

THE IMPACT OF INTERNAL GOVERNANCE MECHANISMS ON CEO COMPENSATION: MENA BANKS CASE

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Abstract

Our research studies the impact of specific bank governance mechanisms on the compensation of CEOs in the framework of banks in the MENA region. We explored what mechanisms of the board of directors can influence the CEO's compensation. Governance mechanisms used are: The size of the board of directors, the independence of the members, the presence of a remuneration committee, the number of board meetings, Duality. Our empirical estimate was based on a sample of 52 banks in the MENA region from 2016-2020. We have developed a regression by taking remuneration as endogenous variables and governance mechanisms as exogenous variables. The results showed that specific mechanisms of the board of directors, such as the presence of a remuneration committee and the frequency of directors' meetings, have no impact on the remuneration of the CEO. On the other hand, we found that the size of the board of directors of banks, the presence of independent directors, and the duality of functions have a positive and significant impact on the compensation of CEOs of banks in the MENA region. Our results are similar to our robustness check test. And we elaborated on an endogeneity issue to test the instrumental variable committee compensation with the CEO compensation as an endogenous variable and found a significant and positive relationship.

Keywords: governance mechanisms, CEO compensation, duality, banks, board of directors

1. INTRODUCTION

The governance of financial institutions has always been a topical debate, and it's interesting to see the relationship between corporate governance and managers' interests closely. A lot of research has dealt with this critical topic Beavers (2018) and Razak (2014) placed particular emphasis on the framework of corporate governance as well as executive compensation. Literature has dealt extensively with the corporate governance mechanism, regardless of bank or industry, to see the interactions between managers' and shareholders' interests (Watkins-Fassler, K. (2017). To minimize agency problems, Managerial shareholding in the company in the form of stock options, as well as other incentive features in the executive compensation structure, has been a reliable technique used to minimize the managerial incentive on the interests of shareholders. An abundant theoretical and empirical literature has dealt with incentive contracts to solve agency problems (Core et al., 2003). Empirically, much research has emphasized the importance of the role of the relationship between remuneration and financial performance, which is measured by the sensitivity of remuneration to performance, which essentially involves the remuneration structure of managers. Thus, recent studies have found that equity option portfolios show that this sensitivity is significant over time. Caton, G.

L., Goh, J., and Ke, J. (2019). But this sensitivity between banks and industrial enterprises differs on several points.

Indeed, banks are institutions regulated to a higher degree than industrial enterprises. Several studies will take into account the specificity of the bank (Adams & Mehran, 2003) and affirm that some of its characteristics (such as regulation, supervision, the structure of capital, risk, ownership, and deposit insurance) all of these factors will make the banking company unique, and its governance issues are different from other industries. As a result, the boards of directors in the banks are larger and more independent. Members meet more often and tend to have more committees than their counterparts in the industry SA Aqlan, RB Lahane, NHS Farhan (2020). In addition, the larger the board, the more it positively affects the compensation of CEO M Bunea, V Dinu (2020). Although the bank's board of directors is more independent and busier, its disciplinary role is weak, and its independence has a positive effect on the remuneration of CEOs (Ozkan, 2007). However, the combination of the functions of management (CEO) and control (Chairman) in the bank, goes in the sense that the administrator has the power to control the decisions of the board, thus improving the remuneration of the CEO (S Missaoui, N Raissi (2020)). But other researchers have found that board activity has an unforeseen influence on CEO compensation (E Teti, A Dell'Acqua, L Etro, M Volpe (2019).

The contribution of our research is to identify the defining attributes of the board of directors that can influence CEOs' compensation for banking firms in MENA countries. To verify our hypotheses, we conducted our study on a sample of 52 banks from six countries in the MENA region. Our research investigates the nature of the relationship between specific mechanisms of the board of directors and the remuneration of bank CEOs. Governance mechanisms are the size of the board, independence, board structure on the CEO's compensation, presence of a compensation committee, the number of board meetings, and the duality. For our empirical estimate, we used a database containing financial information and variables related to the board of directors and CEO compensation of 52 banks from six countries in the MENA region (Morocco, Tunisia, Egypt, Saudi Arabia, UAE Arab Emirates, and Bahrain) covering five years from 2016 to 2020. We compiled our data from annual reports downloaded from the banks' websites.

Our work is structured as follows: a first part will be devoted to a presentation of a review of the literature and research hypotheses. In the second part, a presentation of the research methodology, the model, and the variables. And finally, the results were found, and the conclusion.

2. LITERATURE REVIEW

Agency conflicts between managers and shareholders are generally due to the power struggle between ownership and control of companies. Everyone seeks to maximize his interests; shareholders are interested in maximizing the company's value, while executives are more interested in deriving maximum benefits in cash or kind and job security (Bozzi et al. (2017). This is why several governance mechanisms have been created to align the manager's interests with those shareholders' interests. In addition, the board of directors has an essential role in

controlling the leaders (Fama, 1980). Indeed advice through its characteristics, such as the size, composition, duality, and the existence of independent directors ... are essential characteristics that can affect the board's effectiveness in controlling the leaders (Jensen, 1993). Our research aims to minimize agency conflicts by taking a closer look at the role of the board of directors and its impact on CEO compensation in banks.

The board of directors is the primary internal control mechanism, and it is called upon to make decisions on behalf of the shareholders and to ensure the compatibility of the interests between the owners and the managers.

2.1 The effect of the Board of Directors size and composition on CEO compensation

In his study of board size, Jensen (1993) found that a board of directors with a large number of directors (more than eight members) needs to function more effectively, which can lead to leadership dominance. Altuwajri, B., and Kalyanaraman, L. (2017) found that a board with a small number and dominated by outside directors can be more effective in executive control. Along the same lines, Yermack (1997) found that executive compensation was high in companies where the board was made up of a small number of directors. In his study, the size of the board is calculated according to the number of directors sitting on the board of directors. Benkraiem, et al. (2017) found in their studies the relationship between the level of executive compensation and specific attributes of the board. And they also found that CEO compensation grows as the board size increases. We can then put forward the following hypothesis:

H1: The size of the board of directors has a positive impact on the CEO compensation

2.2 The independence of the members of the Board of directors:

Agency theory states that board effectiveness increases with a high proportion of external directors on the board to better control executives Velte (2019). According to Fama and Jensen (1983), independent directors have the advantage of having experience in internal control and supervision of managers. In their research, Calderón et al. (2020) found that external directors are likely to oppose the managers, which are considered checks and balances. And their research found a positive relationship between the effectiveness of board oversight and the reputation of outside directors. Pradita and Utama (2020) found that outside directors can give the most with their expertise, especially their objectivity, to control and evaluate the manager's decisions. Kammoun et al. (2020) define the independent director as a person with no direct or indirect interest linked with the company, and he can participate in all objectively in the board's work. Hassan and Aljaaidi (2020) clarified that the participation of independent directors improves the quality of decisions. In fact, for each board of directors, there must be at least two independent directors. Baldacchino et al. (2020) studied the minimum requirement of independent directors within the Board of Directors. Naciti (2019) studied the presence of independent directors and their influence on compensation policy and found that independent directors should limit excessive executive compensation and act in the interests of shareholders. This involves establishing more flexible remuneration to encourage managers to improve the company's performance. Naciti, in its research, used the proportion of independent directors to measure the strength of the board's control over executive compensation. In their study, Nagata

and Nguyen (2017) found that outside directors are associated with lower compensation. In the same, Vein et al. (2018) found that companies with a higher proportion of outside directors paid a remuneration proportional to the company's performance. In their study, Mishra and Nielsen (2000) found a positive relationship between independent external directors and the variation of compensation to performance level. Seifzadeh(2015) and Ozkan (2007) found a positive relationship between CEO compensation and the proportion of outside directors. In addition, Edmans et al. (2017) find that executive compensation positively impacts the number of external directors. However, contradictory results also exist. In his research, Akram (2017) does not find a significant impact between the number of outside directors and executive compensation. Likewise, Bouras and Gallali (2017) concluded that the composition of the board of directors is neutral concerning the CEO's remuneration level. It is then possible to put forward the following hypothesis:

H2: The presence of independent administrators on the board of directors has a positive impact on the CEO compensation

2.3-The presence of a remuneration committee within the board of directors and its impact on the executive's remuneration:

To the authors García-Izquierdo, and Fernández-Méndez (2018), the board can determine the appropriate level of compensation for its executives. Remuneration is reduced for the manager to prevent him from pursuing his interests. Thus, a remuneration committee can limit this potential risk of slippage. These governance mechanisms can therefore represent an essential means of control in establishing executive compensation. In some countries, such as France, setting up a remuneration committee is not compulsory, but the board of directors may create specialized committees, the powers and operating procedures it specifies. Thus, the committee's role remains advisory and generally consists of making recommendations to the board on the executive compensation policy. Weir et al. (2020) estimated that the compensation granted to executives by the committee could be affected by social considerations, and the compensation of committee members can positively impact executive compensation. When there are no compensation committees, managers would have greater power to earn more compensation than they could claim, which is to the detriment of the interests of shareholders. Murphy (2018) proved in their study that executive compensation is higher in companies with a compensation committee. Thus, the existence of a committee should make it possible to avoid excessive remuneration policies and oblige managers to increase the company's performance while adopting flexible remuneration. It is then possible to move forward with the following hypothesis:

H3: The presence of a remuneration committee on the board of directors has a positive impact on the CEO compensation

2.4-The number of board meetings and its impact on the executive's compensation:

Several studies have shown that several factors influence the functioning of boards of directors, and among these factors is the frequency of board meetings (Haque, 2017). Indeed, during the meetings, the board members discuss and mainly exchange ideas on the banks' strategy and

seek means to supervise the managers. Consequently, the more frequent the meetings, the more reliable the control of managers. In addition, the complexity of banking affairs and the importance of information, these two factors reinforce the relevance of the advisory role of the board. Thus, an increase in the frequency of board meetings would be a strategic mechanism to control and minimize agency costs and improve the value of the banking firm (Ntim et al. (2019)). It is then possible to put forward the following hypothesis:

H4: The number of Board meetings has a positive impact on the CEO compensation

2.5 Impact of duality on executive compensation:

The power structure in the board of directors, and the definition of power, are attributes of great importance. Indeed when a person can exercise, at the same time, two functions: to be a general manager: CEO and also to be the chairman of the board "Chairman," this can lead to this person benefiting from two functions and two powers, this which necessarily has an impact on his remuneration Ju et al. (2017).

Teti et al. (2017) studied the separation of functions of the chairman and the managing director.

In the same vein, et al. (2020) defined the duality of CEOs when the CEO of a company also serves as chairman of the board. Duality, therefore, corresponds to the situation where the leader also occupies the post of chairman of the board of directors. However, according to the agency theory, it is necessary to separate the centralization of decision-making and control to improve the level of control. According to Htm and Nguyen (2020), combining the two functions of the chairman of the board and the general manager can influence the board's effectiveness in controlling executive compensation. If the CEO combines the two functions, the managing director thus has control over the board's decisions on his remuneration. According to Jensen, for the board to be effective, it is necessary to separate the functions of the chairman of the board and those of the managing director because the chairman of the board has several missions, such as organizing and moderating board meetings, having the power to recruit, dismiss, evaluate and remunerate the manager. Rehman et al. (2021) have shown empirically that the combination of the functions of the CEO and the chairman of the board of directors is a major cause for amplifying agency problems. In France, the structure of the board of directors, companies are authorized to keep a traditional board of directors and create another supervisory board (made up of non-executive directors) and a management board (made up of executive directors).

On the other hand, in their study, Bebchuk and Fried (2006) found that the separation of functions should allow the board to act with complete independence, especially concerning the remuneration policy for directors.

French companies can opt for a dual structure composed of a supervisory board and a management board, and they can also choose to separate or not the functions of the CEO and chairman of the board (Firth et al., 2007). According to them, separating functions will increase the remuneration, which will be proportional to the company's performance. Ozbek and Boyd (2020) found in their research a negative impact between duality on the level of administrative

control. Merino et al. (2020) have found a positive and significant relationship between the accumulation of CEO functions and directors' remuneration. On the other hand, other researchers, such as Cordeiro and Veliyath (2003), have not found significant relationships between duality and remuneration. Thus, if two different people hold two positions, the chairman can be expected to be more diligent and to have more equitable considerations in setting the remuneration of his managers. It is then possible to put forward the following hypothesis:

H5: The combination of the functions of the manager of the company and the chairman of the board of directors has a positive impact on the remuneration of the CEO compensation.

Control variables

The size of the bank

Das et al. (2021) examine the relationship between bank size and stock-based compensation. They argue that in addition to an increase in the value of CEO compensation, an increase in the size of the bank is also likely to increase the sensitivity of executive compensation to inherent risk and performance. Thus, we use the total log assets as a measure of the size of the bank. So we can put forward the following hypothesis:

H6: The size of the company has a positive impact on the CEO's compensation.

Debt

The theoretical literature hypothesizes that the debt ratio should be a determining factor in the remuneration of senior executives (John & John, 1993). When a company's capital structure includes risky debt, executives will be encouraged to adopt risk transfer behavior. Chai et al. (2016) point out that the optimal compensation structure serves as a commitment mechanism to reduce the agency's cost of debt. Their work predicts that performance pay sensitivity in an optimal compensation system will decline with a company's debt ratio. John et al. (2000) focus on the determinants of the sensitivity of the salary to the inherent risk rather than on the sensitivity of the salary to performance. They claim that the sensitivity of CEO compensation to own fund risk decreases with the debt ratio. In banking enterprises, the problem of fluctuating risk is compounded by the increase in debt ratios relative to those observed in non-banking enterprises and by the presence of small, ill-informed depositors. Regulators (whose objective is to protect banking stakeholders from problems of conflicts of interest between shareholders and managers) believe that banks granting their managers a remuneration that is very sensitive to their own underlying risk are taking a high risk. So we can make the following hypothesis:

H7: The debt of the company has a negative impact on the CEO's compensation.

3. RESEARCH METHODOLOGY

3.1 Sample and data collection

We used a sample of 52 banks in the MENA region in our empirical part. This sample was drawn from deposit banks in 8 countries: Morocco, Tunisia, Egypt, Saudia Arabia, emirates, and Bahrain. The banks cited in our sample are taken from the official websites of each bank. We used the banks' annual reports, which include a section dealing with corporate governance, including the composition of the board of directors and the remuneration of the administrative and management bodies. Data on executive compensation was compiled manually from each bank's annual reports and reference documents. Thus, for each year, the information relating to the compensation received by each executive is the CEO's total annual compensation in cash. The governance data needed to test our hypotheses was collected manually from reference documents downloaded from the banks' websites in our sample. To extract financial and accounting data, we use annual reports downloaded from the websites of the various banks. The data collected for the period 2016 to 2020. Thus Our database recovers 52 banks with 260 observations. The choice of panel data is made in order to take advantage of the dual dimension, individual and temporal, of the information available.

3.2 Econometric model:

In order to examine the attributes of the board of directors that affect the remuneration of the CEO of European banks, the following model has been developed:

The final detailed model is then as follows:

$$Comp_{it} = \alpha_0 + \alpha_1 BOARD_{it} + \alpha_2 INDPADIR_{it} + \alpha_3 COMITE_{it} + \alpha_4 MEETYEAR_{it} + \alpha_5 DUAL_{it} + \alpha_6 LNSIZE_{it} + \alpha_7 LEVREG_{it} + \epsilon_{it}$$

- $Comp_{i,t}$ is a measure of the executive's annual cash compensation for the Bank i at time t ;
- Board size $_{i,t}$ is a measure of board size calculated as the number of directors on the board at the annual meeting of bank i at time t ;
- $Indpadir_{i,t}$ is a measure of the proportion of independent directors, calculated as the ratio of independent directors to total directors for bank i at time t .
- $Comite_{i,t}$ is a dichotomous measure of the remuneration committee which is equal to 1 if the bank has a remuneration committee and 0 otherwise for the bank i at time t .
- $Meet Year_{i,t}$ is a measure of the frequency of board meetings, calculated as the number of directors' meetings held each year for bank i at time t ;
- $Dual_{i,t}$ a dichotomous measure of duality which takes the value 1 when the same person occupies the two functions of the manager (CEO) and the chairman, and 0 otherwise for the bank i at time t .
- $Ln size_{i,t}$ is a measure of bank size calculated as the logarithm of the book value of total assets for bank i at time t ;
- $Levreg_{i,t}$ is a measure of leverage calculated as the ratio of total debt to total equity for bank

i at time t .

3.3 Estimation method:

We present in this part the method of analysis of the model represented in the relation. However, the ordinary least squares estimation of all stacked data assumes the homogeneity of the banks, which can lead to biased estimates. Panel data econometrics makes it possible to control the heterogeneity of observations in their dimensions, either by taking into account a specific effect that is assumed to be certain (fixed effects) or by taking into account a random effect (random effects). Estimating a static panel model allows using a fixed or random effect model. The first thing to do is check for personal effects in our data. We can represent these effects by an intercept specific to each individual, u_i .

We, therefore, seek to test the null hypothesis $H_0: u_i = 0$ in regression. The null hypothesis of this test shows that there is only one common intercept but no individual effect. The result is an F statistic with $(N-1, NT-N-K-1)$ degree of freedom.

If we reject hypothesis 0, we must include individual effects in our model. Rejecting the null hypothesis allows us to continue with the estimation due to the presence of individual effects and to move on to the second estimation step. The second step is to do a test specifying the effects to see if they are fixed or random. Fixed-effects and random-effects models consider the heterogeneity of the data but not the assumptions about the nature of the specific effects varying from one model to another. In the first case, we assume that the specific effects can be correlated with the model's explanatory variables. In the second case, we assume that the specific effects are orthogonal to the model's explanatory variables. Hausman's (1978) specification tests which of these two hypotheses is appropriate for the data and gives a better estimation. In other words, this test allows you to choose between the fixed and random effects models.

In a fixed effects (FE) model, the parameters to be estimated are considered fixed parameters, while in a random effect (RE) model, the parameters to be estimated are random, and the estimation method is generalized least square (GLS). After that, we will do a robustness check and an endogeneity issue.

Variable measurements

The dependent variable:

Total cash compensation is the fixed annual salary plus a cash bonus (Barro & Barro, 1990). Cash compensation is not relevant in encouraging managers to do their best for company performance (Hoskisson et al., 1989). Consequently, the agency will appear (Eisenhardt, 1989). But the second component of compensation (bonus) significantly encourages the manager to work hard for the best performance CEO compensation (salary and bonus) variables are collected from the annual report for each bank for the period 2016 to 2020. We collected the CEO's compensation from information published in the banks' annual report.

Measures of independent variables

Characteristic of the board of directors

The board of directors' size should affect the CEO's compensation level. This variable, the size of the board of directors, is measured by the number of directors on the board during the annual board meeting. (Belkhir, 2009). The independence board variable, defined by the percentage of independent administrators on the board, was calculated as the number of external administrators divided by the total number of administrators. The number of independent administrators is the difference between the total number of directors and inside administrators. The duality is measured as follows: It is assigned the code 1 if the same person occupies the two functions and 0 if otherwise. (Belkhir, 2009). The remuneration committee variable is a dichotomous variable, which takes the value one if the company has a remuneration committee, and 0 otherwise (Broye & Moulin, 2010). And finally, for the factor of the number of board meetings, the number of board meetings is measured by the frequency of meetings every year (Andres & Vallelado, 2008).

Control variables

Much theoretical and empirical work has shown that board size impacts executive compensation (Tosi et al., 2000). This is explained by the fact that the management of a large bank or company requires a higher level of responsibility, to supervise more, and to have more experience and skills. So the leaders of the big banks have much higher salaries. To calculate the variable size, we use the logarithm of the bank's total assets. We test the debt ratio's influence on the CEO compensation level. The debt variable is measured by the ratio of long-term debt to the value of equity at the end of the year (Hoshi et al., 1990).

Table 1: Expected effect of independents and dependant variables

<i>Notation</i>	<i>DEFINITION OF VARIABLES</i>	<i>EXPECTED SIGN</i>
<i>Dépendent variable</i>		
<i>Comp</i>	The CEO's total cash compensation: the annual salary plus a bonus.	
<i>Independent variables</i>		
BOARDSIZE	The number of directors on the board of directors at the annual meeting	(+)
INDPDIR	the number of independent directors divided by the total number of directors.	(-)
COMITE	It is a dummy variable; the value is 1 if the bank has a remuneration committee and 0 otherwise.	(+)
MEETYEAR	The number of meetings held each year.	(+)
DUAL	It is a dummy variable value is 1 when the two functions are occupied by the same person and of 0 otherwise.	(+)
<i>Control Variables</i>		
LNSIZE	Log (Book value of Total Assets)	(+)
LEVREG	The Total Debt to Total Equity ratio	(-)

4. RESULTS ANALYSIS:

4.1-Unvaried analysis:

We present the correlation coefficients between the variables of the empirical model in the table of Pearson matrices.

Table 2: Pearson correlation matrix

Variable	Comp	BOARDSIZE	INDPDIR	COMIT	MEETYEAR	DUAL	LNSIZE	LEVREG
BOARDSIZE	0,178***	1.000						
INDPDIR	0,113***	-0.418***	1.000					
COMITE	-0,065	-0.137*	-0.221*	1.000				
MEETYEAR	0,068	-0.143***	0.452***	0.287***	1.000			
DUAL	0,008	-0.132*	-0.153***	0.171**	-0.027	1.000		
LNSIZE	0,265***	0.363***	-0.221*	-0.142**	- 0.246***	-0.022	1.00	
LEVREG	-0,287***	0.367***	-0.245***	-0.054	0.056	0.211*	0.326***	1.000

(*), (**) et (***) indicates the significance at the level of 10%, 5% et 1%.

Source: STATA 15 Result

The Pearson correlation coefficients allow us to study whether or not there is an absence of correlation between the explanatory variables. Kennedy, 1985 set a limit value for this correlation coefficient that we will use in our model. If the correlation between two explanatory variables exceeds 0.8, these two variables must not belong to the same model; one must indeed remove one of the two variables to guarantee the efficiency of interpreting the results (Mansour & Zouari, 2018). Our table shows correlation coefficients less than 0.8, limiting the collinearity phenomenon. Thus the correlation between the explanatory variables can be considered as acceptable. There is, therefore, no multi-collinearity problem.

Table 3: Variance Inflation Factors

variable	VIF	1/VIF
BOARDSIZE	1,645	0,607
INDPDIR	1,694	0,590
COMITE	1,321	0,757
MEETYEAR	1,481	0,675
DUAL	1,183	0,845
LEVREG	1,582	0,632
Insize	1.896	0.5527
MEAN VIF	1.272	

Source: STATA 15 Result

The VIF (variance inflation factor) test is a test to verify the existence of a multi-collinearity problem between the independent variables of the model. In view of the VIF tests, which are for all the variables much lower than 3, the limit suggested by Myers (1990), the problem of collinearity does not seem critical.

Test Wooldridge for autocorrelation in panel data:

If the Fisher probability is greater than 10%, we accept hypothesis 0, which states an absence of autocorrelation, and if Fisher probability is less than 10%, we reject hypothesis 0 and is in the presence of autocorrelation.

$F(1.52) = 0.123,$

$\text{prob} > F = 0.051$

We have the presence of autocorrelation of errors; we must therefore proceed to correct the found autocorrelation.

Heteroscedasticity Statistics

The "Breusch and Pagan Lagrangian multiply test is used to verify the existence of heteroskedasticity of the models' residuals. From the results obtained, if the p-value of the tests is more significant than 5%, then we conclude that there is no heteroskedasticity.

The results found show p-values of less than 5%. These results lead to the rejection of the null hypothesis of homoscedasticity. It is, therefore, necessary to correct this problem using MCG regressions corrected for heteroscedasticity.

4.2. Results and Discussion:

We used the OLS estimate; this method will correct the primary anomaly for autocorrelation and heteroscedasticity.

We regressed CEO compensation on board attributes on a sample of 52 MENA banks over the period 2016 to 2020, and the main discussion is below:

We performed a regression of CEO compensation on the size of the board of directors from 2016 to 2020. We have found that the size of the board (BOARDSIZE) is positively related to compensation with a significant effect. Our results are consistent with our hypothesis presented in the theoretical part, and this relationship is well confirmed by the results of the work of Ozkan (2007). So we can see that the larger the boards, the more they positively impact the CEO's remuneration.

Our results found that the proportion of independent directors on the board has a positive and statistically significant impact on remuneration. This confirms our hypothesis and the study results by Terjesen et al. (2016). Thus we can conclude that the presence of independent directors on the board of directors can influence the remuneration policy, including establishing a variable remuneration policy, depending on the bank's performance. Thus, banks with more independent directors pay a higher remuneration.

The presence of a compensation committee and the frequency of board of directors meetings are attributes of great importance. Looking closely at the nature of the relationship between CEO compensation and board attendance on the one hand and high-frequency meeting attendance on the other hand, we found the following results: A remuneration committee has a negative but not significant impact on the compensation degree of the CEO. This result is

consistent with the results observed by Appiah and Chizema (2015) and does not conform to the hypothesis of the disciplinary role played by the compensation committee.

On the contrary, it seems that the presence of a committee allows the manager to better impose his requirements in terms of remuneration. As a result, we did not find a positive and insignificant link between the frequency of directors' meetings and the CEO's remuneration. This result is consistent with Ayadi and Boujèlbène (2013) results and confirms our research hypothesis. Thus, neither of these two variables seems to be statistically significant.

By studying the variable CEO duality, which represents the power of the CEO on the board of directors, we found a positive relationship. This is consistent with the hypothesis of our work since the CEO has more power over the board, so he has access to additional compensation. This result is also similar to Teti et al. (2017) work, which showed that duality positively affects the manager's compensation.

Regarding the control variables, we will try to verify whether size determines the executive's remuneration. Indeed, the larger banks granted large salaries to their CEOs. Thus, our results have shown that the impact of size on CEO compensation is positive and statistically significant at the 1% level. This result aligns with the agency theory that the big banks paid their executives more to reduce agency conflicts. Thus, these results allow us to refute the results of Ozdemir and Upneja (2012), which showed an inverse relationship between salary and bank size.

We found a negative and statistically significant debt ratio coefficient sign at the 10% level regarding the debt variable. We conclude banks with a higher debt level should negatively impact the variation of executive compensation. This result is confirmed by Ozdemir, and Upneja's (2012) study, which found that the salary-performance sensitivity decreases with the debt ratio (negative and statistically significant coefficient). This result is well confirmed by Firth et al. (2007), who studied the relationship between financing policy and incentive compensation and found that the debt level negatively impacts CEO compensation.

Table 4: The impact of governance mechanisms on the amount CEO compensation

Variables	Model	
	Coefficient	Probability
BOARDSIZE	0.023586***	0.009261
INDPDIR	0.234624	0.172552
COMITE	-0.038284	0.360761
MEET YEAR	0.007653	0.482108
DUAL	0.212911***	0.070762
LNSIZE	0.057874*	0.013967
LEVREG	-0.003482*	0.001804
Constante	-0.655258	0.616438
Wald chi2	8.39	
Prob>chi2	0,0086	
Nbre D'obs.	260	

(*), (**) et (***) mean that the tests are significant at the thresholds of 1%, 5% and 10% respectively

Source: STATA 15 Result

Table 5: Research results

	Predicted Sign	Sign Found
BOARDSIZE	(+)	(+)
INDPDIR	(+)	(+)
COMITE	(+)	(-)
MEETYEAR	(+)	(+)
DUAL	(+)	(+)
LNSIZE	(+)	(+)
LEVREG	(-)	(-)

4.3. Robustness check

To reinforce our estimation, we used a robustness test, to see cluster the impact of the independent variables on the endogenous variable. Our objective is to see if the interaction is the same with the first model used. For our robustness check, we used two additional estimation method, the Newey-West estimator (Newey and West, 1987) and the method of WLS that clusters the dependent variable with similar variances, creating an even scatter patter. Then for our estimation regression, we use estimate our equation with three estimation methods:

-The OLS estimation, The NEWKEY -- Regression with Newey-West standard errors and finally with Weighted Least Squares (WLS) Models. For each estimation we used the coefficient and the standard errors

Table 6: Robustness check

	OLS		NEWKEY-WEST		WLS	
	coef	OLS std Err	coef	Newey-West Std Err	coef	Wls Std Err
BOARDSIZE	0.023586***	0.0296	0.03378	0.0427521	0.0037	0.037965
INDPDIR	0.234624	0.0028	0.0199	0.0076632	0.0058**	0.003275
COMITE	-0.038284	0.0067	-0.01358	0.0085703	0.0169**	0.009492
MEET YEAR	0.007653	0.0018	0.00421	0.0459645	0.0274***	0.002921
DUAL	0.212911***	0.0012	0.16414	0.403815	0.032	0.001109
LNSIZE	0.057874*	0.0694	0.04117***	0.0405365	0.2610***	0.082251
LEVREG	-0.003482*	0.0262	0.00165***	0.0680326	0.2334***	0.018486
cons	-0.655258	0.3897	0.58241***	0.515516	1.2988***	0.403118
wald chi2		214,55				
fisher				7.17		22.05
Prob chi2		0				

Source: STATA 15 Result

Our robustness model shows the same impact between the governance mechanisms and the CEO compensation variable. Then we can confirm our initial hypothesis with our first estimation method.

Endogeneity Issue

Omitted variables, reverse causality, and measurement errors can skew the relationship between shareholder activism and financial performance. Therefore, we conduct further testing to address endogeneity. Therefore, we estimate a two-step least-squares regression using shareholder activism as an instrument (Larcker & Rusticus, 2010). Therefore, we present and test the hypothesis that committee compensation at the firm level is closely related to its level of CEO compensation. The second step is devoted to regression estimation using the fitted values (estimates) of shareholder activism instrumented from the first step.

First equation

$$COMITE_{it} = \alpha_0 + \alpha_1 BOARDSIZE_{it} + \alpha_2 INDPADIR_{it} + \alpha_4 MEETYEAR_{it} + \alpha_5 DUAL_{it} + \alpha_6 LNSIZE_{it} + \alpha_7 LEVREG_{it} + \varepsilon_{it} \text{ (RESID - COMITE)}$$

Second equation

$$Comp = \alpha_0 + \alpha_1 \text{ (RESID - COMITE)} + \alpha_2 BOARDSIZE_{it} + \alpha_3 INDPADIR_{it} + \alpha_4 MEETYEAR_{it} + \alpha_5 DUAL_{it} + \alpha_6 LNSIZE_{it} + \alpha_7 LEVREG_{it} + \varepsilon_{it}$$

Once we extract the residuals from equation 1, we integrate them again into equation 2 as an independent variable and estimate again to see the relationship between the residuals and the dependent variable, financial performance.

Table 7: Simultaneous Equation: Estimation with residuals

Equation	Obs	Parms	RMSE	"R-sq"	chi2	P
COMITE	260	6	.1341252	0.5361	175.19	0.0000
COMP	260	7	2.880204	0.6470	230.95	0.0000
	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
COMITE						
BOARDSIZE	-.0437035	.0203915	-2.14	0.032	-.0836701	-.0037369
INDPADIR	-.0279197	.0056041	-4.98	0.000	-.0389035	-.0169359
DUAL	.0122417	.004807	2.55	0.011	.0028202	.0216633
MEETYEAR	-.0122788	.005598	-2.19	0.028	-.0232506	-.001307
LNSIZE	-.016158	.0047164	-3.43	0.001	-.025402	-.006914
LEVREG	.0491145	.0045424	10.81	0.000	.0402116	.0580174
CONST	.0469771	.0206871	2.27	0.023	.0064313	.087523
COMP						
BOARDSIZE	.1708399	.7659241	0.22	0.823	-1.330344	1.672023
INDPADIR	.2537024	.1577066	1.61	0.108	-.0553968	.5628016
DUAL	-.1361488	.1314335	-1.04	0.300	-.3937537	.121456
MEETYEAR	.0892136	.133738	0.67	0.505	-.1729082	.3513353
LNSIZE	-.7489031	.1097388	-6.82	0.000	-.9639871	-.533819
LEVREG	-.0089557	.2878718	-0.03	0.975	-.5731741	.5552628
RESID - COMITE	.8171004	.2139395	3.82	0.000	.3977866	1.236414
CONST	2.381428	3.356957	0.71	0.478	-4.198086	8.960943

Source: Stata 15 Results

If the p-values of the residuals are insignificant, then we have an endogenous variable that has no impact on the dependent variable:

If the P-value of the residuals is significant, the endogenous variable significantly impacts the dependent variable.

Table 7 reports that the instrumented compensation committee (committee) variable is positively and significantly associated with the level of CEO compensation, supporting our previous results. The conclusion appears robust to endogeneity.

CONCLUSION

Our research aims to see closely the impact of specific governance mechanisms related to the Board of Directors on CEO compensation. In our empirical investigation, we used an econometric model on panel data to estimate a sample of 52 banks belonging to (the MENA) region from 2016 to 2020. For Our estimation, we used an econometric panel data model, where we considered the CEO compensation as a dependent variable (variable to be explained) and the different board of director's determinants as the independent's variables. The empirical results argued that the impact of board mechanisms on CEO compensation of MENA banks is different from the existing empirical literature, trailing essentially occident banks. Our results have shown that the CEO's remuneration is not linked to the board of directors: the presence mechanisms like the presence of a compensation committee and the frequency of board directors meetings. In addition, we found that the impact of the size of the board of directors, and the presence of independent directors on the board on CEO compensation, is positive and significant. Concerning the duality, we found a positive impact on executive compensation. This is due to the power of the CEO's duality on the board of directors because the CEO has responsibilities as the chief accounting officer and has the role of chairman. Our results showed then a relation between some Board of Directors mechanisms and CEO compensation. Moreover, these mechanisms will reduce agency costs, reinforce control and reduce the classic conflict between managers and shareholders. Our robustness model shows the same impact between the governance mechanisms and the CEO compensation variable. Then we can confirm our initial hypothesis with our first estimation method. Moreover, we elaborated on an endogeneity issue to test the instrumental variable committee compensation with the CEO compensation as an endogenous variable, and we found a significant and positive relationship. Finally, despite the small size of our sample, we hope that subsequent studies can use more consistent and large samples and study other factors that can impact CEO compensation effectively and reduce agency costs.

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