THE IMPACT OF THE BOARD OF DIRECTORS ON THE FINANCIAL PERFORMANCE OF TUNISIAN COMPANIES

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Abstract

The Board of Directors plays a key role as a internal mechanism of corporate governance. Indeed, its effectiveness is dependent on the presence of several factors, the most important are related to characteristics that relate primarily to the independence of its members, board size, the cumulative functions of decision and control, the degree of independence of the audit committee and the gender diversity of the board. To test the validity of our hypothesis, which states the existence of a certain deterministic between the board's characteristics and financial performance measured by three different ratios, namely ROA, ROE and Tobin's Q, we have developed three linear regression models. Our empirical validation was conducted on a sample of 26 companies listed on the Tunisian stock exchange Tunis (Tunis Stock Exchange) over a period that spans four years (2007-2010). The estimated models show satisfactory results showing the importance of the impact of board characteristics on financial performance of Tunisian companies.

Keywords: Board Of Directors, Financial Performance, Board Size, The Accumulation Of Functions, Diversity Of The Board

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Introduction

In recent years, various authors have predicted that the protection of minority shareholders' interests in a context of asymmetric information is a prerequisite for the proper functioning of the financial market (Labelle & al 2000).

Indeed, there are different control mechanisms that are capable of protecting the public interest against abuse and managerial discretion in firms that are characterized by either a concentrate capital or diluted capital.

In the same furrow, Fama & Jensen (1983) and Charreaux (1993) provide that the board of directors plays an important role to limit conflicts of interest between different stakeholders.

The board of directors, as internal mechanism of governance, has a major function on the limitation of managerial discretion and thereafter to manage the agency relationship between shareholders and managers and stakeholders of company.

An analysis of the main studies on the subject of the board allowed us to identify several indices associated with the effectiveness of control by this mechanism. This is mainly the presence of independent directors on the board, the existence of various board committees, the multiple roles of CEO and chairman and size of the Board in accordance with the study of Zeghal et al (2006).

In order to clarify and deepen the board's role in the governance system, the sections of this study will be devoted to the study of the main features of the board and their impact on financial performance of Tunisian companies. Indeed, the first section deals with the main previous studies that relate to the impact of board characteristics on financial performance. The presentation of the sample and definition of

variables is the subject of the second section. Finally the analysis results will be displayed in the third section.

1. Previous studies and research hypotheses

Many mechanisms exist to protect the interests of shareholders, it is commonly accepted that the Board of Directors plays a major role in promoting the interests of investors (Labelle & al 2000). Indeed, the Board of Directors plays an important role in the proxy resources, determining strategic choices and especially in the resolution of conflicts of interest between managers and stakeholders.

Also a scan of the main studies on the topic of the board allowed us to identify the characteristics of the board has an impact on financial performance.

1.1 Independence of board members and financial performance

This is the most important feature of the board to reflect the quality of governance of a company. This notion has always held the interest of several researches. Indeed, previous studies have focused on the distinction between outside directors and inside directors

Literature has emphasized the effectiveness of board independence as a mechanism reducing the manager's discretion and opportunism. They corroborate the hypothesis that the independent members tend to mitigate agency conflicts between leaders and managers (Alexander &al 2000).

To this extent, much research has shown that a high proportion of independent directors on the board improve the quality of financial disclosure and subsequent financial performance of companies (Chen& al 2000).

The Empirical research on the relationship between board composition and financial performance of the firm are far from unanimous. Several previous studies have shown that the presence of outside directors has a positive effect on performance like the studies of Byrd & al (1992) and Lee & al (1992) that assume the presence of outside directors protect shareholders' interests when there is an agency conflict.

Black & al (2006) and Lefort & Urzua (2008) corroborate this idea further and predict that increasing the number of independent directors on the board promotes a positive financial performance of the firm.

In the same furrow, Kor & al (2008) approve that outside directors' have good skills and they can positively influence the financial performance of the company.

Other authors such as Hermalin & al (1991), Bhagat & Black (2000) and Klein (2002) result in an insignificant relationship between the fraction of outside directors' on the board and the financial performance.

Finally, Coles & al (2005) argue that inside directors can also improve the value of the company because they have access to relevant information and have specific knowledge of the company.

Similarly, Sarkar & Sarkar (2009) and Kaymak & al (2008) support this conclusion and provide that inside directors leads to higher returns on assets (ROA) and not the outside independent directors.

In the context of our study and in accordance with the provision of the Code of Commercial Companies of Tunisia, a shareholder is not required for membership of the board of a public company in addition to the code itself has foreseen the possibility of appointing an employee as a director.We anticipate a positive effect of the independence of directors on financial performance. Hence our first hypothesis:

1.2 Size of the board of directors and financial performance

The literature is largely interested in the study of the influence of size of the board of directors on the financial performance of the company.

H1: The presence of a significant percentage of independent directors on the board of directors positively influences the financial performance of Tunisian companies.

A scan of the economic and financial literature we concluded that the link between the size of the board of directors and financial performance leads to contradictory conclusions. Therefore, unanimity has not been proven about this relationship.
Indeed, several researchers suggest that the number of directors may influence the functioning of the board and therefore the financial performance of the company. Some authors seem to favor a large council. Indeed, in an uncertain environment, the larger the board, the greater knowledge of the various administrators can improve performance and to exercise effective control (Kiel & al 2003, Coles & al 2005 and Linck, & al 2006).

Similarly Godard & Schatt (2004), provide more the number of directors is important more the company achieves high performance.

In this line, Pearce & Zahra (1989) and Provan (1980) provide for the existence of a positive relationship between board size and firm's financial performance.

In the same groove and in their Meta analysis Dalton & al (1999), confirm this positive relationship and find it is more intense for businesses to large sizes.

In the same direction, Pearce & Zahra (1989) and Adams & Mehran (2003) find that firms with a large board of directors ensure a better performance.

However, another strand of literature shows that, the large boards of directors are less effective and have a negative impact on company performance. Indeed, when the board is large, this may present a barrier to the management control of the company because of poor coordination, flexibility and communication. Wu (2000), Bhagat &Black (2002), Odegaard & al (2004), Mak & al (2005) and Andres & al (2005) state that small boards create more value than large boards.

This divergence of results shows that there are no consensuses on the impact of the size of the board on its monitoring capacity. Some argue for a larger size. Other research shows that the reduced number of directors strengthens the control of the board and subsequently improves the financial performance of companies.

In the context of our study the Code of Commercial Companies of Tunisia provides that public companies are managed by a board composed of three to twelve members at most. Hence our second hypothesis:

H2: The size of the board negatively affects the financial performance of Tunisian companies.

1.3 The dual functions of management and control and financial performance

Another feature is supposed to influence the effectiveness of control exercised by the directors on the board of directors, it is the cumulative functions of decision and control.

According to Brickley & al (1997), the duality is the allocation of the same person as CEO and Chairman of the Board for the same period.

As well Rachdi & al (2009) study the relationship between duality and performance has produced a combination of theories of agency and stewardship.

The first defends the idea that advocates the separation of functions while the second emphasizes the superiority of the dual functions of decision and control to heighten business performance.

The agency theory states that combine the functions of CEO and Chairman of the Board is considered an obstacle to the effectiveness of the control exercised by the Board and therefore recommends the separation of two functions. Indeed, the proponents of agency theory, including Jensen & Meckling (1976) and Jensen (1993) noted that the separation of management and control decisions reduces agency costs and improves the performance.

Similarly Carapeto & al (2005) recommend the separation between the management function and that of the general chairman. They show that the function of chairman is to chair the meetings and monitor the hiring process, referral, assessment and executive compensation. It is therefore clear that the Chief can not be efficient since it will favor its own interests. Therefore, for the board to be effective it is necessary to separate the two positions.

In the same furrow, Sarkar & al (2009) consider duality as an obstacle to the board's role since it allows weakening the control making by the directors and therefore a control system able to encourage the opportunism of the manager.

Contrary to the agency theory which suggests that duality diminished the independence of the Board, the proponents of the theory of stewardship like Cannella &al (1993) and Sridharan & al (1997) provide that plurality of functions increases the financial performance of the firm that the CEO has all the information for disclosure to members of the board.

The Defenders of duality require the presence of a single responsible with a mission to chart the strategies and policies of the company because the separation of functions creates a divergence within the council and promotes conflicts of interest.

In this vein, Tuggle & al (2008) reach this conclusion and argue that the sharing of power between the CEO and Chairman of the Board is a factor that may determine the ability of the manager in carrying out its functions.

Weir & al (2002) argued that a combined role can project a clear sense of direction and can have a positive effect on financial performance. Indeed, these studies have referred to the theory of organization who said that the company can achieve better financial performance when the leader has complete authority and that its role is played clearly and without opposition.

In France, Godard& Schatt (2004) found that firms that opted to combine the positions are more profitable in the long term, confirming the essential role played by the leadership to create value. Hence our third hypothesis:

H3: The combination of leadership and chairmanship of the board negatively affect the financial performance of Tunisian companies.

1.4 The size of the audit committee and financial performance

Pincus & al (1989) show that firms with larger audit committees are expected to devote more resources to monitor the process of accounting and financial reporting.

In the same furrow, Anderson & al (2004) found that large audit committees have a better protection and better control the process of accounting and finance committees with respect to small by introducing greater transparency with respect shareholders and creditors which has a positive effect on corporate financial performance. Hence our fourth hypothesis:

H4: The presence of a significant number of directors on the audit committee positively affects the financial performance of Tunisian companies

1.5 The independence of audit committee members and financial performance

The audit committee's role is to oversee the audit process and also to resolve any disagreement that may arise between auditors and management. Indeed, Abbott and al (2000) suggest that firms whose audit committees consist of independent members were less sanctioned by the SEC.

The composition of the audit committee to the subject of several recommendations which state that the audit committee should consist of a majority of outside independent directors to ensure their independence (Beasley &Salterio 2001).

In the same furrow, Klein (1998) shows that the effectiveness of the board depends on its own structure and the structure of its committees. Indeed, he argues that the allocation of independent outside directors to the audit committee is likely to improve business performance. Hence our fifth hypothesis:

H5: The presence of a significant percentage of independent members of the audit committee positively affects the financial performance of Tunisian companies.

1.6 The Board diversity and financial performance

The presence of women in the board was the subject of several theoretical and empirical reflections especially in developed countries such as the study of Singh (2008) which deals with British companies as well as that of Adams and Ferreira (2007, 2009) in the American context and also the study of Rose (2007) for the case of Danish companies.

The question now is whether the presence of women in the board has an impact on the latter. The answer to this question is mixed between the defendants and opponents of gender diversity on boards. According to proponents of this diversity, they present some arguments that women bring new ideas, have an ability to communicate very important to men as they deal with strategic issues at council meetings has a positive effect on the business (Carter &al 2003, Adams & Ferreira 2003 and Ehrhadto & al 2002).

In the same furrow, Omri& al (2011), provide that the joint councils improve the company image through the disclosure of their openness, tolerance and fairness. This result was corroborated by the study of Kang & al (2009) which provide that the announcement of the addition of a woman on the board to an effect on improving yields recorded.

Contrary to previous results, Shrader & al (1997) analyze 200 American companies with market capitalization of the highest between 1992 and 1993. They find no significant positive relationship between the percentage of women on the board and financial performance.

Similarly, Kochan & al (2003) find no positive relationship between diversity men / women in positions of power and financial performance of the company. Indeed, the study of Zahra &al (1988) on the presence of minorities on the board of directors (women and racial minorities) and financial performance, has led to a non significant association between two variables. Hence our sixth hypothesis:

H6: The presence of women on the board of directors negatively affects the financial performance of Tunisian companies.

1.7 The frequency of meetings and financial performance

The frequency of board meetings may be viewed as a key element in board effectiveness. Indeed, there are explanations both for and against a positive relationship between the frequency of meetings and corporate financial performance. A scan of the economic and financial literature we concluded that the link between the frequency of meetings of the board of directors and financial performance leads to contradictory conclusions.

Indeed, some authors like Godard& al (2004) predicted that the increase in the number of board meetings in a positive impact on the financial performance of French companies.

In the same furrow, Davidson and al (1998) found a positive relationship between corporate financial performance and number of meetings of the Board. However, more research like the study of Vafeas (1999) which states that increasing the number of board meetings is not synonymous with the existence of a strong financial performance. Hence our seventh hypothesis:

H7: the frequency of meetings of the board positively affects the financial performance of Tunisian companies.

2. Presentation of the sample and definition and measurement of variables

Prior to the analysis of study results, we present at the next paragraph the methodological choices made in order to test the hypotheses of the research. First, we present the characteristics of our sample. Subsequently, we define the measures of variables used in this study.

2.1 Presentation of the sample

The sample for this study consists of 26 companies listed on the Tunisian stock exchange (TSE) over a period of four years (2007-2010).

Financial data are collected of the financial statements from official bulletins available in the Financial Market Council (CMF) on its website www.cmf.org.tn and scholarship. The Market data are collected through the Exchange and on the site www.bvmt.com.tn and also with a few brokers.

The Data on the board of directors are collected from the prospectuses of companies available in the CMF and guide from stocks provided by the TSE.

Are excluded from the sample, the banks, the insurance companies and the financial institutions due to their specific accounting rules and a few companies newly listed on TSE. Indeed, we have not considered all the companies listed in our study period (2007-2010). The choice of listed companies is based on the fact that more information is available on these companies.

2.2 Definition and measurement of variables

At this point, we tried to list the different variables that can be divided into dependent variables (performance measurement), independent variables that relate principally on the properties of the board of directors and control variables.

Table 1. Definition and measurement of variables

	Variables	authors	Measurement of variables
dependent variables	**Return On Assets (ROA)**	Barro (1990) and Angbazo &Narayanan (1997)	Net income / total assets
	Return On Equity (ROE)	Holderness &Sheehan (1988) and Ang&Lauterbach (2002).	Net income / equity
	Q de Tobin	Beiner & al (2006) and Bhagat & al (2008)	((Book value of assets + market value of equity)- book value of equity) / book value of assets
independent variables	**independence of board members (IND_CA)**	Pearce & Zahra (1989), Bhagat &Black (1999) and Godard & Schatt (2004)	the number of independent directors divided by the total number of directors on the Board
	Board size (TAI_CA)	Adams & Mehran (2003), Klein, (2002), Vafeas (2003) and Godard & Schatt (2004)	the number of directors on the Board
	overlapping functions (CUM_FON)	Kang &al(2009), Brickley & al (1997) and Godard & Schatt (2004).	Takes the value 1 when the positions of CEO and chairman of the board are occupied by one person. 0 otherwise.
	Size of the audit committee (TAI_AUD)	Klein (2002) and Godard and Schatt (2004)	the number of directors who serve
	Independence of audit committee (IND_AUD)	Anderson and al (2003), Godard and Schatt (2004) and Brown & Caylor (2004)	the proportion of independent directors who sit on the audit committee
	Frequency of meetings (FREQ_REU)	Vafeas & al (1998), Godard & Schatt (2004) and Andrés & al (2005)	the number of board meetings per year
	Gender diversity of the Board (DIV_CA)	Singh (2008) and Kang & al (2009)	The percentage of women in consulting
Control variables	**size of the firm (TAI_FIRM)**	Pearce &Zahra (1989) and Godard (2002)	the natural logarithm of book value of total assets
	level of debt (DEBT_FIRM)	Mc Daniel (1989) and Turner & Sennetti (2001)	Debt / total assets

3. Analyzes the results

To capture the effect of board characteristics on financial performance of Tunisian companies measured by ROA, ROE and Tobin's Q, we test the regression models (1), (2) and (3) incorporating the control variables (firm size and debt ratio) to control their effect on the dependent variables.

$$ROA_{i,t} = \beta_0 + \beta_1 IND\_CA_{i,t} + \beta_2 TAI\_CA_{i,t} + \beta_3 CUM\_FON_{i,t} + \beta_4 TAI\_AUD_{i,t} + \beta_5 IND\_AUD_{i,t} + \beta_6 FREQ\_REU_{i,t} + \beta_7 DIV\_CA_{i,t} + \beta_8 TAI\_FIRM_{i,t} + \beta_9 DEBT\_FIRM_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$ROE_{i,t} = \beta_{0+} \beta_1 IND\_CA_{i,t} + \beta_2 TAI\_CA_{i,t} + \beta_3 CUM\_FON_{i,t} + \beta_4 TAI\_AUD_{i,t} + \beta_5 IND\_AUD_{i,t} + \beta_6 FREQ\_REU_{i,t} + \beta_7 DIV\_CA_{i,t} + \beta_8 TAI\_FIRM_{i,t} + \beta_9 DEBT\_FIRM_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$Q\ Tobin_{i,t+1} = \beta_{0+}\beta_1 IND\_CA_{i,t} + \beta_2 TAI\_CA_{i,t} + \beta_3 CUM\_FON_{i,t} + \beta_4 TAI\_AUD_{i,t} + \beta_5 IND\_AUD_{i,t} + \beta_6 FREQ\_REU_{i,t} + \beta_7 DIV\_CA_{i,t} + \beta_8 TAI\_FIRM_{i,t} + \beta_9 DEBT\_FIRM_{i,t} + \varepsilon_{i,t} \quad (3)$$

3.1 Descriptive Analysis

The results presented in Part A of Table 1 (Appendix) indicate that Tunisian firms listed on the TSE other than financial institutions have a low return on assets and sometimes even a negative return (-0.164). This yield is between (16%) and (19%) with an average that does not exceed 5% (4.98%).

Moreover, these descriptive statistics show that the average Tobin's Q is (1.80) and this ratio to a maximum value of 4.27. However, some firms have a Tobin's Q is less than unity (0.97) this means theoretically they have trouble raising money to invest and increase the dividends they pay to shareholders.

The results presented in Table 1 indicate that the independence of members of the board is more or less respected by Tunisian firms listed on the TSE. Indeed, it is an average of 49% (0.489) with minimum (0%) mainly for family businesses whose board members have a family connection between them and indeed this is the characteristic of the majority of Tunisian companies and a maximum not exceeding 82% (81.8%).

We find that firms that are the subject of our study are mainly companies that make use of cumulation of the president of the board and director general (60.6%) and justified the fact that the majority of companies selected are family. This result is confirmed by the study of Godard and Schatt (2004) who found that family businesses are opting for French listed the plurality of functions which make them more profitable in the long term, confirming the essential role played by the leadership create value.

The companies in our study have audit committees with an average size of 3 directors and the size of this committee varies between 2 and 4 administrators but with the percentage of independence that does not exceed 75%. Similarly the average of independent audit committee members does not exceed 20% (19.47%) with minimum (0) and this is justified because of the existence of family firms in our sample.

3.2 Verification of the applicability of the linear regression and multivariate analyzes

Because all dependent variables are continuous, we use the model of multiple linear regressions to estimate our three equations.

3.2.1 Checking the conditions of application of the linear regression

The application of linear regression is subject to certain conditions. Indeed, this method requires that no problems of autocorrelation and heteroscedasticity of errors and the lack of multicollinearity among independent variables.

3.2.1.1 Verification of the absence of autocorrelation problems

To affirm that the OLS estimators converge asymptotically to the true values we need to verify the absence of self correlation of errors.

The results show that the Durbin-Watson statistics are all close to two. This allows us to affirm the absence of self - correlation of errors. Hence the OLS estimators converge asymptotically to the true values of the parameters with minimum variance.

3.2.1.2 Verification of the absence of multi colinearity

The linear regression requires the absence of a problem of multi collinearity between the independent variables introduced in the same model.

Indeed, Kennedy (1985) provides an r = 0.8 to decide on a serious problem of collinearity between the independent variables included in a regression model.

We present the coefficients of Pearson correlations between the independent variables in our study (see Appendix).

This matrix shows the correlation between the different independent variables is moderate. This implies the absence of the problem of multi collinearity among variables.

3.2.1.3 Verification of absence of heteroscedasticity

To test the existence of a potential problem of heteroscedasticity of errors, we used White's test in 1978. Indeed, White (1978) regresses the squared residuals of OLS on all independent variables of the model on the square of each explanatory variable and the variables obtained from the cross-initial theoretical model. However, when the number of explanatory variables is important, the number of regressions of the equation of White will be significantly larger than the number of observations, which causes the lack of robustness of the test.

Thus, White has shown that under the assumption of homoscedasticity, the quantity W = N.R2 asymptotically chi-square has an N-k degrees of freedom.

The results of this test show that there is no problem of heteroscedasticity in all regression models used in our study (see Appendix Table 3).

3.2.2 Multivariate analyzes and hypothesis testing

Analysis of our results will be divided into three parts. In the first part, we examine the effect of board characteristics on financial performance of Tunisian companies measured by the ROA by analyzing the estimation results of the first regression model (equation 1). The second part will analyze the results regarding the effect of board characteristics on financial performance measured by ROE (Equation 2). Finally, we discuss in Part III, the results regarding the effect of board characteristics on financial performance measured by Tobin's Q (equation 3).However prior to the determination of the various regressions equations it is necessary to ascertain whether or not individual effects in our models and it is crucial to choose between a fixed effects model or the effects model random by applying the Hausman specification test.

3.2.2.1 Analysis of the effect of board characteristics on financial performance measured by ROA

Table 2. Type of effect

Tets	Values of the Fisher statistic	Sig	Conclusion	Type of effect
model 1 (ROA)	3.5928	0.0000	Reject the null hypothesis of equality of the constants	specific effect

We find that the probability of acceptance of the null hypothesis of the Fisher test is 0.0000 <threshold of 5%. We reject the null hypothesis H_0 and we confirm the existence of an individual effect.

Following the rejection of H_0 we turn to the determination of the random effect (BETWIN) for the judgment of our model.

Table 3. Hausman test

			S.D.	Rho
Cross-section random			0.021787	0.2851
Idiosyncratic random			0.034496	0.7149

At this stage the use of the Hausman specification test (1978) is crucial to identify the nature of the specification (fixed or random).

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	29.117425	9	0.0006

According to the Hausman test (1978), we find that the probability is (0.0006) less than the critical value at 5%. This implies that the model is studied in individual fixed effects. From an econometric perspective, this result means that the individual effects are added to the constant model and not the random term.

Table 4. Results of linear regression on Equation 1

Dependent variable ROA				
VARIABLES	expected sign	Coefficient β	t-statistic	Prob
constant		-0.062934	-0.563680	0.5748
IND_CA	+	**0.112294*****	3.495056	0.0008
TAI_CA	-	0.000389	0.120650	0.9043
CUM_FON	-	-0.017956	-1.091590	0.2788
TAI_AUD	+	-0.023063	-1.090314	0.2794
IND_AUD	+	**0.105687*****	3.023016	0.0035
FREQ_REU	+	**0.123768*****	4.981887	0.0000
DIV_CA	-	**-0.447243*****	-2.708355	0.0085
TAI_FIRM	-	0.001196	0.126088	0.9000
DEBT_FIRM	-	**-0.098508*****	-4.373467	0.0000
R^2= 0.846022 R^2 adjusted = 0.770149 F=11.15049 p= 0.000 N= 104				

*** Significant at 1% ** significant at 5% * significant at 10%

Inspection of the table reveals a positive and statistically significant at 1% between the financial performance measured by ROA and the independence of members of the Board IND_CA (β = 0.1122, P = 0.008). This result supports the hypothesis H_1, which states that the presence of a significant percentage of independent directors on the board of directors positively influences the financial performance of companies. Indeed, this result corroborates the studies of Black & al (2006) and Lefort & Urzua (2008) which provide that the increased number of independent directors on the board promotes a positive performance of the firm. This result also confirms the studies of Lau & al. (2009), Schiehll & al (2009) and Sarkar & Sarkar (2009) who also agree that independent directors promote better value creation within the company that managers provide good governance independent from those internal.

Moreover, the results in Table support the hypothesis H_5 which states that the presence of a high percentage of independent members of the audit committee positively affects financial performance. Indeed, from Table, the coefficient on the variable independence of audit committee members IND_AUD is positive (β = 0.1056) and statistically significant at 1% (P = 0.0035) which supports the study Klein (1998) shows that the allocation of the outside (independent) audit committee is likely to improve the financial performance of the company. Similarly Beasley & Salterio (2001) state that the audit committee should consist of a majority of independent directors to improve the quality of information and hence the performance of the company.

We also find that the coefficient associated with the frequency of meetings of the board FREQ_REU is positive and statistically significant at 1% and in accordance with the hypothesis H_7 which provides that the frequency meeting of the board positively affects financial performance. This result is confirmed by several studies the most important are that of Godard & Schatt (2004) who stressed that a significant increase in the number of meeting of the Board allows a detailed control of managers and increasing shareholder wealth that has a positive effect on corporate financial performance.
Furthermore the results indicate that the coefficient on the variable range board DIV_CA is negative and statistically significant at 1%. We find that the negative sign of the coefficient on the variable DIV_CA is consistent with expected sign. Indeed this result corroborates the study of Farrell &al (2005) which provide a negative impact of gender diversity on boards and performance because it reduces the number of women in these councils, which may bias the scope of their presence.

Finally, we also find that the sign of the estimated coefficient obtained on the control variable (firm size) is not consistent with the expected sign (β= 0.0011, P = 0.9). Indeed the table shows that the size of the firm in a positive and not significant (This result is not confirmed in studies of Black & al (2006) and Arcot & Bruno (2005) which state that small firms are more successful than businesses to large sizes. On the other hand the results for this regression shows that the debt (debt ratio) to a negative coefficient and statistically significant at 1 %(β = -0.0985, P = 0.000). Indeed, this result is consistent with the work of Myers (1977) which states that indebtedness leads to high agency costs because of the divergent interests of shareholders and creditors.

3.2.2.2 Analysis of the effect of board characteristics on financial performance measured by ROE:

We find that the probability of acceptance of the null hypothesis of the Fisher test is 0.0000 less than the 5% level. We reject the null hypothesis H_0 and we confirm the existence of an individual effect.

Table 5. Type of effect

Tets	Values of the Fisher statistic	Sig	Conclusion	Type of effect
model 2 (ROE)	3.3265	0.0000	Reject the null hypothesis of equality of the constants	specific effect

Following the rejection of H_0 we turn to the determination of the random effect (BETWIN) for the judgment of our model.

	Effects Specification			
			S.D.	Rho
Cross-section random			0.080274	0.3132
Idiosyncratic random			0.118879	0.6868

At this stage the use of the Hausman specification test (1978) is crucial to identify the nature of the specification (fixed or random).

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	19.998038	9	0.0179

According to the Hausman test, we find that the probability is (0.0179) less than the critical value of chi-Two at the 5%. This implies that the model is studied in individual fixed effects.

The results in Table 6 indicate that except for the signs of coefficients for variables IND_CA TAI_AUD and signs of the coefficients obtained are consistent with the expected signs.

First note that, contrary to hypothesis H_1, the independence of members of the board does not seem to have a significant effect on financial performance measured by ROE. Indeed, the coefficient on the variable IND_CA is negative and not significant (β = -0.0425, P = 0.7017). This result is not consistent with the results of studies of Black & al (2006) and Lefort & Urzua (2008) which showed that the presence of a significant percentage of independent directors on the board of directors influences positive financial performance.

Tavle 6. Results of linear regression on Equation 2

Dependent variable ROE				
VARIABLES	expected sign	Coefficient β	t-statistic	Prob
constant		**0.78897****	2.050561	0.0441
IND_CA	+	-0.042590	-0.384654	0.7017
TAI_CA	-	-0.001008	-0.090703	0.9280
CUM_FON	-	-0.085096	-1.501170	0.1379
TAI_AUD	+	**-0.304492*****	-4.177139	0.0001
IND_AUD	+	**0.349636*****	2.901997	0.0050
FREQ_REU	+	**0.280347*****	3.274481	0.0017
DIV_CA	-	-0.735567	-1.292542	0.2005
TAI_FIRM	-	-0.009244	-0.282764	0.7782
DEBT_FIRM	-	-0.055882	-0.719927	0.4740
R^2= 0.749528 R^2 adjusted = 0.626107 F=6.072948 p= 0.000 N= 104				

*** Significant at 1% ** significant at 5% * significant at %

Moreover, the results show that the coefficient on the variable IND_AUD is positive and statistically significant at 1% (β = 0.3496, P = 0.005). Implying that the independence of audit committee members to positively impact financial performance. This result supports the hypothesis H_5, which states that the presence of a significant percentage of independent members of the audit committee positively affects financial performance. This result corroborates the results of several studies including that of Klein (1998) shows that the allocation of the outside (independent) audit committee is likely to improve the financial performance of the company.

We also find that the coefficient on the variable frequency FREQ_REU meeting is positive (β = 0.2803) and statistically significant at 1% (P = 0.0017). This result confirms the hypothesis H_7 which provides that the frequency of meeting of the board positively affects financial performance. This result is justified by the study of Davidson & al (1998) who found a positive relationship between corporate financial performance and number of meetings of the Board. Indeed, in their frequency of meeting of the board is positively related to the quality of control exercised by him on the head of the firm and the information disclosed to all stakeholders.

However, the results for the variables TAI_AUD indicate a negative coefficient and significant at 1% (β = -0.3044, P = 0.0001). This result is not consistent with the study by Anderson & al (2004) who found that large audit committees promote greater transparency for shareholders and creditors has a positive effect on performance corporate financial.

Similarly, the results indicate that the coefficient associated with the variable size of the board TAI_CA is negative (β = -0.001) and insignificant (P = 0.9280) according to the prediction of the hypothesis H_2 that includes the board size negatively affects corporate financial performance.

Regarding the control variables, the sign found on the firm size variable is consistent with the expected sign. Indeed, we found that the coefficient on firm size is negative but not statistically significant (β=-0.0092, P= 0.778).

Similarly, the table shows that the coefficient on debt (debt ratio) is negative but not statistically significant (β = -0.0558, P = 0470). Indeed, the negative sign of the coefficient on the variable DEBT_FIRM is consistent with the expected sign because any debt or the use of debt hinders performance but in a more or less significant.

However, previous studies such as that of Myers (1977) who found that the coefficient associated with the variable DEBT_FIRM is negative and statistically significant.

Indeed, the work of Myers (1977) state that the indebtedness leads to high agency costs because of the divergent interests of shareholders and creditors.

3.2.2.3 Analysis of the effect of board characteristics on financial performance measured by Tobin's Q

Table 7. Type of effect

Tets	Values of the Fisher statistic	Sig	Conclusion	Type of effect
Model 3 (Tobin's Q)	1.9393	0.0163	Reject the null hypothesis of equality of the constants	specific effect

We find that the probability of acceptance of the null hypothesis of the Fisher test is 0.0163 <less than the 5% level. We reject the null hypothesis H_0 and we confirm the existence of an individual effect.
Following the rejection of H_0 we turn to the determination of the random effect (BETWIN) for the judgment of our model.

Table 8. Hausman test

Effects Specification	S.D.	Rho
Cross-section random	0.074723	0.0236
Idiosyncratic random	0.480130	0.9764

At this stage the use of the Hausman specification test (1978) is crucial to identify the nature of the specification (fixed or random).

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	29.523846	9	0.0005

According to the Hausman test, we find that the probability is 0.0005 <less than the 5% level. This implies that the model is studied in individual fixed effects.

Table 9. Results of linear regression on Equation 3

Dependent variable Tobin's Q				
VARIABLES	expected sign	Coefficient β	t-statistic	Prob
constant		-2.375336	-1.528555	0.1309
IND_CA	+	**2.319313*** **	5.186386	0.0000
TAI_CA	-	-0.041420	-0.923172	0.3591
CUM_FON	-	**0.488123** **	2.132053	0.0366
TAI_AUD	+	0.474271	1.610933	0.1118
IND_AUD	+	-0.622720	-1.279741	0.2049
FREQ_REU	+	**1.895802*** **	5.482612	0.0000
DIV_CA	-	-0.812927	-0.353689	0.7247
TAI_FIRM	-.	-0.016666	-0.126227	0.8999
DEBT_FIRM	-	**-1.135921*** **	-3.623341	0.0006
R^2= 0.780103 R^2 adjusted = 0.671748 F=7.199509 p= 0.000 N= 104				

*** Significant at 1% ** significant at 5% * significant at 10 %

First note that, contrary to hypothesis H_3 combine the functions of management and chair of the board seems to have a positive effect on financial performance measured by Tobin's Q. Indeed, we find that the coefficient associated with the accumulation of functions CUM_FON is positive and statistically significant at 5% (β = 0.0488, P = 0.036). This result is consistent with studies of Cannella & al (1993) and Sridharan & al (1997) which provide that the combination of tasks increases the performance of the firm that the CEO has all the information for disclose the later members of the board.

Moreover, the results in Table show that the coefficient on the variable independence of members of the Board IND_CA is positive and statistically significant at 1% according to the prediction of hypothesis H_1, which states that the presence of a significant percentage of independent directors on the board of directors influences positively the financial performance. This result is not consistent with studies of Burton (2000) and Bhagat & al (2002) who find that firms with independent boards are not necessarily perform better than others. Also this result does not corroborate the studies of Core & al (2002) indicates

that even a high percentage of independents on the board can have a negative impact on firm performance.

Similarly the variable frequency of meeting FREQ_REU is associated with financial performance measured by Tobin's Q and that this association is positive (β= 1,895, P = 0.0000) and statistically significant at 1% Confirming the hypothesis H_7, which states that the frequency of meeting positively affects the financial performance of companies. This result is consistent with the study of Godard & Schatt (2004) who stressed that a significant increase in the number of meeting of the Board allows a detailed control of managers and increasing shareholder wealth which has a positive effect on financial performance of companies.

Regarding the control variables, the sign found on the firm size variable is consistent with the expected sign. We find that firm size has a negative impact on Tobin's Q. this result joins the study of Beiner & al (2006) who showed that large size firms are likely to have significant agency problem because of the difficulty of controlling them and the problem of free cash flow.

Similarly the table shows that the coefficient on debt (debt ratio) is negative and statistically significant at 1% (β= -1.1359, P = 0.0006). Indeed, the negative sign of the coefficient on the variable DEBT_FIRM is consistent with the expected sign.

Indeed this result corroborates the study by Myers (1977) which provides that the debt enjoyed by the ratio "total debts on total assets" is also significant and negative.

Conclusion

The study of the impact of board characteristics on financial performance of companies was based on an investigation of 26 Tunisian companies with publicly traded securities of Tunis (Tunis Stock Exchange).

Order to study this impact we used essentially the bivariate analysis by studying the association between endogenous variables and the explanatory variables and multivariate analysis using multiple linear regression.

Similarly, the use of descriptive statistics in our study presents a more or less important. Indeed, the results of descriptive statistics are summarized in a set of mean, median, and frequency. The interest of these results is to have some information on certain characteristics and practices of Tunisian companies regarding corporate governance and in particular the main features of the board.

Indeed, the results of all tests show the bivariate and multivariate significant effect of certain characteristics of the board on financial performance is measured by ROA, ROE and Tobin's Q.

On the one hand regarding the impact of board characteristics on financial performance measured by ROA, we find that only board independence, the independence of the audit committee, the kind of diversity Board meeting frequency and have a significant effect on financial performance.

On the other hand, results from these multivariate analyzes have shown that the independence of the audit committee and the frequency of meeting a significant and positive impact on financial performance measured by ROE.

Finally, we note the existence of a significant effect on the one hand between the independence of the board, combining the functions of management and board leadership and the frequency of meetings and other financial performance measured by Tobin's Q.

We offer some recommendations to Tunisian companies listed on the stock exchange on the development board, such as limiting the relationship between directors to provide additional insurance against the risk of collision leaders.

so we propose to limit the percentage of capital held by shareholders to obtain capital companies and not diffuse type of family businesses.

In conclusion, the results of this empirical study showed that the characteristics of the board which relate to the independence of board members, board size, independence of audit committee members, frequency of meetings Council have a greater or lesser impact on financial performance measured by the different ratio of performance used in this study namely ROE, ROE and Tobin's Q.

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