

Banking Institutions Governance and Stock Market and Financial Performance

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ABSTRACT

This paper examines the relationship between banking governance internal mechanisms and financial and stock market performance. To examine this relationship, we studied a sample of 11 Tunisian banks over the 2006-2013 period. Our aim is to identify the key governance variables that contribute to improving financial and market performance of Tunisian banks. The obtained results indicate that “good” governance practice codes contribute to better financial and market performance.

Keywords: Banking Governance, Financial Performance, Stock Market Performance

JEL Classifications: G01, G20, G30

1. INTRODUCTION

Corporate governance caught researchers’ interest as conflict of interests between managers and shareholders grew in size. Indeed, this concept was born from a simple idea that non-shareholder managers have no incentive to maximize their firm value. The problem of this gap of interests between shareholders and managers led most observers to question the different mechanisms that adjust the interests of these stakeholders. In other words, corporate governance theory is to study the way with which firms are governed (Charreaux, 2004).

Generally, corporate governance is defined as “the set of mechanisms that define managers’ discretion space.” For nearly two decades, the concern with such mechanisms has been reflected in multiple initiatives to establish and explain best practices. Various stakeholders whether institutional investors, international organizations, government or representatives of the business world proposed some initiatives. “These initiatives resulted in a set of governance codes whose application is voluntary and contain a set of recommendations considered (ideal) to achieve” (Wirtz, 2004).

The theoretical foundations and empirical validation of the relationship between banking governance internal mechanisms and financial and market performance will be the subject of this study.

2. LITERATURE REVIEW

According to the economist Joseph Steinitz, the 1990s witnessed a strong growth in the market capitalization of the main financial markets and a proliferation of derivatives. In addition, this period was marked by an explosion in corporate executives’ remuneration, in particular the variable “share,” as financial instruments became diversified, new accounting and tax techniques are introduced and finally deregulation of the banking sector threw in its effects. Therefore, development of business activities led to several international scandals, which later generated a trust crisis in companies and stock markets. This crisis resulted from several factors such as power delegation problems (conflicts of interests between stakeholders, i.e., shareholders and creditors).

Along these observations, Hart (1995) assumes that agency conflicts led to the emergence of corporate governance theory. Fahlenbrach et al. (2012), examining the effect of managerial incentives on financial performance, found that high executive remuneration could lead to poor performance. Beltratti and Stulz (2012) found that banks whose managers create wealth “significant” for shareholders are more exposed to financial risks during financial crises. This leads us to conclude that “good” application of governance codes does not necessarily promote

shareholder wealth creation. Moreover, Beltratti and Stulz (2012) argue that companies whose boards promote firm wealth at the expense of shareholders' were most affected by the "2007-2008" financial crisis.

Indeed, previous studies tried to examine the extent to which corporate governance structure affects stock performance (Baek et al., 2004; Mitton, 2002; Lemmon and Lins, 2003). For instance, Gupta et al. (2013) found that well-governed banks performed no better than poorly-governed during the 2007-2008 financial crisis. During a financial crisis, investors quickly change their allocation of risky assets to safer assets. This redistribution results in the rapid liquidation of securities without considering the effect of good governance internal mechanisms. Thus, the benefits of "good" governance practice codes will be neutralized in a financial crisis. Chunyan et al. (2012) found that the most indebted public institutions recorded poor stock market performance during the "subprime" crisis, while they recorded poor performance during the pre-crisis period. This is explained by intensive government subsidies. Thus, these authors argue that institutions that used the (BIG-4) firms for their audits saw their market value slightly decline during the global (2007-2008) financial crisis. Similarly, they confirmed that (high) financial leverage had a positive effect on institutions performance, especially during crises. Taken together, these results do not support the findings of Kang and Stulz (2000), Baek et al. (2004) and Nogata et al. (2011). In a similar vein, Gupta et al. (2013) show that the reports and recommendations of the Risk Management Committee positively affect financial and market performance of banking institutions. These reports pointed to a negative relationship between the presence of a risk management committee within the Board of Directors and financial and market performance of banking institutions.

3. DATA AND VARIABLES

3.1. Research Methodology and Hypothesis

The aim of this study is to examine the relationship between governance internal mechanisms of Tunisian banks and banking performance over the 2006-2013 period. Indeed, we examine the impact of "good" governance practice codes of banking institutions, as dictated by regulatory bodies, on banking performance.

In this context, Huang et al. (2011) and Aebi et al. (2012) examined the interaction between governance internal mechanisms of banks and their financial and market performance. In addition, Huang et al. (2011), studying Taiwan stock exchange, tried to identify the key factors that contributed to stabilizing stock prices after the political disturbances following the 2010 presidential election. The obtained results point to a positive relationship between board structure and stock prices volatility. Accordingly, we opt for the same methodology while including other variables that represent governance internal mechanisms within the Tunisian banking sector. Then, our research hypothesis is as follows:

The proper application of banking governance codes, as implemented by the regulatory bodies of the Tunisian banking

system, contributes to the improvement of financial and stock market performance of banks listed on the stock exchange.

To test this hypothesis, we refer to several reports, circulars and research studies, like Viénot (1995, 1999) and the Bouton (2000) reports, the OECD Report: Corporate governance and financial crisis (2009), the Central Bank of Tunisia (CBT) circular n (2006-2019) and n (2011-2006) and to determine the variables governance internal mechanisms of banking institutions.

3.2. The Data

The financial data representing the 2006-2013 period are collected from fact sheets and financial statements published by the studied banks, by the Tunis Stock Exchange (TSE) and by the Financial Market Council (FMC). Data representing banking governance are taken from leaflets, activity reports published by the FMC and the "stock guides" published by the TSE. Our sample consists of 11 banks listed on the TSE with a half-yearly frequency and a total of 176 observations.

3.2.1. The dependent variables

3.2.1.1. Buy and hold return (BHR)

The BHR measure long-term stock returns. This strategy consists of holding the sale of a stock for a long time for this latter to subsequently enjoy a higher profitability on the one hand and save tax on capital gains on short-term purchase and sale operations on the other. Moreover, this variable is used by many researchers like Fahlenbrach et al. (2012), Aebi et al. (2012) when modeling performance of firms' securities as it considers the "time" dimension in the profitability analysis. In other words, the BHR is a long-term investment strategy based on the stock return prices by taking into account the economic value of a stock. Finally, the BHR is defined as the average long-term stock returns.

$$BHR_{i,t} = \prod_{t=1}^T (1+r_{i,t}) - 1 = R_{i,t} \quad (1)$$

$\prod_{t=1}^T (1+r_{i,t})$: Denotes the product of stock returns for a period of 6 months.

With $r_{it} = \ln(R_t) - \ln(R_{t-1})$

3.2.1.2. Adjusted Tobin's Q

TQ was introduced by James Tobin (1969) as a performance indicator for developing investment strategies. T.Q is defined as follows:

$$Q = \text{Firm market value/replacement cost of fixed capital} \quad (2)$$

If Tobin's Q is >1 , this means that the bank should invest. However, if this ratio is <1 , this indicates that the bank will fail to raise funds to invest.

Generally, Tobin's Q reaches its limits in times of financial disturbances, as firm market value during a financial crisis does not reflect the firm's real economic position. It is for this reason that this ratio has been adjusted.

Indeed, adjusted Tobin's Q better reflects the firm's real economic position. It is presented as follows:

$$\text{Tobin's } Q = (\text{Market capitalization} + \text{debts}) / \text{turnover} \quad (3)$$

3.2.1.3. Risk adjusted return on capital (RAROC)

In 1970, Bankers Trust Company developed RAROC method, to estimate financial profitability that takes into consideration stock market risk, also called RAROC. The general formula is the following:

$$\text{RAROC} = \text{Net adjusted returns} / \text{economic capital}$$

Furthermore, in order to model (RAROC), we will use Harper's methodology (2008) that calculates (CAPM)¹. RAROC then is written as follows:

$$\text{RAROC} = \text{rf} + \left[\beta_i \left[(1 - T) \left(\frac{D}{E} \right) + \right] \right] \cdot [E(R_m) - \text{rf}] \quad (4)$$

3.2.2. The independent variables

3.2.2.1. The variables representing governance internal mechanisms of banking institutions

- The dual function of CEO and President of the Board (DUALIT)
DUALIT is a dummy variable indicating whether or not the officer is both the CEO and the chairman of the board. (DUALIT) takes

$$\begin{cases} 0: \text{CEO is not the President of the Board} \\ 1: \text{CEO is the President of the Board.} \end{cases}$$
- Independence of Board members (INDD)
This variable informs us about the degree of independence of the board. This is the ratio between the number of independent directors and the total number of directors of the Board.

$$\text{INDD} = \text{Number of independent directors} / \text{Boards size} \quad (5)$$
- Capital structure (STR)
This is the proportion of institutional shareholders contributing to the bank's capital. Moreover, is considered an institutional shareholder each investor who holds more than (5%) of the capital. Furthermore, the variable (STR) is defined as follows:

$$\text{STR} = \text{Capital held by institutional shareholders} / \text{total capital} \quad (6)$$
- Audit quality (BIG4)
Are considered well-controlled and audited institutions those who entrust their external audit and control procedures to the "BIG4" (Lennox, 1999).

This is a dichotomous variable that takes:

- $$\begin{cases} 0 \text{ if the bank does not employ a BIG4 firm} \\ 1 \text{ if the bank employs a BIG4 firm} \end{cases}$$
- Board size (BDSIZE)
BDSIZE is an independent variable that informs us about board size. According to Viénot (1995) and Bouton

(2002), an ideal board size ranges between 10 and 13 members for it to perfectly fulfill its mission.

- Gross executive remuneration to total assets (REMB)
Remuneration of senior executives of banks and managers in particular often relates to objectives outlined by the organization and the performance achieved. Organizational theory postulates that motivating managers increases with remunerating the latter on the one hand and firm performance on the other. Indeed, executive remuneration packages are designed in order to minimize conflicts of interests between managers and shareholders through managerial motivation to increase firm performance. Therefore, in our study we introduce gross executive remuneration adjusted to total banking assets².
The ratio is presented as follows:

$$\text{REMB} = \text{Gross remuneration of managers} / \text{total assets} \quad (7)$$
- Presence of a Remuneration Committee (CREM)
International governance codes of banking institutions confirm the importance of the presence of a remuneration committee which oversees remuneration of executives and managers based on their performance and competence and this to reduce agency costs and conflicts of interests. Moreover, this is why we have introduced in our study the variable (CREM). This is a binary variable that distinguishes banks that have such a committee compared to other banks.

Then, if the bank has a remuneration committee

- $$\begin{cases} \text{CREM} = 1 \\ \text{Otherwise, CREM} = 0 \end{cases}$$
- Presence of a Risk Management Committee (CRO)
International financial regulation organizations and the CBT insist on the importance of the presence of a committee in charge of risk management in all its dimensions. Indeed, the CBT, via its circular (No. 2006-19)³ of 28 November 2006, recommended the presence of a committee that oversees "management and monitoring of risk and compliance with relevant regulations and policies," within the board of directors of credit institutions. Furthermore, the term "risk committee" was replaced by "a risk monitoring and follow-up structure"⁴.
To distinguish between banks with a risk management committee, we introduced a dichotomous variable (CRO).

$$\begin{cases} \text{Accordingly, (CRO) takes} \\ 1: \text{With a committee} \\ 0: \text{No committee} \end{cases}$$

3.2.2.2. The control variables

- Bank size (TA)
We chose this variable (TA) to study the effect of bank size on bank performance. Indeed, there is a

¹ Harper (2008), BIONIC TURTLE CENTER.

² Gross remuneration of managers is scaled on total assets and reliability of earnings. This relationship is studied by several researchers like Baker et al. (1988), and Attia (2013).
³ Central Bank of Tunisia, circular issued to banking institutions N° 2006-19, (November 2006), article n° 16.
⁴ Central Bank of Tunisia, circular issued to banking institutions N° 2006-19, (November 2006), article n° 43.

quantitative variable measured by the logarithm of total bank assets.

- Return on equity (ROE)
ROE is measured by the ratio net income to shareholders' equity. Indeed, ROE measures the ability of a bank to generate profits on its own funds.

Thus, the ROE ratio is defined as follows:

$$ROE = \text{Net income/equity} \tag{8}$$

- Ratio of financial dependence or leverage (LF)
This ratio measures degree of financial dependence. In other words, it measures level of indebtedness. However, the higher this ratio, the more dependent the bank is to its creditors. LF or debt ratio is defined as the ratio of total debt to total banking assets.

$$LF = \text{Total debts/total assets} \tag{9}$$

- The market-to-book ratio (MTB)
The market to book ratio (MTB) is a financial indicator to assess the true value of equity. Indeed, the (MTB) is the ratio between market capitalization to a company's equity book value. Therefore, we introduced this ratio to distinguish between banks in terms of real value.

The "MTB ratio" is defined as follows:

$$MTB = \text{Market capitalization/equity} \tag{10}$$

- Bank sector (SECT)
SECT tells us about the type of owners of the bank, i.e. whether the bank is publically- or privately-owned. It takes
 { 0: If more than 50% of the capital is owned by a private group of investors
 1: Otherwise
- Banking productivity ratio per agent (PDBA)
Banking productivity ratio per agent is defined as the ratio of net banking income to the total number of employees. This ratio measures banking performance by agent.
Pructivity per agent = net banking product/total employees $\tag{11}$

- Gross intermediation margin (INTERM)
Gross intermediation margin is defined as the ratio of net banking product to total assets (turnover)
Gross intermediation margin = net banking product/turnover $\tag{12}$

4. DESCRIPTIVE STATISTICS

Initially, we note that on average, the only negative financial and stock market performance variables are BHR and (ROE) (Tables 1 and 2). This can be explained by the fact that Tunisia has experienced strong political, economic and financial disturbances over the 2006-2013 period. Indeed, BHR shows a negative mean (-0.051) against (-0.015) for ROE. As for banking governance internal mechanisms variables, we notice that managers of most banks combine the functions of CEO and Chairman of the Board (DUALIT). However, descriptive statistics shows that most banks referred to (BIG4) firms to complete and validate their external audit. This decision seems logic as these firms are internationally well-reputed and recognized in terms of competent and reliable audit reports. Thus, from 2006, Tunisian banks have tended to use a remuneration committee under the responsibility of the Board.

Table 1: Descriptive statistics of continuous variables

Variable	Observations	Mean±SD	Minimum	Maximum
BHR	176	-0.051±0.216	-0.992	0.366
QTA	176	1.030±0.086	0.695	1.295
RAROC	176	0.328±0.244	-0.712	1.495
REMB	176	0.065±0.054	0,004	0.257
BDSIZE	176	10.693±1.848	5	13
INDD	176	0.070±0.090	0	0.4
STR	176	0.622±0.137	0.282	0.864
TA	176	14.976±0.744	12.508	16.066
LF	176	0.891±0.079	0.512	1.012
PDBA	176	82.600±30.366	39.662	157.469
INTERM	176	0.049±0.040	0.029	0.415
MTB	176	1.637±1.772	0.084	18.091
ROE	176	-0.015±0.628	-7.809	0.425

SD: Standard deviation, ROE: Return on equity

Table 2: Descriptive statistics of dichotomous variables

Variables	Description	Frequency (%)
DUALIT	1: Both functions	90 (51.14)
	0: Separate functions	86 (48.86)
BIG4	1: Hiring a Big 4 firm	102 (57.95)
	0: Otherwise	74 (42.05)
CREM	1: With a remuneration committee	109 (61.93)
	0: No remuneration committee	67 (38.07)
CRO	1: With a risk management committee	84 (92)
	0: No risk management committee	47.73 (52.27)
SECT	1: Public bank	64 (36.36)
	0: Private bank	112 (63.64)

Moreover, 62% of Tunisian banks use a remuneration committee. Moreover, we notice that the capital of most Tunisian banks is held by institutional investors.

The variable (STR) "ownership structure" shows a mean of (0.622). This confirms the non-dispersed capital of these banks. Moreover, the Viénot (1995) and Bouton (2002) reports postulate that the ideal Board size should include between 10 and 13 directors. Our results indicate that on average the Board consists of 11 directors, a size that meets the standards set by the mentioned reports. In the same vein, debt ratio or financial leverage (LF) is 89%. We can see that the debt of banks has increased gradually since (2007). Theoretically, this increase may result, on the one hand, from the effect of the "subprime" crisis on the European and the Tunisian economies, and, on the other hand, the effect of the political turmoil that has been shaking Tunisia since the outbreak of the "revolution" in early 2011. Therefore, we included a dummy variable to distinguish private from public banks. Accordingly, (64%) of Tunisian banks are private. At the same time, the "MTB" ratio is (1.637), with a variance of (1.773). Furthermore, performance ratios such as gross intermediation margin and banking productivity ratio by agent seem statistically acceptable despite the financial and political disturbances during this period. Moreover, the average for "QTA" is >1. Indeed, QTA is (1.03). This means that most Tunisian banks manage to raise funds to invest. QTA has a minimum of (0.695) and a maximum of (1.295). Finally, the (RAROC) displays a mean of (0.328) and a standard deviation of (0.244) during the (2006-2013) period while (BHR) displays a negative mean.

In the Figure 1, (RAROC) recorded its lowest in 2011 coinciding with the economic shocks resulting from the unstable political climate characterizing that period. The following graph reports the (RAROC) of Tunisian banks listed on the stock exchange between 2006 and 2013.

After examining the descriptive statistics, we will proceed by an econometric study to examine all of the relationships hypothesized for our variables. To this end, we will first run multicollinearity tests to study correlation between the different variables. Table 3 reports the correlation coefficients between the variables and their (VIF) values.

Table 3 reports negative correlation coefficients for most variables. Furthermore, we found that some pairs of independent variables display acceptable correlation coefficients like (REMB-SECT), (BIG4-TA), (CREM-SECT), (MTB-ROE) pairs.

5. INTERPRETATION OF REGRESSIONS RESULTS

5.1. Analysis of the Impact of Banking Governance Internal Mechanisms on BHR

First, we will proceed by run a simultaneous “step-wise” method on all variables to study the effect of governance internal mechanisms of banking institutions on BHR. The regression results are reported in the Table 4.

Figure 1: Risk adjusted return on capital of Tunisian banks between 2006 and 2013

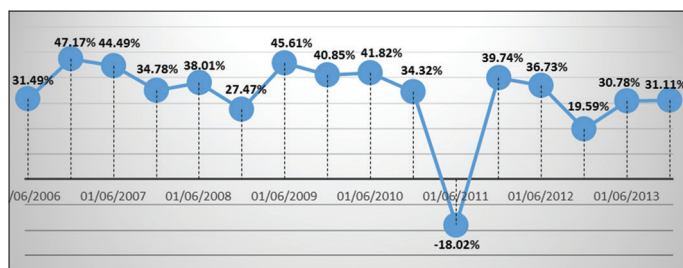


Table 3: Correlation and VIF coefficients

Variables	VIF	DUALIT	REMB	BDSIZE	INDD	STR	BIG4	CRO	CREM	SECT	TA	LF	PDBA	INTERM	MTB	ROE
DUALIT	1.98	1														
REMB	3.52	-0.133	1													
BDSIZE	1.78	-0.188	-0.104	1												
INDD	2.15	-0.425	0.086	-0.268	1											
STR	1.57	-0.411	0.195	0.248	0.174	1										
BIG4	2.21	-0.234	0.413	-0.142	-0.066	0.287	1									
CRO	1.65	0.024	-0.002	-0.409	0.168	-0.090	0.169	1								
CREM	2.21	-0.041	0.271	-0.372	0.281	-0.113	0.257	0.281	1							
SECT	4.66	0.290	-0.645	0.158	-0.265	-0.040	-0.361	0.105	-0.575	1						
TA	3.48	0.134	-0.553	0.056	0.068	-0.179	-0.564	-0.189	-0.086	0.196	1					
LF	1.85	-0.057	0.009	-0.007	0.249	-0.084	-0.257	-0.164	0.269	-0.264	0.421	1				
PDBA	2.34	0.031	0.090	0.044	-0.353	-0.074	0.233	-0.047	-0.061	-0.111	-0.489	-0.465	1			
INTERM	1.08	-0.115	-0.024	0.031	-0.069	-0.013	-0.064	-0.066	-0.068	0.054	-0.026	-0.032	0.010	1		
MTB	3.05	-0.216	0.249	-0.238	0.313	-0.003	0.163	0.256	0.368	-0.343	-0.137	0.239	-0.195	-0.069	1	
ROE	2.27	0.104	-0.115	-0.090	-0.010	-0.094	-0.078	-0.075	-0.062	0.054	0.105	-0.118	0.108	0.023	-0.662	1

ROE: Return on equity

By estimating our model by a “step-wise” method, we were able to choose the regression that fits our study. Indeed, we came to eliminate the (BDSIZE, INDD, REMB, SECT, ROE and MTB) variables. The probability of the global significance test (Wald χ^2) is zero, which means that the overall model is significant at (5%).

In this table, the coefficient for the variable (DUALIT) is negative and statistically significant at the 10% threshold. Then, we can confirm that stock returns as measured by BHR is negatively sensitive to combining the CEO and Chairman functions by the executive. In addition, banks whose managers combine the function of Chairman of the Board and the CEO recorded the highest stock returns (BHR) during the (2006-2013) period. This relationship can be explained by entrenchment theory, which posits that combining functions of managers decreases shareholders’ control power. Therefore, such a decision increases entrenchment behavior (Fama, 1980; Williamson, 1983). Accordingly, we confirm that combining managers’ functions is beneficial and helps to improve the market performance of Tunisian banks.

Moreover, board size, executive remuneration, independence of directors, economic profitability and the “market to book” ratio have no effect on BHR, since coefficients of these variables are not significant. This can be explained by the fact that the 2011-2013 period was marked by strong political and economic disturbances.

However, the coefficient of the variable (CRO) is negative and statistically significant at the 1% level. This result shows that using a risk management committee negatively affects stock returns. This finding is consistent with that of Aebi et al. (2012). In other words, banks that use risk management committees within their boards of directors have poor stock returns (BHR). In this respect, we can reject the hypothesis that the presence of a risk management committee within the board of directors may mitigate financial risks and subsequently improve banking performance. That is inconsistent with the recommendations of the CBT circular (No. 2011-06), which calls for such a committee to improve the governance quality of banking institutions. In the same vein, Aebi et al. (2012) pointed to conflicts of interests between the manager and the officer in charge of the risk management committee in terms of management and policy

decisions. This directly impacts banks' economic and financial performance in the long run.

Finally, the coefficients of the variables (TA) and (LF) are positive and statistically significant at the (5%) and (10%) levels respectively. In other words, the higher size and leverage of banks, the higher stock returns in terms of BHR.

5.2. The Impact of Banking Governance Internal Mechanisms on Investment Capacity (QTA)

To examine the relationship between governance internal mechanisms and investment capacity as measured by adjusted Tobin's Q, we will proceed with a "step-wise" regression to identify the model the most appropriate to our estimation. From a purely econometric point of view, according to the Hausman test, the "fixed effects" model is the most appropriate because its probability is zero and below the critical threshold of (5%).

Lipton and Et Lorsch (1992) assume that a reduced board size generates tighter control than large boards because these latter find supervision and surveillance difficulties. However, Adams and Mehran (2003) show that banks with large boards are more efficient in terms of (QTA) performance. In this respect, our results support the findings of Lipton and Et Lorsch (1992) as the variable (BDSIZE) is statistically significant and negative. In addition, banks with a reduced board size dispose of higher (QTA). Moreover, they show more effective monitoring and surveillance. However, the coefficient of independent directors is statistically significant and negative at the (1%) threshold. In other words, the banks with a small number of independent directors (INDD) dispose of higher (QTA). Indeed, these banks have greater investment capacity. Our results are in line with those of Griffith et al. (2002), pointing to a negative relationship between performance in all its dimensions and the number of independent directors. However, other researchers found that the number of independent directors in the board positively affects the financial and market performance of banks. Nam (2004) believes that independent directors have a clear and an explicit vision of the organization. The author assumes that these directors' task is to ensure that the bank applies rigorously the regulations set by controlling and supervisory bodies.

Furthermore, performance variables like "leverage" (LF), the "MTB" ratio and ROE are statistically significant and positive at the (1%) threshold. In other words, the more a bank is financially independent from its creditors (LF), the higher (QTA). Thus, the higher ROE, the higher (QTA) (Table 5).

As for the presence of a risk management committee (CRO), we found that the latter has no effect on investment capacity (QTA). In addition, the presence of a risk management committee only affects stock market returns.

Finally, several variables were not taken into account when estimating the effect of governance internal mechanisms on investment capacity (QTA), namely audit quality (BIG4), institutional investors (STR), the presence of a remuneration

Table 4: Regressions results on BHR

Dependent variable: BHR		
Description	Step-wise	Random effects
P (HAUSMAN)	-	0.156
Corporate governance variables		
DUALIT	-0.057 (-1.32)	-0.650 (-1.70)*
BDSIZE	-0.006 (-0.58)	
INDD	0.063 (0.26)	
STR	0.101 (0.71)	
CRO	-0.161 (-4.06)***	-0.159 (-6.51)***
CREM	0.079 (1.67)*	0.079 (2.81)***
BIG4	-0.033 (-0.72)	-0.026 (-0.53)
REMB	0.022 (0.04)	
Control variables		
SECT	0.124 (1.80)*	0.126 (3.93)***
LF	0.427 (1.60)	0.416 (2.59)***
TA	0.000 (-2.13)**	0.000 (-2.38)**
ROE	-0.025 (-0.68)	
PDBA	0.000 (0.29)	0.000 (0.07)
INTERM	0.136 (0.34)	0.117 (0.91)
MTB	-0.010 (-0.68)	-0.003 (-0.36)
Constant	-0.293 (-0.83)	-0.276 (-1.48)
P (Wald χ^2)	-	0.000
P (Fisher)	0.005	-
R ²	0.178	0.698

BHR: Buy and Hold returns, ***significant at the 1% level, **significant at the 5% level, *significant at the 10% level, values in parentheses are t-student, RE: Random effect, ROE: Return on equity

Table 5: Results of the regressions on (QTA)

Dependent variable: Tobin's Q		
Description	Step-wise	Fixed effects
P (HAUSMAN)	-	0.000
Corporate governance variables		
DUALIT	-0.008 (-0.75)	
BDSIZE	-0.007 (-2.57)**	-0.008 (-3.36)***
INDD	-0.153 (-2.44)**	-0.176 (-2.70)***
STR	-0.020 (-0.56)	
CRO	0.021 (2.09)**	-0.017 (-1.48)
CREM	0.003 (0.27)	
BIG4	0.010 (0.85)	
REMB	-0.281 (-2.01)**	-0.113 (-0.45)
Control variables		
SECT	-0.053 (-2.94)***	
LF	0.207 (2.98)***	0.803 (8.64)***
TA	-0.004 (-1.22)	
ROE	0.047 (0.42)***	0.045 (5.21)***
MTB	0.032 (8.09)***	0.030 (6.98)***
PDBA	0.001 (-1.12)	-0.005 (-3.96)***
INTERM	0.040 (-0.38)	-0.039 (-0.45)
Constant	0.959 (10.39)***	0.440 (5.23)***
P (Fisher)	0.000	0.000
R ²	0.642	0.526

***Significant at the 1% level, **significant at the 5% level, *significant at the 10% level, values in parentheses are t-student, ROE: Return on equity

committee (CREM), bank sector (public or private) (SECT) and total assets (TA) for econometric reasons.

5.3. The Impact of Governance Internal Mechanisms on RAROC

To examine the effect of "good" practice of governance internal mechanisms on banking performance, and in conjunction with the

conventional measures already adopted, we decided to re-estimate the different groups of variables on RAROC (Table 6). Indeed, this latter takes into account simultaneously the economic, financial and stock market dimensions of banks. In this regard, we conducted first a “step-wise” regression to identify the most suitable model for our study. Based on the obtained results, we chose model (3) as it is considered the most appropriate. Furthermore, model (3) is globally significant because the probability obtained on the (Chi-square) test is zero.

We found that the presence of a remuneration committee positively affects RAROC as the coefficient of this variable is positive and statistically significant at the (10%) level. In other words, the presence of a remuneration committee contributes to improving RAROC. Indeed, in the presence of such a committee, Tunisian banks managed to improve their RAROC performance. At the same time, the coefficient associated with the variable (REMB) is positive and statistically significant at the (1%) level. This can be explained as follows: Banks whose managers are highly paid, are more efficient in terms of market profitability. Therefore, this result confirms the importance of the presence of such a committee. Thus, executive remuneration helps to improve the financial results of banks.

In addition, we found that public banks are more efficient in terms of market profitability as measured by RAROC. The coefficient of the variable (SECT) is positive and statistically significant at the (1%) level.

It should be noted that bank productivity ratio (PDBA) shows a “t-student” positive and significant at the (1%) level. In other words, an increase in this ratio (net banking income compared to total employees) generates increased performance as measured by RAROC.

Moreover, the regression results yielded several non-significant variables. These are duality, Board size, the presence of a risk management committee and audit quality. Overall, we can confirm that our results support those of Beltratti and Stulz (2009) which

indicated that board size does not affect financial and stock market performance.

Finally, we can conclude that some governance internal mechanisms such as board size and structure, the number of independent directors and the weight of institutional investors, have no effect on banking performance as measured by (RAROC). However, the presence of a remuneration committee and level of remuneration of directors play an important role in maximizing the economic and financial performance of Tunisian banks.

6. CONCLUSION

The study of the “governance - banking performance” relationship indicates that the performance of Tunisian banks is sensitive to “good” governance practice codes. Econometrically-speaking, we found that banking performance is sensitive mainly to banks’ governance structure. In addition, we confirm that combining managers’ functions “the functions of CEO and Chairman of the Board” is beneficial and helps to improve the market performance of Tunisian banks. In other words, combining managers’ functions contributes to improving market profitability of Tunisian banks. However, board size only negatively affects banking investment capacity. Indeed, strategic decisions such as investment are sensitive to board size. In other words, the higher the number of directors, the more strategic decisions are dispersed. However, we found a non-significant relationship between board size and other banking performance variables. However, we did not find a significant relationship between audit quality and the different measures of financial and stock market performance.

The study of the relationship between “good” practice of governance internal mechanisms and stock market performance indicates that the weight of institutional investors (STR) increases average BHR. Barclay and Et Holderness (1991) and Shleifer and Vishny (1997) argue that the relationship between institutional investors and market performance depends on the nature of the strategies outlined by major shareholders. Therefore, they posit that institutional investors may affect banking efficiency when they are directly involved in governing the organization.

As for the presence of specialized committees, we found that the presence of risk and remuneration management committees differently affects banking performance measures. Indeed, the results indicate that banks with no risk management committee displayed average long-term stock returns. However, the presence of a remuneration committee positively affects average stock returns. The contradiction noted on the effect of the last two committees on banking performance is explained by Aebi et al. (2012). These authors believe that in times of financial turmoil, conflict of interests grow between the administrator in charge of the risk management committee and the one in charge of the remuneration committee. Indeed, each administrator seeks to achieve the objectives outlined by their respective committees. This led to conflicts of interests within the board, which subsequently affects financial and market performance of banks.

Table 6: Results of the regression on RAROC

Dependent variable: RAROC	
Description	Random effects
P (HAUSMAN)	0.254
Corporate governance variables	
DUALIT	-0.046 (-1.35)
BDSIZE	-0.013 (-0.86)
CRO	-0.034 (-0.86)
CREM	0.060 (1.75)*
BIG4	-0.070 (-1.42)
REMB	0.753 (2.73)***
Control variables	
SECT	0.098 (3.04)***
PDBA	0.001 (3.14)***
INTERM	0.165 (1.09)
Constant	0.302 (1.28)
P (Wald χ^2)	0.000
R ²	0.065

***Significant at the 1% level, **significant at the 5% level, *significant at the 10% level, values in parentheses are t-student, RAROC: Risk adjusted return on capital

In addition to governance internal mechanisms, we examined the effect of some control variables on financial and stock market performance. We found that banks with high level of debt are the most efficient in terms of market returns on the one hand and in terms of investment capacity as measured by adjusted Tobin's Q on the other hand. Therefore, we notice that bank size in terms of total assets affects average stock returns. Moreover, ROE and the "MTB" ratio positively affect investment capacity of banks. In other words, ROE depends positively on banks' ability to invest. In addition, the higher equity, the higher investment capacity.

In conclusion, and referring to the different regressions, applying "good" practice codes of governance internal mechanisms is found to be very important. Indeed, the descriptive statistics point to a positive development (between 2006 and 2013) in implementing governance standards set by international regulatory and financial and prudential supervision bodies. Furthermore, the CBT circular (No. 2011-06) on the standards of the good governance of credit institutions validates our results. This circular proposes recommendations about board size and about the need to include a risk management committee. The aim of this latest circular is to improve the governance quality of Tunisian banks to promote banking performance on the one hand and to arrange for measures that protect banks against structural, financial and circumstantial risks on the other. Moreover, our results confirm the need to introduce new laws on banking regulation of risk governance in particular.

REFERENCES

- Adams, R.H., Mahran, H. (2003), Is corporate governance different for bank holding companies? Federal Reserve Bank of New York Economic Policy Review, 9, 123-142.
- Aebi, V., Sabato, G., Schmid, M. (2012), Risk management, corporate governance, and bank performance in the financial crisis. *Journal of Banking and Finance*, 36(12), 3213-3226.
- Baker, G.P., Jensen, M.C., Et Murphy, K.J. (1988), Compensation and incentives: Practice vs. Theory. *Journal of Finance*, 43(3), 593-616.
- Baek, J., Kang, J., Park, K.S. (2004), Corporate governance and firm value: Evidence from the Korean financial crisis. *Journal of Financial Economics*, 71, 265-313.
- Barclay, M.J., Et Holderness, C.G. (1991), Negotiated block trades and corporate control. *Journal of Finance*, 25, 861-878.
- Beltratti, A., Stulz, R.M. (2009), The credit crisis around the globe: Why did some banks perform better during the credit crisis? *Journal of Financial Economics*, 105, 1-17.
- Beltratti, A., Stulz, R.M. (2012), The credit crisis around the globe: Why did some banks perform better during the credit crisis? *Journal of Financial Economics*. Working Paper No. 2010, 03-005.
- Bouton, D. (2002), Pour un Meilleur Gouvernement des Entreprises Cotées. MEDEF.
- Charreaux, G. (2004), Les Théories De La Gouvernance: De La Gouvernance Des Entreprises A La Gouvernance Des Systèmes Nationaux. FARGO, n. 1040101.
- Chunyan, L., Konari, U., Yufeng, Y. (2012), Corporate governance and firm value during the global financial crisis: Evidence from China. *International Review of Financial Analysis*, 21, 70-80.
- Fahlenbrach, R., Prilmeier, R., Et Stulz, R. (2012), This time is the same: Using bank performance in 1998 to explain bank performance during the recent financial crisis. *Journal of Finance*, 67(6), 2139-2185.
- Fama, E. (1980), Agency problems and the theory of the firm. *Journal of Political Economy*, 88(2), 288-307.
- Griffit, J., Fogelberg, L., Et Weeks, H. (2002), CEO ownership, corporate control and bank performance. *Journal of Economics and Finance*, 26, 170-183.
- Griffith, J., Fogelberg, L., Weeks, H. (2002), CEO ownership, corporate control and bank performance. *Journal of Economics and Finance*, 26, 170-183.
- Gupta, P., Krishnamurti, C., Et Tourani-Rad, A. (2013), Is corporate governance relevant during the financial crisis? *Journal of International Financial Market, Institutions and Money*, V(23), 85-110.
- Hart, O. (1995), Corporate Governance: Some theory and implication. *The Economic Journal*, 105(430), 678-689.
- Huang, H.H., Chan, M.L., Huan, I.H., Chang, C.H. (2011), Stock price volatility and overreaction in a political crisis: The effects of corporate governance and performance. *Pacific-Basin Finance Journal*, 9, 1-20.
- Kank, J.K., Stulz, R.M. (2000), Do banking shocks affect borrowing firm performance? An Analysis of the Japanese Experience, 73, 1-23.
- Lennox, C. (1999), Are large auditors more accurate than small auditors? *Accounting and Business Research*, 29(3), 217-227.
- Lemmon, M.L., Lins, K.V. (2003), Ownership structure, corporate governance, and firm value: Evidence from the East Asian Financial crisis. *The Journal of Finance*, 58, 1445-1568.
- Lipton, M., Et Lorsch, J. (1992), A modest proposal for improved corporate governance. *Business Lawyer*, 48, 59-77.
- Mitton, T. (2002), A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis. *Journal of Financial Economics*, 64, 215-241.
- Nam, S.W. (2004), Corporate Governance of Banks: Review of Issue. Working Paper of Asian Development Bank Institute (ADB).
- Nogata, D., Uchida, K., Moriyasu, H. (2011), Corporate governance and stock price performance during the financial crisis: Evidence from Japan. *Financial Crisis in the Global Bubble Economy*, 10, 43-73.
- Shleifer, A., Vishny, R. (1997), A survey of corporate governance. *The Journal of Finance*, LII(2), 737-783.
- Tobin, J. (1969), A general equilibrium approach to monetary theory. *Journal of Money, Credit and Banking*, 1, 15-29.
- Viénot, L.R. (1995), Le Rapport Viénot sur le conseil d'administration des sociétés cotées. *Revue Internationale De Droit Comparé*, 48(3), 647-655.
- Viénot, N. (1999), Rapport du Comité sur le Gouvernement D'entreprise. AFEP-MEDEF.
- Williamson, O.E. (1983), *The Economic Institutions of Capitalism*. New York: Free Press. p1-24.
- Wirtz, P. (2004), Meilleures pratiques de gouvernance, théorie de la firme et modèles de création de valeur: Une appréciation critique des codes de bonne conduite. FARGO n 1040401.