

# Board of director's Characteristics and Bank's Insolvency Risk: Evidence from Tunisia

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## Abstract

Since the changes of banks' environment at the end of the Eighties, Tunisian banks tried to expand their activities in order to provide suitable strategic answers to these changes but their performance indicators have greatly deteriorated. This underperformance was partly explained by the weak framework of corporate governance in Tunisian banks.

Our objective is to explore board of directors' diversity as well as the presence of independent directors, the size of the board and its leadership structure on insolvency risk of Tunisian banks. The results show that demographic diversity enhances the insolvency risk of the Tunisian banks but cognitive diversity contributes to its reduction. The results show also that the size of the board of directors as well as duality have positive effects on the insolvency risk but the percentage of independent directors is associated with a lower risk.

**Keywords:** Banks, Insolvency risk, Board of directors, Diversity, Tunisia

## 1. Introduction

When deposits are ensured, depositors will not be encouraged any more to engage themselves in verifying banks' operations. Moreover, the losses undergone by shareholders do not exceed the amount invested in the bank. Such a situation induces the banks to undertake excessive risks and leads to banking bankruptcies and to high costs for the deposit insurers and for the whole of the economy.

William, J. McDonough (2002), precises that "*Financial stability begins with good corporate governance, able and experienced directors and management...*"<sup>5</sup>

So, the aim of this paper consists in exploring the impact of the board of directors' size and diversity on the insolvency risk of Tunisian banks.

We are interested to the Tunisian banking environment because it suffers from high credit risk and low levels of profitability, liquidity and capitalization.

The model described by Jensen (1993) will constitute the base to develop our hypothesis. To test the impact of board of directors' diversity on insolvency risk of Tunisian banks, we measure the demographic and cognitive diversity by the proportion of foreign and institutional administrators, respectively.

The second section of this paper presents the theoretical framework of analysis attached to the importance of the board of directors as a mechanism of corporate governance within the banking firms. Thereafter, the third section exposes studies treating this subject and the development of hypothesis. After that, the fourth section presents the empirical methodology and the regression results. Finally, the fifth section concludes.

## 2. Importance of the board of directors' role within the banking firm

Jensen (1993) proposed several basics on the board of directors' composition to better control the manager. First of all, directors must have free access to all relevant information. The directors have to be competent to better evaluate pertinent information. Thirdly, they must have suitable incentives to take actions that create value to the company; their role shouldn't be limited to the reduction of agency problems. Fourthly, managers as directors should have important participations in the capital to generate a certain convergence of interest with the shareholders in order to maximise the firm value. Fifthly, the size of the board should be limited to seven or eight members to be more efficient. In the same way, the CEO should be the only internal member sitting at the Board of directors because the presence of other internal members can support the influence of the manager on them. Finally, the CEO and the chairman of the board haven't to be the same person.

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<sup>5</sup> Basel Committee on Banking Supervision, "The relationship between banking supervisors and banks' external auditors", January 2002.

The concept of corporate governance in banks is more complex than in other firms. Adams and Mehran (2003) specify that in addition to the regulation and the supervision, opacity constitutes a third characteristic which make the *corporate governance* of the bank quite particular. Moreover, Levine (2004) insists on the fact that the banking crises result mainly from the bad governance of the banks.

We are interested particularly to the board of directors because it constitutes the most important component of bank corporate governance structure. In fact, the banking environment is subjected to supervision however with the environment changes which contributed to create Mega banks, a successful control could not be realized only by the public supervisor. Consequently, the banks' corporate governance become very complex and must be treated in separated manner.

Datar (2004) precises that the board of directors plays a fundamental role in bank performance. He recommends that the administrators must take care about the various stockholders interests and must as well straight the activities and the behaviors of the managerial team towards the respect of regulation. According to this author, the board of directors has to check procedures used to evaluate the various situations of risk to which the bank is exposed. Baker and al. (2004) affirm that the deregulation has increased the need to exert more control by the internal mechanisms of governance namely the board of directors.

Within the framework of the agency theory the role of the board of directors consists in reducing the conflicts of agency and aligning the incentives of the manager supposed more averse to risk because of its human capital completely invested in the bank. The shareholders are supposed less averse to risk because of the banks high leverage level and the clause of their limited responsibility.

Indeed, within the framework of the strategic theory, the board of directors is considered as a cognitive instrument which contributes to the creation of competence which is very necessary for banking firms. The board of directors should help to reduce "*the disaster myopia*" that characterizes banks' managers. In this theory the role of the board of directors exceeds the only protection of the shareholders interests which constitutes its principal role within the restricted framework of the agency theory<sup>6</sup>. So, the board of directors must be composed in priority by administrators being able to contribute to a best competences creation and to help managers to have a clearer vision on the damages which can occur during the investment in projects with high levels of risk.

The question that arises in this context is: which would be the best composition of the board of directors which could reduce myopia to the disaster of managers and could reduce the insolvency risk of the banks?

### 3. Research Hypothesis

#### 3.1 *The board of directors' size (TAICA)*

Jensen (1993) proposed that a board of directors operating with a reduced number of administrators produces a more effective mechanism of control. Changanti and al. (1985), Yermack (1997) and Eisenberg and al. (1998) also suggested that the boards of directors with a reduced size play more important role in the function of control, because the boards of directors with large sizes have difficulties to coordinate their efforts and the decision-making becomes slower and more difficult.

Conversely, a board of high size could provide multiple experiments, so it can have positive impact on the performance. Zahra and Pearce (1989) and Dalton et al., (1999) reveal that the diversified structure of the board of directors reinforces the capacity of control and improves his informational sources. Indeed, Baysinger and Zardkoohi (1986) specify that in a strongly regulated industry, the board of large size can have several advantages such the links which can exist between the external administrators and the regulators.

Adams and Mehran (2003) specified that when the size of the board is large, the firms always record high levels of performance associated with high levels of risk. Simpson and Gleason (1999) studied the impact of the board's size on the probability of failure of American banks and found that the number of the administrators does not have any impact on the probability of the bank financial distress. Blanchard and Dionne (2004) suggested that when the number of administrators increases the use of sophisticated instruments to cover against risk is higher, which justifies the excessive risk taking by managers.

Wiseman and Gomez (1998) stipulate that with the increase of the administrators' number, the criteria suggested to appreciate the behaviour of the manager multiply and become more ambiguous. Consequently, the manager

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<sup>6</sup> Within the framework of the agency theory, the performance of a firm depends primarily on the control of the manager by the board of directors which should be mainly made up by independent administrators.

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becomes undecided and confused and thereafter it becomes most averse to risk and careful.

According to the “disaster myopia” theory developed by Guttentag and Herring (1986), the manager of a banking firm is regarded as lacking ability to estimate the width of the damage which can occur when there is an excessive risk taking. Consequently, the diversified structure and the best expertise which characterizes a board of directors of large size we suppose that a board composed with a large number of administrators could help to a better evaluating the risk level of the investment projects which will reduce the insolvency risk. So, we suppose that:

*H1: The more the size of the board of directors is large, the more the bank insolvency risk is low.*

### *3.2 Independence of the board of directors*

To play his role in an effective way, the board must contain independent directors. Fama and Jensen (1983) specify that the independent administrators are more inclined to defend the interests of shareholders because they seek to protect their reputation on the administrators' market. Daily and Dalton (1999), McAvoy and Millstein (1999) and Bhagat and Black (1999) affirmed that their presence increases the effectiveness of the control function and influences the boards' decisions. Moreover, their decisions will be more objective than the internal administrators and they act in the best interests of the firm (Fama, 1980; Fama and Jensen, 1983; Beasley and Petroni, 2001; Lennox, 2005 and Yeh and Woitke, 2005).

For the case of banking firms, Pi and Time (1993) and Adams and Mehran (2003) find that the percentage of external administrators does not have any effect on bank performance. Prowse (1997) specifies that to discipline the bank managers the regulation is more important than the board of directors. Nevertheless, Nam (2004) stipulates that independent administrators are most efficient to control the managers' behaviour. So, we suppose that

*H2: The bank's insolvency risk is negatively related to the percentage of independent directors*

### *3.3 CEO-Chairman duality (DUAL)*

Duality means the non separation between the functions of decision and control. In the case of duality of the function of the CEO and the chairman there would be obviously a deterioration of the degree of control and supervision. Thus, the manager will probably have a power on the board. This fact could probably generate a reduction of the usefulness of the governance mechanisms.

Paquerot (1997) specifies that in the case of the duality, the manager will have higher level of information than the administrators and a direct control on the credits which acquires him the possibility of using them in a manner which enables him to develop its human capital and to reinforce the safety of his employment.

In an empirical study Godard and Schatt (2000) show that the duality improves the performance of the firm. However, by examining the impact of the duality on performance, Pi and Timme (1993) find that the efficiency of the bank is weaker. Fogelberg and Griffith (2000) and Griffith and al. (2002), find that the duality does not have any impact on the economic performance. Moreover, Simpson and Gleason (1999) examined the relation between the duality and the probability of failure of 287 banks in 1989 and found that the duality contributes to limit the default risk of the bank. The authors explain this result by the nature more averse to risk of the manager than shareholders.

Nevertheless, if we would try to analyze the behaviour of the risk taking by the managers within the framework of the disaster myopia theory, we will be able to suppose that when the manager is also the chairman of the board the insolvency risk could increase. In the case of duality, the manager acquires a higher influence on the board. Thus, at the time of the supervening of the signs heralding deterioration the bank solvency the cognitive dissonance<sup>7</sup> assigning the managers can be transmitted to the administrators by the means of his influence on the board. Consequently, the board cannot be able to achieve with effectiveness its principal function. Thus, administrators will be able to approve too risky investment projects chosen by the manager. So, we suppose that:

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<sup>7</sup> The cognitive dissonance as defined by Scialom (2007) is a psychological mechanism of self-protection by the managers of the cogency of their last decisions. This mechanism can take various forms: The manager of the bank can, either to voluntarily be unaware of new information, or to reject their relevance, or to proceed to a distortion of their interpretation in order to be able to justify his last choices.

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*H3: The duality has a positive effect on the bank insolvency risk*

### *3.4 The diversity of the Board of directors (Diversity)*

Cox (2001) defines diversity as a multitude of the social and cultural identities between people working together within the same group.

The current literature reveals the fact that the relation between diversity and the firm performance could be either positively or negatively correlated. Certain empirical studies indicate that diversity led to better knowledge and to better creativity. So, the firms tend to become more competitive (Watson and al, 1993).

However, other studies show that diversity is not beneficial to the firm (Hambrick and al., 1996). Murray (1989) suggests that the coordination of the work of a homogeneous group would give a better performance. In the same way, Knight and al. (1999) show that the effectiveness of the direction tends to be worsen when the level of diversity increases.

In this research we will examine the impact of demographic diversity as well as cognitive diversity on the insolvency risk of listed Tunisian commercial banks.

#### *3.4.1. Demographic diversity (DiversityD)*

We are interested to highlight the impact of the demographic diversity of the administrators on the banks' insolvency risk because during last time, there was a vagueness of privatization and acquisitions by the foreign banks of participations within the national banks capital, so the number of foreign administrators has considerably increased.

Several studies such as those of Taylor and al. (1998), Bhattacharya and al. (1998) and Leightner and Lovell (1998) confirm that the opening of the banks to the foreign capital in the emergent countries improves their performances and offering them a great access to technologies and especially to the best practices of governance.

In order to test the impact of demographic diversity, we use as a measure the proportion of the foreign administrators sitting in the board of directors. This variable was used by Maran (2008) to explore the influence of ethnic diversity on the performance of Malaysian non-financial firms. Its result shows that the presence of the foreign administrators improves the financial performance of these firms. So, we can suppose that demographic diversity is negatively related to the bank insolvency risk.

*H4: The insolvency risk of the bank is negatively related to the demographic diversity of the board of directors*

#### *3.4.2. Cognitive diversity (DiversityC)*

In order to be able to test the influence of cognitive diversity on the insolvency risk of Tunisian banks, the adopted measure of cognitive diversity is the proportion of the institutional administrators sitting at the boards of directors. We chose this measure because the institutional administrators are qualified by Jensen (1993) as having a great expertise. Indeed, Jensen specified that the presence of the institutional administrators within the boards of directors allows a better control of the manager, since these administrators have a better access to information and have a greater expertise in the analysis of the firm performance. Moreover, Agrawal and Mandelker (1992) and Whidbee (1997) clarify that the institutional investors are considered as particular shareholders because they generally hold a significant part in the bank capital what will enable their representatives to be very active in exerting their function of control on the managers. In addition, Alexandre and Paquerot (2000) precise that the institutional investors have considerable amounts invested in banks, so they have rich information on the environment and a better knowledge of the characteristics of the sector and consequently they have a better capacity to control the manager. Consequently, we can conclude if the manager is characterised by his disaster myopia as described by Guttentag and Herring (1986), the presence of institutional administrators within the board of directors will be able to help him with better apprehending the risks inherent at the activity of the banking firm and to incite him to minimize its risk taking in order to guarantee the solvency of the establishment. Consequently we can conclude that when the proportion of the institutional administrators increases, the insolvency risk of the bank decreases.

*H5: The bank's insolvency risk is negatively related to the cognitive diversity of the board of directors*

### 3.5 Control Variables

**Bank Size (TAIBQ):** The banking regulation exerts a discipline on the banks' risky behaviour but this discipline is imperfect for the case of big sizes banks. In reality, banks with big sizes generally anticipate a non-intervention of the regulator. Their anticipations of the non-interventionism of the regulator rise from the problems of “*too big to fail*”. Consequently, this behaviour can generate incentives at the banks to begin in too risky projects. So, we expect a positive and significant relation between the size of the bank and the insolvency risk of the Tunisian banks.

**The age of the bank (Age):** the age of the bank is another factor which could considerably influence the level of the bank insolvency risk. Indeed, more the bank is old more its experiment is broad and more accumulation of competences will allow the managers of the bank and its personnel to better select the projects of investment. Consequently, we wait to a negative relation between the age and the insolvency risk.

**The Franchise Value of the bank (Franchise):** The franchise value is defined as the net present value of the future profits that a company estimates to carry out as long as the firm exercises its activity. In banking, the franchise value arises from regulatory restrictions on entry and competition. Since bank owners have much to lose if the bank becomes insolvent, a bank with high franchise value may have an incentive to avoid risky business strategies. In fact, when banks operate with a strong charter value they are lesser able to undertake strongly risky investment projects. In a purely theoretical framework Marcus (1984) and Acharaya (1996) show that when the franchise value is high the behavior of shareholders' moral hazard decreases. So, we expected a negative relation between the charter value and the bank insolvency risk.

**The capital structure (CAR):** The Basle Accord, which was agreed upon in 1988 among the G-10 countries requires banks to maintain a certain level of capital for risk-weighted assets. In Tunisia, the capital requirements were put into force in 1995, expecting that the implementation would enhance the bank stability. Nevertheless, the impact of capital requirements on risk taking at commercial banks possibly will be positive. Since the capital requirements restrict the risk-return frontier of a bank, the forced reduction in leverage may induce the bank to reconfigure the composition of its portfolio of risk assets; thus, leading possibly to an increase in risk taking behavior (Kohen and Santomero, 1980; Kim and Santomero, 1988). However, Furlong and Keely (1989) and Keely and Furlong (1990) show that capital requirements may decrease bank risk since the option value of deposit insurance is decreasing in a bank's leverage. Therefore, we wait for a negative relationship between the capital ratio and the bank insolvency risk.

## 4. Empirical methodology and regression results

### 4.1 Measurement of the dependent variable

Rhoades and Liang (1991) and McAllister and McManus (1992) suggest that one of the key indicators of the bank fragility is the insolvency risk. This indicator is:

$$IR = \frac{SD(ROA)}{E(ROA) + E/TA}$$

Where the  $SD(ROA)$  is the standard deviation of the ROA (Return on Assets).  $E(ROA)$  is the mean of the ROA and  $E/TA$  is the ratio of capital to total assets.

When the credits generate fluctuating profits, the index of the insolvency risk will increase. In addition, the insolvency risk is affected by the fluctuations of the liabilities of the bank. This information is captured by the ratio  $E/TA$  in the denominator.

### 4.2 Measurements of the independent variables

The size of the board of directors (TAICA) is apprehended by the number of the administrators sitting at the board of directors of the banks. This measurement was used by various studies such as Belkhir (2007), Yermack (1997)... etc.

The presence of independent directors (INDD) is apprehended by the percentage of independent directors in the board, which equal to the total number of outside directors divided of total number of directors

Concerning demographic diversity (DivD), like Maran (2008), we used the proportion of the foreign administrators sitting at the board of directors and to apprehend cognitive diversity (DivC), we used as a proxy the proportion of institutional administrators sitting at the boards of directors of Tunisian banks.

Concerning the variable representing the duality (DUAL) we used a dichotomy variable like Daily and Dalton (1994) and Baliga and al. (1996). We fixed the value of 1 in the case of duality and the value of 0 if the two functions are separate.

The bank size (*TAIBQ*) is measured by the logarithm of total assets; several studies used this measurement such as Roberson and Park (2007) and Jehn and Bezrukova (2004), Godard (2001)... etc. According to Belkhir (2007), the age (*Age*) of the bank is measured by the number of years since the creation of the bank until the year 2011. However, with this measurement we find that there is a problem of colinearity with the variable measuring the bank's size. Consequently, we used another measurement which consists in allotting value 1 for the banks having an age lower or equal to 20 years, value 2 for those having an age which varies between 20 years and 40 years, value 3 for those which have an age higher than 40 years and lower than 60 years and finally, we allotted value 4 for the banks having an age higher than 60 years.

Franchise value as measured by Keely's Q (Keely, 1990) is the sum of the market value of equity plus the book value of liabilities divided by the book value of assets.

Finally capital structure is apprehended by the capital adequacy ratio.

#### 4.3 Data sources and descriptive statistics

The data used for the empirical analysis are collected from the financial statements of the ten banks listed at the Bourse des Valeurs Mobilières de Tunis (BVMT) during the period 2000-2011. We particularly took care of the data temporal continuity by bank. Information concerning the characteristics of the board of directors is collected from the banks' annual reports.

**Table 1: Descriptive statistics of explanatory variables**

	Mean	Std. Dev	Min	Max
IR	12.31495	25.14997	.978484	197.8857
TAICA	11.6	1.922751	8	12
INDDR	39.19689	21.03091	7.692307	90
DUAL	.61	.4902071	0	1
DiversityC	19.8055	13.1606	0	50
DiversityD	22.574	23.03982	0	72.72
TAIBQ	14.51537	.4965182	13.53922	15.44515
Franchise	100.4464	7.850702	84.42979	149.6754
Age	2.37	.8721852	0	4
CAR	10.28536	4.030756	.0461	22.1

Table 1 demonstrates a disparity of the average values and standard deviations of many explanatory variables. These two sizes indicate that the structure of the sample is not homogeneous and that complementary tests are essential to choose the suitable estimator.

#### 4.4 Regression analysis

As we already mentioned, we used in this study the individual (10 banks) and temporal data (12 years), which form Panel data with double dimension ( $10 \times 12 = 120$  observations).

Baltagi (2001) and Hsiao (1986) indicate that the panel data methodology controls for individual heterogeneity, reduces problems associated with multicollinearity and estimation bias, and specifies the time-varying relation between dependent and independent variables. This study uses a panel data methodology and an F-test is used to determine whether the fixed-effects model outperforms the pooled OLS. The appropriateness of the random-effects model relative to the pooled OLS model is examined with the Breusch Pagan Lagrange multiplier (LM) test. Hausman's test is used to compare the fixed-effects model with the random-effects model

However, the examination of the residuals of the regression shows the existence of contemporary correlation,

heteroscedasticity and autocorrelation of order 1.

The recourse to the Prais Winsten Regression method makes it possible to overcome these problems.

By consequent, the models will take the following form:

$$IR_{i,t} = \nu + \beta X_{i,t} + u_i + e_{i,t}$$

Where,

$$i = 1 ; 2 ; \dots ; 10 \qquad n = 10$$

$$t = 2000 ; \dots 2011 \qquad T = 12$$

$IR_{i,t}$  : is the dependent variable, Insolvency risk ( $IR$ ).

$X_{i,t}$  : are the explanatory variables of the Insolvency risk.

These explanatory variables are:  $TAICA$ ,  $INDDR$ ,  $DiversityD$ ,  $DiversityC$ ,  $DUAL$ .

With four variables of control which are the size, the age of the bank, the franchise value and the capital structure:  $TAIBQ$ ,  $Age$ ,  $Franchise$  and  $CAR$ , respectively.

$u_i$  Represent the specific effect for each bank, which remains invariable in time, whereas  $e_{i,t}$  is a random disturbance.

The results of estimator PCSE appear in table 2 presented below:

**Table 2: Board of directors' Characteristics and Tunisian Banks' Insolvency Risk**  
 (Prais-Winsten regression, correlated panels corrected standard errors - PCSEs)

IR	Coef.	Std. Err.	z	P> z
TAICA	6.905062	1.065418	6.48	0.000
INDDR	-.1268026	.0466289	-2.72	0.007
DUAL	.428271	.1198086	3.57	0.000
DiversityC	-.2140118	.0603583	-3.55	0.000
DiversityD	.1309718	.0530578	2.47	0.014
TAIBQ	-.0785045	2.201497	-0.04	0.972
Franchise	-1.784084	.39488	-4.52	0.000
Age	8.696296	2.707937	3.21	0.001
CAR	-.0078353	.0878424	-0.09	0.929
Cons	-13.99061	43.09626	-0.32	0.745
R-squared	0.4339			
Wald chi2(9)	1658.82			
Prob > chi2	0.0000			

According to this table we can conclude that:

The size of the board of directors ( $TAICA$ ) has a significant and positive effect on the insolvency risk of Tunisian banks. This result is in conformity with the recommendations of Jensen (1993) who proposed that a board of directors operating with a reduced number of administrators produces a more effective mechanism of control. This result corroborates the results of Changan and al. (1985), Yermack (1997) and Eisenberg and al. (1998) who also suggested that the boards of directors of reduced sizes play a more important role in the function of control but the boards of directors with a higher size have difficulties in coordinate their efforts, which will make it possible to the managers to be free in the continuation of their own interests. So we can conclude that, when the size of the Board increases there would be a lack of coordination and of synchronization of the administrators' efforts that will allow to the manager to pursue his risky projects.

The percentage of independent directors has a significant and negative effect on the insolvency risk of Tunisian banks. This result is in conformity with the predictions of Daily and Dalton (1994), McAvoy and Millstein (1999)

and Bhagat and Black (1999). The presence of independent directors increases the effectiveness of the board of directors of Tunisian banks as Nam (2004) stipulates that independent administrators are most efficient to control the managers' behaviour.

Moreover, the third assumption is confirmed and it proves that the manager is myopia to the disaster as specified by Guttentag and Herring (1986). In fact, in the case of a duality, the director will have an influence on the board (Jensen 1993) and thus it will be able to pursue risky projects.

The demographic diversity measured by the proportion of the foreign administrators is associated with a higher insolvency risk within the Tunisian banks. This result is not conforming to the result of Maran (2008) which shows that demographic diversity is beneficial for the companies. Nevertheless, cognitive diversity is of a great utility for the Tunisian banks. The presence of the institutional administrators within the Tunisian banks is associated with a lower level of insolvency risk. This result is in conformity with the report of Jensen (1993) which specified that the presence of the institutional administrators within the boards of directors allows a better control of the manager, since these administrators have a better access to information and have a greater expertise in the analysis of the performances. This result confirms also the results of various work which treats the problems of diversity in particular those of Bantel (1993), Siciliano (1996) and Simons and Pelled (1999) which find that the improvement of the decision-making at the strategic level can be observed with the presence of diversity. Finally, the results show that the charter value has a negative effect on the insolvency risk but the size of the bank and the capital adequacy ratio don't have any effect on insolvency risk. The latter result calls into question the effectiveness of regulatory capital to reduce risk taking by banks.

## 5. Conclusion

In this paper we studied the relationship between board of directors' characteristics and the insolvency risk of the Tunisian banks by controlling the effects of the size, the age, and the franchise value as well as the effect of the capital structure of the different banks.

The results show that demographic diversity is not beneficial for the Tunisian banks but cognitive diversity reduces their insolvency risk. The results show also that the size of the board of directors has a positive effect on the insolvency risk of the Tunisian banks. Consequently, it is preferable for the Tunisian banks to keep a reduced size of the board of directors so that the administrators can control the risky behavior of the managers. The latter are, as described by Guttentag and Herring (1986) and showed by the regression results, myopia to the disaster and require an effective control by the administrators.

Therefore, this work highlights a result which is opposed to the various results of the studies which treats the problems of "corporate governance" of the banking firm in which the authors often suppose that the manager is averse to risk.

Nevertheless, our results present the limit that the sample size is relatively restricted compared to the studies which already examined the relation between the boards' characteristics and the performance of either financial or non-financial firms. So, extending the current research by comparing Tunisian banks to those of other African countries is an avenue for future research.

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