Research Journal of Finance and Accounting
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)
Vol.7, No.14, 2016

The Impact of Board Administration on Risk and Financial Stability of Islamic Banks: An Empirical Investigation

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Abstract
The board of directors , risk and financial stability are important variables in the banking literature . Indeed , they are important for shareholders and other stakeholders of the bank .In this article , we have studied a sample of 40 banks (20 Islamic banks and 20 conventional banks) in GCC countries over the period (2006…2012).We found that only the presence of institutional investors on the board of directors influence the financial stability of conventional banks . The Islamic banks are more stable when the debt ratio is low . The bank size has a positive but not significant impact on the financial stability of Islamic banks . This effect is negative on financial stability of conventional banks .
Keywords: board of directors , Islamic banks , conventional banks , risk , financial stability

Introduction

Governance takes a very important aspect Islamic bank to the context that it has an important on financial stability , especially that Islamic banks have recently emerged on the financial sphere , have shown some remarkable strength during the period of the financial crisis in 2008.

Empirical studies considering the relationship between internal governance mechanisms ,mainly the board and ownership structure , and financials stability are very limited in the case of banks in emerging countries .(Arun and Turner (2004)).

In addition , risk management in Islamic banks depends on internal and external factors to these a banks . The last possess a very relative control over external factors such as current and future economic activity .if banks can not influence external factors , good risk management can be involved in the interior of the bank . Several empirical studies that address the board affect on the stability and the bank giving rise to divergent results .

Board size , the presence of independent and institutional administrators can also have a positive or negative effect on financial stability and the bank risk .

Our empirical work is based on the recent literature , building on the main work concerned with the impact of board on financial stability and the risk of Islamic banks . Our research will be based on a comparative study between Islamic banks and conventional banks .

Section 1: Literature Review

The Islamic banking environment has seen many changes that drive the development of the role of the board and its impact on risk and financial stability . Indeed , several studies have addressed the effect of characteristics of board of directors (such as size , institutional administrators , and duality) on risk in Islamic banks .

The specific characteristics of banks makes their governance different form that of companies. Banks are distinguished by high opacity procreate by information asymmetry (Barth , Caprio , Levine (2002)) , high debt level (Macey and Ohara (2003)) and strong regulation (Prowse (1997)).

The different characteristics diminish the role of external governance mechanisms . However , in banks , control seems to review the internal governance mechanisms that reduce risk (Lopez (2010)) and ensure financial stability (Salas , Saurina (2003)).

According to Lopez (2010) , bank governance is the first instrument of holding risk control banking activities and in particular , risk fall to shareholders and the board of directors .

The bank risk management and control belong essential to shareholders and the board of administration . Members to the board play an important role in controlling the activity of banks and risk management .

In addition , the ultimate responsibility of risk management of the bank is held by the board.

It must defines the operational guidelines and take responsibility for the bank's soundness . (Van Grenning , Bratanovic (2004).So , the board has to control risk taking by executives .

According to Edward and al (2008) , the board of administration has considered a major player in the process of government banking company that provides management direction for the organization , defines the objectives and strategies of the bank and evaluates the performance of leaders .

And for a person to be a board member of directors , it must have some personal characteristics . Indeed , it must have knowledge and skills , develop fidelity , completeness , self respect , the discipline , generosity , willingness to learn , independence , impartiality , experience , authority , passion , assiduity , merit the confidence .

According to Levine (2004) , the board plays a key role in the banking sector . Given the opacity of banking activities and the existence of deposit insurance , the control exercised by the board is much greater than that of others .

Macy and Ohara (2003) show that the role of board of directors is more interesting than other companies because the features are responsible fiduciary to depositors , shareholders and regulators . According to Summer and Webb (2005) , the board of directors examines bank and credit policies , it is considered an important monitor to the leadership and guiding directions of the bank and their implementations .

The structure of board of directors can also influence risk strategies taken by leaders . The inefficiency of the control of the directors is a major cause of failures of banks and financial instability .

In a report published in 2006 entitled " Enhancing corporate governance for banking organizations " , the Basel committee said that the board has great importance in creating a good bank governance . It said that the board of directors has attracted the attention of many researchers studying the impact of this mechanism on performance , few of them are interested in the influence of board of directors on risk and financial stability in banks .

In our study , we identified a set of variables supposed to explain the impact of board of directors on risk and financial stability of Islamic banks . We select those that seem better characterize the bank of the Gulf countries , each of these variables resulted in a separate case .

1-1 The size of the board

Many financial studies have highlighted the importance of size of board of directors and its impact on risk and financial stability in conventional banks . However , very little research have focused on the impact of this phenomenon on the risk in Islamic banks .

Moreover , a better quality of decision making and a better understanding and management of environment are essential factors in determining a board of directors .

According to Wasiazzaman (2013) , extensive board leads to a better relationship of the company with its environment and control leader .

Each director has an idea about the functioning of the company and its environment and the appropriate means for the bank to the financial stability . So , the higher the number of directors increases , the information asymmetry decreases . So , if the size of the board is important , so the information asymmetry will decrease through coordination between administrators and the cost of transactions will fall through the reduction of risk .

Simpson and Gleason (1999) found that the number of directors have significant impact on the risk of financial distress . Besides , Summer and Webb (2005) show that the board structure affects credits policies . Pathan (2000) found that the risk has a positive effect on the productivity of board of directors .

This efficiency is captured by the small size of board of directors and strong independence of directors .

Beltratti and Stulz(2000) show that small size o the board of directors affects the risk and negatively affect the financial stability of bank . So , in the banking sector , a small size of board of directors is accompanied by a significant risk .

On the one hand , shareholders are encouraged to take risk excessive at the expense of other stakeholders . Furthermore and in accordance with the theory of resource dependence, expertise and diversity of a large number of directors brings a better assessment of risk undertake and thus reduction of risk .

Against the current , Adams and Mehran (2005) conclude that banks , having a large board are more stable than other banks .

Therefore , we can conclude that large board enhance financial stability of banks .

H1: The board size has a negative effect on the risk and a positive effect on the financial stability of bank .

1-2 The independence of board of directors

Independence in board is a form of innovation in Islamic banks . Adam and Mehran (2005) note that this independence allows companies focus on their core business , change their fixed costs and variable costs and achieve economies of scale .

However , several authors state that outside directors are not able to understand the difficulty of the company 's business and they are not competent officers in the exercise of control and monitor leaders .

So , they may have divergent interests , which can create conflict of interests between the board of directors and the management team . Moreover , Griffith and al (2002) find no relationship between stability and the board composition and confirm the results of Pi and Timme (1993).

Similarly , Adams and Mehran (2005) reveal that the percentage of outside directors has no effect on the financial stability of banks . So , we list the second hypothesis

H2: The presence of independent directors in the board of directions has no influence on the stability of banks

1-3 The presence of institutional investors

According Whidbee (1997) , institutional investors are very active in the control of the management team , they are encouraged to monitor managers and reduce conflicts between shareholders and creditors .

They can help to reduction of bank risk taking . Thus , the presence of and administrator institutional in the bank's board of director is an effective means of control of the management of banking activities , given the expertise and competitiveness that they brings.

Whidbee (1997) found that the proposition of outside director is higher in banks where institutional investor hold significant share of capital . Theoretically , two theories on the role of institutional administrators in banking risk management clash : according to the thesis of activism that relies on the theory of agency , institutional administrator can control effectively the decision of leaders .

He has the skills , knowledge and experience appropriate to effectively manage the risk .And according passivity thesis , institutional administrator does not control effectivews thly the bank policy .

The theoretical debate did not result in a consensus empirically , we list the following hypothesis :

H 3: the presence of institutional directors in the board makes the bank more stable and less risky .

1-4 Duality

We note scarcity of research that focus on the relationship between duality , risk and financial stability of banks . Simpson and Gleason (1999) show that the combination of the position of executive officer (CEO) and the board chairman of directors is the only factor that has a significant negative impact on the probability of financial distress of banks .

They state that the council chairperson of directors is the principal officer of the bank , tends to less risk to preserve its human capital . They also explain that management in more risk averse nature and when he directs also the board , he will be less aligned with shareholders interests .

Godlewski (2005) shows that the authority granted by the CEO duality is linked negatively to risk taking in banks . If the CEO of the bank has more authority and ability to monitor the decisions of the board , the bank would be exposed to less risk .

He proves that like any investor , the bank manager has a portfolio of tangible financial assets and human capital installed in the bank that he governs . However , unlike other investors , it must preserve its internally portfolio by participating in low risk projects .

We see than that the relationship between the conclusion of the functions of chairman of the board and the CEO is not resolved. Similarly , results of studies , focusing mainly on Islamic banks , deviating from this one who notice the risk management where there is a combination of functions , and those who see a risk reduction .

We state the following hypothesis :

H4: Duality in the board of directors has no influence on the financial stability and the risk of Islamic banks .

1-5 Debt ratio

The debt ratio is a ratio defined as the ratio of total debt to total assets , expressed as a percentage . It can be interpreted as the proportion of the assets of a bank which is financed by debt .

The debt ratio is a measurement unit for comparing the total amount disposer after paying taxes and social contributions (what experts call disponible income) and the total amount of debts .

Credits institutions use this unit to assess repayment capacity (solvency) .

A US university study published in September 2012 , proposed to compare the efficiency and stability of Islamic banks are higher than those found in conventional banks . However , Islamic banks have superior of services provided by financial intermediaries not charged to customers and have on their balance sheet improved asset quality .

These last two elements justify a little better resistance of Islamic banks facing financial crisis.

Hence the following hypothesis :

H5: The higher the debt ratio is low (high solvency) , the more the bank is financially stable and less risky

1-6 Size of bank

According to Godlewski (2005) , the bank size is measured by the total assets at the end of each year . It is considered as a control variable because it can have an effect on the level of capital , risk , performance and profitability of banks though economies of scale .

The effect of bank size on risk and financial stability is very debated among researchers . It is possible to divide them into 2 categories those whose think that size has a positive effect on the risk and those who believe a negative effect .

According to the research of Saunders and al (1990) , there is a negative relationship between bank risk and the bank size . They explain this result by the fact that large banks are suceptible to be more skilled in risk management and also better opportunities for diversification .

Thus , we expect that the size of the bank is negatively related to the level of risk . Indeed , the major banks should have less risk because they have the ability to hold more diversified portfolios . Also , the large banks have a higher quality of diversification of risk than small banks .

Hence , the is is the following hypothesis :

H6: Large banks are riskier and less financially stable

1-7 **Inflation**

According to Kok and al (2012) , several studies have been done to determine the relationship between inflation and financial profitability of banks . The first author who bows on the issue of inflation was Revel (1980) . He considered that inflation could be a factor that influence on banking stability .

This hypothesis was tested empirically by Boyd , Levine , Smith (2000) . These authors used multiple regression techniques in their study and found that there is a strong non linear relationship between inflation and the financial sector and the risk in bank .

They concluded that inflation is statistically significant and negatively related to financial sector stability . So , we expect a higher risk . Others authors who were content to inflation , as Molyneux and Thornton (1992) , found a positive effect and statistical significant .

According to Vong and Chan (2009) , inflation has a positive impact on Islamic banks . Ever , if the banks do not take into account interest rates in their operations , an accurate forecast of changes in inflation would help to determine the profit sharing rate , this brought about an increase in their profits .

But Perry (1992) said that the effect of inflation on the banking sector performance dependence on its characteristics to be planned or unplanned .

Finally , inflation is an important determinant of banking stability . Generally , high inflation rates are associated with higher interest rates of credits and thus high incomes .

Hence , there is the following hypothesis :

H7: Inflation influences positively the financials stability of banks

Section 2: Empirical study

Recall that our research topic proposes to find elements of response to the questions about the impact of board of directors on risk and financial stability of Islamic banks , and since we will compare Islamic banks to banks conventional .

Our sample was selected on the conditions to be representative of the country where there is high concentration of Islamic banks with a significant weight in the financial sector.

2-1 Presentation of the sample

Our sample was selected on the conditions to be representative of the country where there is high concentration of Islamic banks with a significant weight in the financial sector . Thus we considered Islamic banks and conventional banks operating in the Gulf countries .

Data are collected from the base Bankscope and world bank (2013) . Our sample consists of 20 islamic banks and 20 conventional banks over a period of 7 years which runs from (2006…2012) and whose name is shown in table below :

Table1: List of Islamic banks and conventional banks

Number	Conventional banks	Islamic banks
	Al jazerra Arab National bank Al Riyad Samba The Saoudi British Bank Arab banking corporation Bahrain Middle East Bank Invest corp Bank Taieb Bank United Gulf bank United Gulf investment Union national bank Sharja Bank	Al Rajhi Bilad Bahrein Islamic ban Al Baraka Gulf Finance House Sharja Islamic bank Abou Dhabi Islamic bank NBOD Qatar Inter Islamic bank Qatar Islamic bank Amalk Islamic bank Qatar Islamic bank Dubai Islamic bank Tawefel GH BANK Al salam Sudan bank Al salam Bahrain bank E Islamic bank Kwait international bank Borbayan Kwait Finance House

2-2 Definition of variables

In the model , we will consider the financial stability and risk as endogenous variables (variables to explain) , exogenous variables (predictors) ,

The dependent variable (financial stability and risk) :

According to Iqbal (2012) , the most related variable in the literature to measure the banking stability is the Zscore .

Thus , the primary dependent variable is the Z score used as measure of the sability and Islamic banking risk .

The Z score analysis is a method of failure prediction that is generally used as a measure of financial distress .

The Z score can be summarized as follows :

$Z=K+U/\sigma$

K: Capital and reserves in percentage of assets

U: the average yield percentage of assets

σ: Standard deviation of return of assets used as volatility indicator

The Z score measures the number of standard deviation as a realization of return falls to expense equity under the bank performance normally assumption . In addition , Z score indicates a low limit of the risk of insolvency .

An impact feature of Z score is that it is a fairly objective measure of strength between different group of financial institutions , because it emphasizes the risk of insolvency , on the risk that a bank(whether commercial , Islamic or other) uses its capital and reserves .

The Z score also applies to banks that use a high risk strategy / high efficiency and those that use a performance strategy low risk /line , provided that these strategies lead to the same adjustement risk / return .

If an institution chooses to have lower risk adjusted returns , it can still have a Z score if it has a higher market capitalization . In this sense , the Zscore provides an objective measure of the strength .

$$Zi,t=\frac{Ki,t+Ui,t}{\sigma i,t}*100\%$$

K = equity including reserves

U : return of assets

σ: Standard deviation of return of assets

The explanatory variables

-The size of the board : TLA : total number of directors

-The independence of board of directors : INB: Number of independent directors

-Institutional administrators : Number of institutional directors on the board of directors

Duality (DA)
Number of CEO positive or board president of administration / total position administrators

Control variables

-The debt ratio (ED): is calculated by dividing the total liabilities of the bank (long term and short term) by total assets
The optimal debt ratio is determined by the same proportion of liabilities and equity that the
If the ratio is below 0.5 , then most of the bank assets is financed by equity
If the ratio is greater than 0.5 most of the assets is financed by debt , the normal value is between 0.6 and 0.7

The size (TA)

It is measured by the total of the bank's assets . It is considered a control variables because it can affect the level of risk and financial stability of the Islamic banks .
Size i,t = assets i,t /Somme assetsi,t *100%

Inflation (INF)

Inflation is the phenomenon of generalized price increases , and thus corresponds to a temporary declined in the value of the currency .
This is a persistent phenomenon which show overall prices , and which are superimposed sectoral variable prices .

2-3-Model

Our work is inspired by the theory and previous empirical work dealing with the financial stability of islamic banks . More precisely , our aim is to study , years of the context of the Gulf countries in banks , the impact of board of directors on risk and financial stability of Islamic banks .

For the model of development of our research , we referred to the study of Cihak and Hesee (2008) , we consider the following model to estimate the financial stability of Islamic banks and new banks .

$$Zi,t = \alpha\,0 + \alpha\,1.TCAi,t + \alpha 2.AINSi,t + \alpha 3.DUALi,t + \alpha 4.INDi,t + \alpha 5.ENDi,t + \alpha 6.INFi,t + \alpha 7.TAi,t + Ei,t$$

Z= dependent variable = measure of bank stability
TCA = Variable of size of board of directors
AINS= Number of institutional directors in board of directors
DUAL= number of posts of CEO or directors of board chairman / total professional posts
IND= Number of independent directors
END= ratio debt
INF= inflation rate
TA= size of bank
E= error term
i=1….40(individual dimension)
t=2006…2012(temporal dimension)
The stata 12 software was used to estimate the model of our research .

2-4 The econometric tests

2-4-1 The homogeneity test

To examine a panel data sample , it must first check the homogeneity or heterogeneity of data generation process . In the practical part , this amounts to verifying the equivalence of the model coefficients explored in the individual dimension .

In the economic context , the test of homogeneity allows us to have an idea on the theoretical model studied if it is exactly the same for all banks or conversely if exists the specify for each firm .

The homogeneity test is used to test the overall coherence of model , it also serves as a global significance test . The assumption of this test are follows :

H0: The variable coefficients are not different from zero
H1: The variable coefficients are different from zero

2-4-2 The fixed effect model

This model , also called model of covariance , was introduced by Mendlek in 1973 on a fairly solid foundation . When economic agent optimize , they can't ignore the value of the individual effect and take it into account in their decisions .

This may involve , in many cases , the individual effect is correlated with the explanatory variables . The estimator generalized least squares would therefore converge more . Model with a fixed effect challenges the assumption of independence between the individual effect and the explanatory variables of the model .(Duguet (2010)) .

2-4-3 The random effect model

The model , also known as model compounds errors , was introduced by Balestra and Nerlove in 1966. It consists of introducing an individual effect in the model of disruption. This implies that the estimate by OLS is not optimum .

Moreover , statistics test deducted form the usual formulas are no longer valid so the need to modify the calculation of the covariance matrix of the estimator .

The solution lies in the application of generalized least squares . However , to enable implementation this estimator . We must first estimate the covariance matrix of the disturbances of the model compounds errors : which means to introduce two other estimators .

The inter-individual estimator (Between)

The intra individual estimator (Within)

2-4-4 The test of Breush Pagan

The test of Breush Pagan was presented by Trevor Breush and Adrian Pagan in article published in 1979 in revue Econometrica .

It can test the hypothesis of homoscedasticity of the error term of a linear regression model .

Breush Pagan test is intended to show whether to apply the estimator MCO or estimator MCG . Estimater MCG is used when there are individual random effect and OLS otherwise.

This is a Lagrange multiplier test .

The null hypothesis : H0: $\sigma^2U=0$

The alternative hypothesis : H 1:σ^2U different from 0

2-4-5 Hausman test

The huasman test is attributed to D Minwer , Jay Hausman , James Durbin .

The test Hausman , also known as Wu Hausman test or the test of Durbin Wa Hausman , is a statistical test used to compare econometric estimator under the null hypothesis and the alternative hypothesis is an efficient estimator in the null hypothesis but not converge under the alternative hypothesis .

In a linear regression model on panel data , test of Hausman used to test the difference between the fixed effect model , assumed to converge under the null hypothesis and the alternative hypothesis , and the random effect model , assumed convergent and efficient under the null hypothesis but not converge under the alternative hypothesis .(Hausman J A (1978)).

The test specification of Hausman (1978) is a general test that can be applied to many specifications problems in econometrics , dealing slows down the rending of endogeneity . Its most common application is that of specification test of individual random effect panel.

The test specification of Hausman based on the following estimations body .

The estimations of model errors compounds are effective :

H0: E (Ui/Xi) = 0

H1: E (Ui/Xi) different from 0 (the estimations of model errors compounds are biaised)

The Hausman specification test can choose between the fixed effect model and the random effect model .

One proceeds to 4 steps :

1-Apply the fixed effects model as demonstrated previously

2-On safeguard the estimate obtained from the fixed effects model as the fixed

3-Applying the error model compounds on the same variable

4-Applying the test of Hausman

2-5 The research results and interpretations

To test the validity of our model , we first conducted a descriptive analysis :

1-Descriptive analysis

Results of analysis are shown in the following table :

Table 2: descriptive statistics of Islamic banks

Variables	Observations	Mean	Standard deviation	Minimum	Maximum
X	140	0.27	0.39	-0.0122	3.65
Tca	140	11.192	1.46	6	14
Ains	140	0.265	0.177	0	0.63
Dual	140	0.6	0.49	0	1
Ind	140	0.500	0.201	0.166	0.92
Endet	140	0.708	0.203	0.061	1.23
Inf	140	0.0508	0.041	-0.05	0.15
Ta	140	16.17	2.02	12.44	21.014

Table 3: Descriptive statistics of conventional banks

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
X	140	0.3291	0.4436	0.013	1.27
Tca	140	10.52	1.42	7	12
Ains	140	0.26	0.2160	0	0.91
Dual	140	0.66	0.473	0	1
Ind	140	0.549	0.185	0.11	1
Endet	140	0.521	0.53	0.0034	0.656
Inf	140	0.0373	0.029	0.004	0.129
Ta	140	15.64	2.69	10.0525	19.51

During the study period , the average measure of financial stability Z score of Islamic banks is 0.2702% against 0.3291% for conventional banks . Furthermore , the average debt ratio is equal to 0.708% and 0.821% respectively for Islamic banks and conventional banks .

The found figures indicate that Islamic banks are less stable than conventional banks because they are less protected against the risk , despite the fact that they are less leveraged than conventional banks .

2-Anaylsis of correlation between variables

The correlation matrix comprises correlation of several variables there between , the coefficients indicate the influence of variables have on each other . The study of this matrix makes it possible to detect the existence of absence of multi-colinearity problem .

The study of the intensity of the correlation between the explanatory variables is a prerequisite to the estimation results of analysis to ensure that they are not likely to bias the results of the regressions .

Indeed the main source of difficulty in the interpretation of results is the multicolinearity between variables .

The correlation matrix is one of the tools that allows the levels of correlation detection between different pairs of variables .

Table 4: Correlation matrix of variables in Islamic banks

	X	tca	Ainx	dual	ind	endet	inf	ta
X	1.000							
Tca	0.2781	1.000						
Ainx	-0.0755	0.17	1.000					
Dual	-0.1859	-0.19	-0.1112	1.000				
Ind	0.1311	0.0955	-0.5261	0.0517	1.000			
Endet	-0.1584	-0.1304	-0.027	0.0382	-0.1725	1.000		
Inf	-0.1453	-0.23	-0.26	-0.1394	-0.0303	-0.0617	1.000	
Ta	0.3014	0.1041	-0.36	-0.0706	0.3039	-0.0505	0.2241	1.000

Table 5: Correlation matrix of variables in conventional banks

	X	tca	Ainx	dual	ind	endet	inf	ta
X	1.000							
Tca	-0.1377	1.000						
Ainx	0.0022	-0.2422	1.000					
Dual	0.1075	0.1692	-0.2392	1.000				
Ind	-0.1466	-0.0165	0.2992	-0.2735	1.000			
Endet	0.0670	-0.0414	-0.0251	-0.954	0.0356	1.000		
Inf	-0.0724	-0.0315	-0.0616	0.0229	0.066	0.0515	1.000	
Ta	0.0757	-0.2634	0.2021	-0.0469	0.2907	0.21	0.27	1.000

The collinearity problem between the variables used in regression can be detected according to Kennedy (1992) by observing a correlation coefficient greater than 80% for a couple of variables data .

The correlation matrixes presented above are calculated for all the Islamic and conventional banks studied . Referring the results of the correlation matrix , we find that several variables correlate with them without exceeding the multicolinearity threshold of 80% .

Thus , we find that the correlations between the explanatory variables (independent variables) are low . There is not problem of multicolinearity . So , in that case we will introduce all variables in the same model .

Test of VIF (variance inflation factor)

The second solution for detecting a multicollinearity problem is to regress each explanatory variables on others . By performing the calculation (1-R2) from each of the regressions carried out , it is possible to know how much

the variance of an explanatory variable is independent of other variables .

The calculation of (1/1-R2) then affords a VIF statistic for each variable . Multicolinearity problem is raised when a VIF has a value greater than or equal to 10.

Table6 : Results of test VIF for Islamic banks

Variable	VIF	1/VIF
Ains	1.81	0.553101
Ind	1.59	0.628813
Ta	1.28	0.784211
Inf	1.24	0.804120
Tca	1.22	0.819696
Endet	1.11	0.898008
Dual	1.10	0.907245
Mean VIF	1.34	

Table7 : Results of test VIF for conventional banks

Varaible	VIF	1/VIF
Ta	1.37	0.729863
Ind	1.27	0.787826
Ains	1.22	0.816978
Tca	1.18	0.847015
Dual	1.16	0.861341
Inf	1.10	0.905856
Endet	1.07	0.935079
Mean VIF	1.20	

The results of test VIF shows the absence of multiconlinearity test , confirming the results generated in the correlation matrixes

3-Estimation results

The model of our research is estimated o the assumption of uniformity of behavior over time and among banks . We estimate the model by the method of MCO assuming that the error is identical and follows the normal distribution N(0,σ2).

The specification of the model presented implies that the coefficients are the same for 40 banks considered .

It is possible to think that there are differences between the banks in their activities and their operations . It is appropriate to adopt a specification showing the individual effect , that is why was take the specification of our research by introducing heterogeneity among banks .

We assume that the coefficients are identical behavior between banks and invariant in time , with the exception of the constant which we assume that is specific for each bank . We see once again that error are identical and follow the normal loi N (0, 6^2) .

The concern at this point whether the hypothesis of heterogeneity between banks in term of their financial stability is validated or not . To test this hypothesis , we carry the test Fisher constructed as follows : under the assumption of homogeneity of firms (H0: α1=α2=….α40), the estimated model matches the model with common effects while under the hypothesis of the presence of heterogeneity (αi different from αj) , the model estimated is the model to individual effects .

The stata software proceeds directly to the implementation of the Fisher test when estimating the fixed effect model . The reading of fisher test lead to reject the hypothesis H0 . So it seems that there specific individual effects to each bank and explain financial stability .

We must now choose between individual fixed effects model (within à , where we assume that the specific effects may be correlated with the explanatory variables , the individual random effect model (between) , where we assume that the specific effects are orthogonal to the explanatory variables .

The Hausman specification test (Hausman (1978)) is used to test which of these 2 hypothesis is appropriate with data . By performing the fisher test (F test) and that of Breush and Pagan Lagrangien Multiplier (LM) , we recognize the rejection of a perfectly uniform panel structure and therefore our model is either fixed individual effects , or individual effects random , either random effect model .

While the random effect model should be preferred methodological reasons , its use in the case of the estimation of a financial stability function is rejected for Islamic banks . According to Hausman test , the fixed effect model seems most appropriate since it best the data structure of Islamic banks .

However , the random effect model seems adequate for conventional banks . Depending on the value of

the Fisher F statistic , also displayed in the tables of estimations , the results of the test are presented Hausman specified in next tables .

Table8 : Results of specification test for Islamic banks

Estimated model	Result of Hausman test
Z= f (tca , ains , dual , ind , endet , inf , ta)	Fixed effects

Table9 : Results of specification test for conventional banks

Estimated model	Result of Hausman test
Z = f (tca , ains , dual , ind , endet , inf , ta)	Random effects

We will present the empirical results of our study . The interpretations of the results will enable us to exploit the sign and magnitude of the estimated relationship .

Table10 : Estimation results for Islamic banks

Variable	Model 1
Tca	-0.07258282
Ains	-0.16055081
Dual	0.25867066
Ind	0.22437003
Endet	0.1304893
Inf	-1.1573718
Ta	0.00009688
Cons	1.0162192

(*)p<0.10
(**)p0.05
(***)p<0.01

Table11 : Estimation results for conventional banks

Variable	**Model 2**
Tca	0.00659812
Ains	0.25381468***
Dual	0.01477624
Ind	0.01801077
Endet	0.0055147
Inf	0.25021458
Ta	-0.02880758
Cons	0.60376193

We will present the empirical results of our study . The interpretations of the results will enable us to exploit the sign and magnitude of the estimated relationship .

We estimate different equations on the period (2006…2012)

Based on the results of table 10 , we find that there are only 3 explanatory variables that are significantly . There are (size of board , duality , inflation) which significantly impact the financial stability (Z score) of Islamic banks at the 1% , 5% , and 10% .

The estimation results show a negative and significant relationship between the size of board and the financial stability of Islamic banks , which is a rejection of the hypothesis H1 of our research .

This result does not support the result found by Adams and Mehran (2005) who concluded that Islamic banks with a large board are more stable than other banks . This result also comes in contradiction with that found by Blanchard and Dionne (2004) who suggested that more the number of directors increases , the use of sophisticated instruments for cover against the risk increases , justifying the excessive risk taking by managers .

It turned out as well as large board deteriorates the stability of banks and therefore increases the risk exposure .

Thus , the more the size of board increases , the risk is important . Regarding conventional banks , estimates of the results (table) show that board size has a positive but not significant effect on the financial stability of these banks .

We conclude that a high size of board could help better assess of the risk of investments projects , due to the diversified structure and the best expertise that characterizes a large size board , which reduce the risk of conventional banks .

Thus , these results are corroborated with that found by Wasiazzman (2013) note that an extended board leads to a better relationship with their corporate environments and control for leaders .

Therefore , each director has an idea about the functioning of the company , its environment and the suitable means for the bank to be effective , efficient and financially stable . So the more the number of directors

increases , the company manage to reduce the information asymmetry .

The estimation results show that the independence of board of directors has not a significant effect on the stability of Islamic and conventional banks . This result validates the hypothesis H 2.

So , the presence of an outside director in the board of directors does not affect the financials stability of banks . This result confirms that found by Griffith et al (2002) , Adams et Mehran (2005)

Which found a significant relationship between stability and board composition confirming our results . It appears as the stability of Islamic banks is not dependent to the presence of independent directors on their board of directors .

The results of table11 , shows that the variable duality , the combination of the position of CEO and board chairman of directors , influences positively and significantly at 1% level the financial stability of Islamic banks . This contradicts the result found by Simpson et Gleason (1999) that showed that duality affect negatively and significantly the probability of financial distress of Islamic banks .

This is an agreement with Godlewski (2005) which showed the authority granted by CEO duality is negatively related to risk taking in banks and thus positively relationship to financial stability in the past . These results allows us to reject the hypothesis H4.

As for the variable " presence of institutional investors " , it positively and significantly impact 1% , the financial stability of Islamic banks . (Table 6)

These results corroborate those found by Hasan and Dridi (2012) who point out that the presence of institutional administrators the board helps to reduce bank risk .

Thus , the presence of institutional administrators in the board of the banks is an effective means of control of the management of banking activities , given the expertise and competitiveness it brings .

Then we accept the hypothesis , we also find that the variable coefficient of debt ratio is negative and statistically insignificant (Table 6) , which validates our research hypothesis

Thus the decrease in debt ratio in Islamic banks causes a decrease in its risk and therefore stability . This result corroborates that found by Hasan and Dridi (2012) which showed that banks are more stable when their debt ratio is low .

The bank size variable has a positive but not significant impact on the financials stability of Islamic banks . This impact is negative on the financial stability of conventional banks . Thus , an increase in size causes the stability of Islamic banks , unlike conventional banks .

Thus , the hypothesis H6 is rejected , this result corroborates that found by Saunders and al (1990) which stipulate that there is a negative relationship between bank risk and the bank size . They explain this result by the fact that large banks are suceptible to be more skilled in managing risks and also have better possibilities of diversification .

The results of table 6 show that inflation has a negative and significant coefficient threshold 10% .

It turns out as well as inflation causes the instability of Islamic banks . Therefore Hypothesis H7 is rejected .

This result corroborates that found by Boyd and al (2000) that inflation has statistically and negative significant effect on the stability of the financial sector . So , inflation causes greater risk for Islamic banks .

Furthermore , this result contradicts that found by Vong and Chan (2009) , which showed that inflation has a positive impact on Islamic banks .

Conclusion

Our empirical work has focused on the impact of board of directors on financial stability and the risk of conventional banks and Islamic banks . Our research was based on a comparative study between Islamic banks and conventional banks .

To this end , this article has presented 3 sections . The first presented a review of empirical literature that deals primarily a comparison of the stability of Islamic banks and conventional banks . A second section illustrated the methodology of our research (the sample , the different variable considered , assumptions and model) , the third section presented the result and interpretations of sample of 40 banks belonging to the gulf countries over the period (2006…2010) .

We have identified the following outcomes :

-The variable size of board , duality , inflation influence significantly the financial stability of Islamic banks (Z score) threshold respectively at 1% , 5% , 10% .

All other variables now have non significant effect on the financial stability of bank . Only one variable significantly impact the financial stability of conventional banks , it is the presence of institutional investors on the board of directors of banks .

In addition , we found that the variable debt ratio negatively and significantly impact on the financial stability of Islamic banks . Thus , the debt ratio to decline within an Islamic banks causes a decrease in its risk and thus its stability . The Islamic banks are more stable when the debt ratio is low .

The bank size variable has a positif but not significant impact on the financial stability of Islamic banks . This effect is negative on financial stability of conventional banks .

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