrain Islamic Bank | 1,46056 | 11,0118 | 0,080211 |
| **IFI 16** | Alsalam Islamic Bank | 1,571525 | 4,79203 | 0,057 |
| **IFI 17** | International Investment Bank | 1,566669 | 12,29205 | 0,016312 |
| **IFI 18** | BLUE NILE MASHREG BANK | 14,67626 | 15,5138 | 0,48833 |
| **IFI 19** | Kuwait Finance House | 1,664862 | 3,42503 | 0,1313 |
| **IFI 20** | Boubyan Bank | 2,832166 | -2,86784 | 0,2004 |
| **IFI 21** | Kuwait International Bank | 1,005067 | -0,522156 | 0,0581 |
| **IFI 22** | Islami Bank Bangladesh | 2,794838 | 5,26756 | 0,0284 |
| **IFI 23** | Bank Muamalat | 1,370865 | 1,16928 | 0,1819 |
| **IFI 24** | Rakyat Bank | 2,690764 | 4,45536 | 0,221 |
| **IFI 25** | Albaraka Bank | 1,666344 | 0,3771724 | 0,1427 |
| **IFI 26** | Meezan Bank | 1,940439 | 2,88811 | 0,2405 |
| **IFI 27** | Kuveyt Turk | 1,752493 | 0,840381 | 0,1834 |
| **IFI 28** | Affin Bank Malizya | 1,376364 | 1,43727 | 0,153 |
| **IFI 29** | Public Islamic Bank | 1,707995 | 4,09479 | 0,237 |
| **IFI 30** | May Bank | 1,090661 | 3,34341 | 0,1153 |
| **IFI 31** | Hong Leong | 0,992845 | 1,77721 | 0,1358 |
| | | 2,71080771 | 2,796109774 | 0,368871742 |

## VI- Referrals and references:


- Abdi, A. M. (2010). Islamic Banking: Steady in Shaky Times? (PHD Thesis). Faculty of George Mason University, Virginia, USA: George Mason University Fairfax, VA.
- Al-Hakim, I. (2004). *SPSS Reference in Data Analysis* (éd. Without Edition). Aleppo,, Syria: Ray for publication and science.
- Al-Rabeeah, O. (2007). *Statistical Analysis Using SPSS* (Second Edition ed.). Egypt: Academic Library.
- Bourkhis, K., & Sami Nabi, M. (2013). Islamic and Conventional Banks' Soundness During the 2007–2008 Financial Crisis. *Review of Financial Economics*.
- E.Copeland, T., Weston, J., & Shastri, K. (2005). *Financial Theory and Corporate Policy.* Edition pearson addison Wesley.
- H. Gibson, C. (2001). *Financial Reporting & Analysis.* South-western college publishing.
- Hashem Rashwan, M. (2008). Alternatives to Islamic Finance (Phd Thesis). Faculty of Commerce, Ismailia, Egypt: Suez Canal University.
- Martin, Č., & Heiko, H. (2008, January ). Islamic bank and financial stability: An Empirical Analysis. *IMF Working Paper*.
- Matar, M. (2006). *Financial Analysis, Methods Tools and Practical Uses* (1st edition ed.). (B. S. Institute, Ed.) Amman, Jordan: Dar wael.