

CORPORATE GOVERNANCE AND BANKS' PERFORMANCE: EVIDENCE FROM EGYPT



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ABSTRACT

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This study investigates the effect of corporate governance on banks' performance in Egypt. It tests the relationship between bank performance and selected factors of corporate governance mechanisms, namely the board size, non-executive directors, CEO duality, board female, board qualifications, and the block holders. Return on assets and return on equity are used as proxy for bank performance. The control variables used in this study are bank size, capital adequacy ratio, debt ratio, the real GDP growth, crisis and revolution. The study used financial data of 25 Egyptian banks covering a period from 2006 to 2014. I used Generalised Least Square (GLS) Random-Effects models to investigate for this relation to find that board size, CEO duality, capital adequacy ratio and bank size are positively affect the bank performance. Revolution has a significant negative correlation with ROA, indicating that Egyptian banks suffered significantly during the revolution period especially the local banks. Non-executive directors, women presentation, board qualifications, and the block ownership have no effect on bank performance. Despite Egyptian banks still have poor corporate governance compared to banks of developing countries, especially in transparency and disclosure; the empirical findings suggest that governance has an essential role in deciding the Egyptian banks' performance.

Contribution/ Originality: This study contributes to the existence literature of corporate governance as it is one of the very few studies which have examined the effect of governance mechanisms on the Egyptian banks' performance. The findings of this study will benefit the policy makers and bank regulators in Egypt and other emerging countries.

1. INTRODUCTION

Although corporate governance has attracted the attention of several researchers, bank governance became a subject of empirical studies only recently, especially after the occurrence of the 2008 financial crisis, that asserted the importance of good governance for the sound of banking system, which is very important not only to the national financial system but also for global financial system. Banks play an important role in financial systems as

an economic growth engines (King and Levine, 1993). This raises the need to understand how various corporate governance mechanisms can alleviate the agency problems of banks and increase its efficiency.

Some studies have focused on banks' governance such as (Beck and Levine, 2004; Caprio and Laeven, 2007; Adams and Mehran, 2010). However, most studies concerning corporate governance focused on non-financial firms excluding banks and other financial institutions. Besides, these studies conducted mainly in developed countries. However, lately the issue of corporate governance in emerging countries has received some attention on the literature (Elbannan and Elbannan, 2014; Abobakr and Elgiziry, 2017).

Early at 2004, Egypt as an emerging country has established its first stage of reform programs, aiming to privatize and consolidate the banking sector and to enhance the supervisory role of the Central Bank of Egypt (CBE). The second stage lunched on 2009 "*This stage aims at raising the efficiency and soundness of the Egyptian banking sector, and enhancing its competitiveness and ability for risk management so that it can perform its role in financial, intermediation in a way that serves the national economy, and achieve the targeted development*" (Central Bank of Egypt, 2010). These reforms continue when The CBE issued its specific rules for banking governance on March 2011.

The research aims to investigate the effect of corporate governance on banks' performance in one of the emerging market such Egypt, through an empirical study of a sample of 25 Egyptian banks from the period 2006-2014.

This research contributes to the existing literature of banking governance from a perspective of internal governance mechanisms to explain bank performance, and also to show how different corporate governance aspects are a significant determinant of bank performance. The study would also provide some practical, insights to banking institutions on how they can enhance performance in their organizations. The results of this study therefore, should benefit bank regulators, policy makers, and others.

This research is organized as follows. Section 2 presents a review of the prior researches concerning governance and bank performance and develops the research hypothesis Section 3 characterizes the sample and defines the variables and model specification. Section 4 discusses the study empirical results and section 5 the conclusion of the study.

2. REVIEW OF LITERATURE AND HYPOTHESIS DEVELOPMENT

Bank governance in the related literature has two approaches of research. The first one examines the relationship between bank performance and corporate governance mechanisms, such as, board composition, board size, board leadership structure, executive compensation, board tasks and ownership structure as individual, measures of corporate governance (Jensen, 1993; Yermack, 1996; Adams and Mehran, 2012; Naushad and Abdul, 2015; Mohsin. *et al.*, 2016). While the second approach focusing on using a composite measure or index (Elbannan and Elbannan, 2014; Zagorchev and Gao, 2015) as they construct a governance index (G-index). In this section, I review the related literature, and I mainly cover issues of individual measures of governance and their linkage with bank performance.

2.1. Board Size and Bank Performance

In general we have two different approaches about board size, the first one suggest that large board size would enhance the effectiveness of corporate governance as larger boards can increase the board diversity needed to alleviate the associated risks. Moreover, board performance will be influenced by board size as more board directors would help to assign different tasks over a greater number of members which improve the board decisions (Pearce and Zahra, 1992 ; Adams and Mehran, 2002). The second approach, suggest that board size is negatively affect the board's capability to take decisions, attributed this to the misunderstanding and miscommunication connected with large groups of director's which weak corporate governance and decrease performance (Jensen, 1993; Yermack, 1996).

Adams and Mehran (2012) supported that board size is positively related to bank performance. Similarly, Akshita (2016) find that larger boards are positively significant with ROA, ROE and Tobin's Q, suggesting that this is due to a greater variety of mental knowledge, which promote the decision-making and boost the performance. In the same line, Mohsin. *et al.* (2016) find statistical positive relation with ROE.

On the contrary, a research made by Naushad and Abdul (2015) investigates the effect of board size on Gulf area banking performance, they reported an adverse association between board size and banks' performance measures, indicating that small board size enhance the profitability of Gulf banks. Similarly, another study by Ashenafi *et al.* (2013) finds that board size has a significant inverse relation with bank performance measures (ROA and ROE). This is further confirmed by Nyamongo and Temesgen (2013) in Kenya, and Hassan and Farouk (2014) in Nigeria. While Josephine and Joseph (2015) find that board size has no effect on Malaysian banks, suggesting that large board directors create problems in allocating resources and decision making which is confirmed by Elbannan and Elbannan (2014) in Egypt. Therefore, we have the following hypothesis to test:

H1. The board size is negatively related to bank performance.

2.2. Board Composition and Bank Performance

Agency theory argues that board non-executive members has a great advantage in monitoring and controlling the management, which help them to participate efficiently in the decision making process. This leads to better decision, and better performance as declared by Fama and Jensen (1983). Accordingly, high ratio of non-executive directors would reduce the agency problem. However, the empirical studies yield mixed results. For example, Rowe *et al.* (2011) find a positive relation between board outsiders' directors and bank performance, suggesting that lower percentage of insiders would improve the bank performance. Similarly, Mohsin. *et al.* (2016) check this relationship on Iraqi banks and find that board non-executive directors has a significant positive relationship with bank return on equity, which, supporting the agency theory. This is further confirmed by Nyamongo and Temesgen (2013); Hassan and Farouk (2014).

On the contrary, Yermack (1996) and Bhagat and Black (2002) find an inverse relation between the percentage of external directors and corporate performance, suggesting that large proportion of external directors is negatively affect the performance.

Some other studies such as Adams and Mehran (2012) confirm that board independence has no relationship with performance, suggesting that regulators should take the unique features of banks into consideration when formulating corporate governance regulations. Similarly, Josephine and Joseph (2015) find that board independence has an insignificant relationship with Malaysian banks performance. In the same line (Odudu *et al.*, 2016) find independent non-executive director is not related to banks performance in Nigeria. Elbannan and Elbannan (2014) find the same result in Egyptian banks. Therefore, we have the following hypothesis to test:

H2. Non-executive directors is positively related to bank performance

2.3. Board CEO/ Duality and Bank Performance

Chief Executive Officer (CEO) duality means that the bank's CEO also works as a chairman of the board of directors. In fact, there are two different contrasting theories regarding CEO duality. The stewardship theory states that strong leadership would benefit the company, while agency theory, on the contrary states that CEO duality improve monitoring efficiency. Claiming that a person who holds these two powerful positions would provide a centralized authority that creates a strong leadership to the bank, and it is expected that the bank would enjoy the benefits of unity of command and control (Donaldson and Davis, 1991).

Naushad and Abdul (2015) show that the CEO duality has a positive relation to banks performance. Similarly Maxwell *et al.* (2014) report a significant positive correlation between CEO duality and bank performance, arguing that banks with CEO duality would be expected to perform better than banks where the two positions are occupied by different persons due to the quick decision making. In the same line Pathan (2009) uses a sample of US BHCs to find that the CEO duality decreases risk-taking and accordingly, increase bank performance. On the contrary, agency theory states that the spelt between CEO and the chairman improve the bank performance due to the better monitoring and controlling and that role of duality probably decrease the ability of the board to monitor management and therefore increase agency costs (Jensen, 1993).

However, some studies such as Elbannan and Elbannan (2014); Akshita (2016); Nyamongo and Temesgen (2013) look at this relation to find that CEO duality is insignificant related to bank performance measured by ROA and ROE. Therefore, we have the following hypothesis to test:

H3. CEO duality is positively related to bank performance

2.4. Board Gender and Bank Performance

The existence of female on boards of directors has become recently an interested topic. Female board members exert more effort in monitoring and controlling the executive directors (Adams and Mehran, 2002). Furthermore, female board members keen to attend board meeting higher than male board members accordingly, they exert more effort to observe the executive board members (Adams and Ferreira, 2009). Some researchers examine the effect of board gender diversity on firm value such Carter *et al.* (2003) and Campbell and Vera (2007). Others examine the effect of board gender diversity on the firm's debt such as Alves *et al.* (2014) and Abobakr and Elgiziry (2016). Others examine the effect of board members female and bank risk taking such as Abobakr and Elgiziry (2017).

Some studies examine the effect of gender diversity on firm performance such as Ren and Wang (2011) who find that the representation of women in the top management increase firm performance in Chinese privately owned companies. On the contrary, Darmadi (2013) find that the existence of board female is negatively related to firm performance measured by ROA and Tobin's Q. In the same line, Ujunwa (2012) find that the presence of women in firms board negatively affect the performance.

With respect to the effect of board female on the bank performance, empirical evidence takes two different directions. Mohsin. *et al.* (2016) find that the female board members have an adverse relation on Iraqi bank performance. In contrast, Pathan *et al.* (2013) and Ongore *et al.* (2015) document a significant positive relationship between the proportion of women directors and banks' performance. While Odudu *et al.* (2016) find that the existence of female directors have no significant impact on both ROA and ROE of Nigerian banks. Therefore, we have the following hypothesis to test:

H4. Board female is positively related to bank performance

2.5. Board Qualifications and Bank Performance

The board of directors combines a mix of competencies and capabilities that enrich the board in executing the governance function (Carpenter and Westphal, 2001). Accordingly, qualifications of individual board members are essential for decision- making. Members with higher educational qualifications like PhDs are assumed to be a wealthy source of advanced and original ideas to enhance the process of decisions making (Westphal and Milton, 2000). Ujunwa (2012) test the relationship between some board characteristics and Nigerian firm's performance to find that members of board directors with Ph.D. degree are negatively related to firm performance.

Therefore, we have the following hypothesis to test:

H5. Board member with a Ph.D. qualification is positively related to bank performance

2.6. Block Holders and Bank Performance

Ownership concentration refers to the percentage of shares held by the largest block holders (Claessens *et al.*, 2002). More dispersed ownership means higher agency costs (Jensen and Meckling, 1967). Furthermore, concentrated ownership is considered one of the governance techniques that hinder firm management from deviating from shareholder interests, as large block holders have the tendency to monitor managers, more than small shareholders (Levine, 2004). This means that the existence of large shareholders is beneficial because they have the tendency to observe and supervise activities, resulting in more efficient governance for the benefit of all shareholders. Moreover, the concentration of ownership improves the capital adequacy ratio, and accordingly, decreases bank risk (Shehzad *et al.*, 2010).

However, the empirical studies yield mixed results. For example, Naushad and Abdul (2015) show that block holders tend to have a positive effect on the performance of banking sector. In contrast, Rowe *et al.* (2011) argue that block holders are negatively correlated with bank performance so that lowering the block holders will improve bank performance. Similarly, Arouri *et al.* (2011) find an adverse relationship between ownership concentration and ROA arguing that block holders reduce the minority ability to monitor and control managers, which increase the agency cost and reduce the bank value. In the same line Elbannan and Elbannan (2014) show that the block holders' has a negative correlation with Egyptian banks performance. Their findings support that concentration of ownership may leads to exploitation of majority ownership over minorities that result in weak performance. Therefore, we have the following hypothesis to test:

H6. Block holders is negatively related to bank performance

2.7. Control Variables

This study includes some control variables that may affect bank performance. The linkage of bank size (BS) with economies of scale is probably improving the bank performance. Many earlier studies employed bank size as a control variable such as Elbannan and Elbannan (2014); Mohsin. *et al.* (2016). I, therefore, measure bank size, as the natural logarithm of total assets, and I expect bank size to be positively related to performance.

Capital, adequacy (CAR) is the capability of the bank that show how much reserves they have to face the unanticipated losses or bankruptcy. Some theories suggest that well-capitalized banks expose to lower bankruptcy costs. In this study I will measure Capital Ratio as total equity to total assets. This is not the ratio defined by the Central, Bank of Egypt (risk-weighted capital ratio), which suits our study, but due to non-availability of data we have to use this alternative ratio. As many studies argue that the capital adequacy (CAR) variable has a positive effect on performance such as Berger *et al.* (1995); Elbannan and Elbannan (2014). I therefore, expect a positive relation with bank performance.

The real GDP growth is used in many studies to control the relation between corporate governance and bank performance such as Elbannan and Elbannan (2014); Mohsin. *et al.* (2016). When economic activity is above average, banks would benefit from the upward activity level. It is argued that banks have a positive relation with the country economic activity. Therefore, I control for overall economic activity using the variable GDP, which is defined as the annual real GDP growth rate, as declared by the Monetary International Fund (MIF). I expect to have a positive relation between real GDP growth and bank performance.

The debt ratio (DR) is also used as a control variable as it may affect bank performance and it is defined by the total, debts divided by the total assets and I expect to have a negative relation with bank performance.

The financial crisis that started at 2008 is expected to have a negative effect on the banking sectors, therefore, I controlled it by using CRISIS; a dummy variable stands for 1 if the data year is 2008, 2009, 2010 and 0 otherwise. I expect a negative relation between CRISIS and performance.

Despite the Egyptian revolution (REV) of 25 January, 2011 focused mainly on legal and political issues, the economic situation has been affected dramatically. Banks as an essential part of the Egyptian financial system should have been affected by the revolution. Therefore, I controlled it by using revolution dummy variable that stands for 1 if the year 2011 and 0 for otherwise.

3. RESEARCH DESIGN AND METHODOLOGY

The study purpose is to examine the relationship between selected bank governance features and bank performance. I use Generalised Least Square (GLS) Random- Effects models to investigate for this relation. In this section, I present the sample and data sources of the study, variables definition, and variable measurements and the models.

3.1 Sample and Data Source

The study examines a number of 25 banks operating in Egypt during a period of nine years (2006-2014). Table 1 describes the sample selection criteria. The study considers all banks operating in Egypt and having the required data, whether they are national banks or foreign banks. The data have been collected from *KOMPASS EGYPT* or from the financial reports published by these banks. Collecting governance data is not an easy task, as up to this moment the Egyptian code of corporate governance is not yet obligatory, therefore, the banks selected in the sample met the following criteria:

- 1) The bank is subject to the supervision of Central, Bank of Egypt (CBE).
- 2) The bank should have full data (financial and governance) for at least four consecutive years during 2006–2014.

Table-1. Sample Selection Criteria.

Criterion	Number of banks	Percent
The total number of banks available from <i>Kompass Egypt</i> or banks financial report during 2006–2014	30	100
Less: banks with less than 4 successive years of data	5	17
The number of banks in the sample	25	83

In order to study the impact of the selected internal governance mechanisms on bank performance, I proceed with a panel based multiple linear regression (GLS), in which the dependent variable is performance and the selected governance mechanisms are independent variables.

3.2. Measures of Bank Performance

Upon reviewing the literature, I can find three approaches of measuring bank performance, the accounting measures, the market measures and a combination of the two measures. Most of studies that use accounting measures employ the return on assets rate or the return on equity rate, and pre-tax operating income (PTOI), as a performance measures, such as [Dedu and Chitan \(2013\)](#); [Nyamongo and Temesgen \(2013\)](#); [Emile et al. \(2014\)](#). Despite these measures did not take into consideration the risk that is associated with return. Stock measures use classic performance measures, which are the measures of Sharpe, Jensen, or others. The third approach combining both accounting and market measures such as, Tobin's Q that mixing between the two measures such as, [Naushad and Abdul \(2015\)](#). In order to use a measure such as Tobin's Q, we need to calculate the market value of the banks, which is not available as only few numbers of banks are listed in the Egyptian Stock Exchange (only 13 banks out of 42 banks that are working in the Egyptian market). This prevents the researcher from using such measure and, therefore, the researcher was obliged to use accounting measures. In this research we will use ROA, which is the

ability of the bank to generate profit efficiently by using its assets measured by earnings after taxes divided on the total assets and ROE, which measures how efficiently banks are using the money that shareholders have invested, measured by earnings after taxes divided on the total equity.

3.3. The Model and Variable Definition

The econometric model developed for this study comprises two equations. The first model uses ROA as performance indicator and the second model uses ROE as another performance indicator. The relationship between governance and bank performance has been tested using the following model:

$$\text{ROA}_{i,t} = \beta_0 + \beta_1 (\text{BS})_{i,t} + \beta_2 (\text{N-EXE})_{i,t} + \beta_3 (\text{DUAL})_{i,t} + \beta_4 (\text{BFEMALE})_{i,t} + \beta_5 (\text{BQUAL})_{i,t} + \beta_6 (\text{BLOC})_{i,t} + \beta_7 \ln (\text{BS})_{i,t} + \beta_8 (\text{CAR})_{i,t} + \beta_9 (\text{DR})_{i,t} + \beta_{10} (\text{GDP})_{i,t} + \beta_{11} (\text{CRISIS})_{i,t} + \beta_{12} (\text{REV})_{i,t} + \epsilon_{i,t} \quad (1)$$

$$\text{ROE}_{i,t} = \beta_0 + \beta_1 (\text{BS})_{i,t} + \beta_2 (\text{N-EXE})_{i,t} + \beta_3 (\text{DUAL})_{i,t} + \beta_4 (\text{BFEMALE})_{i,t} + \beta_5 (\text{BQUAL})_{i,t} + \beta_6 (\text{BLOC})_{i,t} + \beta_7 \ln (\text{BS})_{i,t} + \beta_8 (\text{CAR})_{i,t} + \beta_9 (\text{DR})_{i,t} + \beta_{10} (\text{GDP})_{i,t} + \beta_{11} (\text{CRISIS})_{i,t} + \beta_{12} (\text{REV})_{i,t} + \epsilon_{i,t} \quad (2)$$

Where:

β_0 = Intercept coefficient

β_1 = Coefficient for each independent variables

ROA = Return on Assets (Year net profit after taxes / total assets)*100%

ROE = Return on Equity (Year net profit after taxes / total Equity)*100%

BS = Total number of directors on the bank board

N-EXE = Proportion of non-executive directors sitting on the board

DUAL = (Dummy variable) Value one (1) if the same person occupies the position of the chairman and the chief executive and zero (0) for otherwise.

BFEMALE = Proportion of women to the total board.

BQUAL = Proportion of board directors with a Ph.D. degree to the total, board.

BLOC = Proportion of shares held by large shareholders with equity ownership at least 5 per cent

FS = Log value of the total asset of the bank.

CAR = Capital, Ratio (Bank capital / Total, assets)*100%

DR = Debt ratio (The total debt divided on the total assets)*100%

GDP = Real Gross Domestic Product as declared by the International Monetary Funds

CRISIS = A dummy variable stands for 1 if the year is 2008, 2009, 2010 and 0 for otherwise.

REV = A dummy variable stands for 1 if the year 2010 and 0 for otherwise.

4. DATA ANALYSIS AND RESULTS

The analysis will start with descriptive statistics of the research variables

4.1. Results of Descriptive Statistics

Table 2 presents summary statistics of the variables used in the study. Concerning bank performance variables it is noticed that ROA mean is 1.30 with a standard deviation of 0.90 ranging from - 1.56 to 3.42. ROE mean is 13.67 ranging from -21.12 to 38.31 with a standard deviation of 9.75. This fairly high standard deviation suggests the presence of cross-sectional variation in the level of bank performance.

Concerning bank governance, we noticed that the board size average is almost 10 members ranging from 5 to 15 members. Non-executive directors' average is 81 percent, ranging from 57 percent to 93 percent, accordingly the mean of the executive directors is 19 percent. However, this indicates that non-executive directors are the majority

of banks boards, which is in conformity with the Central Bank of Egypt Banking Governance Recommendations (Rule 5.2.2), stipulating that non-executive members should constitute the majority in the board.

Table-2. Descriptive statistics of the research variables

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
ROA	-1.56	3.42	1.3021	.90699	-.046	-.315
ROE	-21.12	38.31	13.6736	9.75645	.028	.253
BS	5.00	15.00	9.9202	2.48396	.494	-.473
N-EXE	57	93.30	81.9428	9.26605	-.829	-.268
DUAL	.00	1.00	.3723	.48472	.532	-1.735
BFEMALE	.00	30.00	6.2685	7.50439	.866	-.106
BQUAL	.00	50.00	9.4995	10.53314	1.021	.753
BLOC	6.76	100.00	80.3345	22.90073	-1.665	2.259
FS	11.00	3.06E8	3.9389E7	5.59590E7	2.880	8.544
CAR	3.28	23.13	9.9795	3.72547	.675	.815
DR	9.56	96.72	89.1032	7.17163	-7.676	82.825
GDP	1.80	7.16	4.6248	2.18322	-.123	-1.687
Valid N 188						

Source: Calculated by the author using E-Views 9

Duality of the board mean is 37 percent indicating that 63 percent of the sample has CEO and the chairman in two positions. However, this is considering a breach to the Egyptian code of governance recommending banks to separate between these two jobs (Rule 3.2.2). The mean percentage of females is 6 percent of the total number of directors, ranging from 0 to 30 percent. The percentage of the board members with a Ph.D. degree is 9 percent, ranging from 0 to 50 percent indicating the wide variation of bank's board qualifications. Block holders has a mean of 80 percent, ranging from 6 percent to 100 percent, which indicates that some banks in the sample are either a state- owned banks or foreign- owned banks.

4.2. Results of Correlation Analysis

Table 3 reports the correlations among the variables of the study. The main purpose of correlation is to test the relationship between the variables. Besides, correlation also used to check whether Multicollinearity exist between the independent variables or not. The correlation coefficients are ranging from -0.499 to 0.366 among the variables in this study, as the maximum correlation is 0.366 (less than 80), this indicates the absence of Multicollinearity. However, to verify this result i calculated the variance inflation factor (VIF), and the tolerance level. VIF (tolerance) ranges from 1.10 (0.51) to 1.95 (0.90) for the two regression models, which further indicates the absence of Multicollinearity among the variables.

As shown in Table (3) the profitability measures, ROA are positively and significantly correlated with duality, board female, and CAR at the 1% level ,while it is negatively significant with block holders at the 1% level. ROE are positively significant correlated with duality, board female, and bank size (total assets) at the 1% level, while it is negatively significant with non-executive and block holders at the 1% and 5% level respectively.

4.3. Results of Regression Analysis

The researcher examined the impact of corporate governance on bank performance using a firm-year unit of analysis. Therefore, the researcher applied Generalised Least Square (GLS) Random- Effects models to test the

hypotheses. The researcher preferred a GLS regression over pooled OLS regression as it corrects for the omitted variable bias, and presence of autocorrelation and heteroskedasticity in pooled time series data.

Before estimating equations, the researcher run Hausman test to know which model (fixed or random effects model) is more appropriate to use. Table 4 illustrates the Hausman Test for the model ROA and Table 5 illustrates the Hausman Test for the model ROE:

Table-3. Person's Correlations Matrix between the Dependent and Independent Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1- ROA	1													
2- ROE	.875**	1												
	.000													
3- BS	-.013	.024	1											
	.854	.747												
4- N-EXE	-.093	-.211**	.243**	1										
	.202	.004	.001											
5- DUAL	.197**	.239**	-.007	.077	1									
	.006	.001	.926	.293										
6- BFEMALE	.278**	.248**	-.044	.040	.286**	1								
	.000	.001	.546	.583	.000									
7- BQUAL	.058	.024	-.023	-.007	-.080	.049	1							
	.431	.748	.757	.925	.276	.500								
8- BLOC	-.248**	-.182*	-.273**	-.073	-.093	-.086	-.176*	1						
	.001	.012	.000	.315	.203	.242	.016							
9- FS	.103	.269**	-.074	-.136	.203**	.241**	-.042	-.126	1					
	.159	.000	.311	.062	.005	.001	.571	.086						
10- CAR	.267**	-.079	-.175*	.094	-.079	-.095	.006	.016	-.499**	1				
	.000	.280	.016	.196	.282	.194	.936	.832	.000					
11- DR	-.120	.029	-.031	-.093	.010	.020	.082	-.007	.296**	-.253**	1			
	.100	.694	.670	.203	.892	.786	.264	.924	.000	.000				
12- GDP	.017	.057	-.169*	-.038	.176*	.050	-.115	.010	-.175*	-.118	-.037	1		
	.822	.433	.020	.607	.015	.493	.114	.892	.016	.106	.610			
13- CRISIS	.062	.017	.011	.165*	.101	.051	-.146*	.069	-.018	.072	.049	.366**	1	
	.394	.821	.886	.023	.166	.485	.045	.348	.811	.323	.504	.000		
14- REV	-.087	-.074	.044	.024	-.001	-.047	.082	.010	.031	.049	.019	-.433**	-.254**	1
	.232	.314	.549	.738	.985	.522	.262	.889	.673	.501	.792	.000	.000	

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table-4. Hausman Test

Model	Test Statistic (Chi2)	d. f.	Prob.
ROA	14.870370	12	0.2486

Source: Calculated by the author using E-Views 9

Table-5. Hausman Test

Model	Test Statistic (Chi2)	d. f.	Prob.
ROE	13.477598	12	0.3353

Source: Calculated by the author using E-Views 9

The result from Hausman's Test for the model ROA and ROE is insignificant ($p\text{-value} < 0.05$), meaning that random effects model is accepted. Thus, the result of Hausman's Test suggests that random effects model is appropriate for both ROA and ROE, then I first run for the unbalance panel data of total sample. Tables 6 show the results of regression of performance measured by return on assets and return on equity on governance factors and control variables.

Table-6. Results of regression analysis.-Model summary

Details	ROA	ROE
C	-3.080368 0.1036 *	-46.01604 0.0288 **
BOARD SIZE	0.067972 0.0538 **	0.974091 0.0130 ***
NON-EXECUTIVE	-0.001111 0.7853	-0.018100 0.6848
DUALITY	0.239531 0.0351 **	2.630645 0.0345 **
BFEMALE	0.002400 0.7762	-0.055875 0.5476
PHD	-0.000308 0.9581	0.007848 0.9032
BLOCK- HOLDERS	0.000313 0.9279	0.009797 0.7977
BANK SIZE	0.196248 0.0493 **	2.881617 . 0.0099 ***
CAR	0.078595 0.0001 ***	-0.059576 0.7757
DEBT RATIO	-0.006218 0.1970	0.000290 0.9956
REAL GDP	0.027768 0.2935	0.431829 0.1360
CRISIS	0.046743 0.6212	-0.253485 0.8059
REVOLUTION	-0.242582 0.0898 *	-1.623031 0.2965
R-squared	0.163380	0.127414
Adjusted R-squared	0.106012	0.067579
S.E. of regression	0.511197	5.561921
F-statistic	2.847918	2.129434
Prob(F-statistic)	0.001	0.017

*Significance at the 10% level.

**Significance at the 5% level.

***Significance at the 1% level.

The regression results point out the following:-

Consistent with the first hypothesis: "*H1. The board size is negatively related to bank performance*". The results revealed a positive significant correlation between board size and both performance measures of ROE and ROE at of 5% and 1% levels respectively, indicating that large board size tend to increase the bank profitability. Accordingly the first hypothesis is rejected. This result supports the argument that large board size would enhance

the effectiveness of corporate governance due to the increase of board diversity that reduces the associated uncertainties. Furthermore, the division of board assignments over large number of board directors would help to improve the board decisions (Pearce and Zahra, 1992 ; Adams and Mehran, 2002). This result is in the same line with Adams and Mehran (2012); Akshita (2016); Mohsin. *et al.* (2016) who find that larger boards are positively significant with ROA, ROE and Tobin's Q, attributing this to the greater variety of mental knowledge, which promote the decision-making and boost the performance. However, the result is contrast with Beyene *et al.* (2013); Fanta *et al.* (2013); Naushad and Abdul (2015) who find a significant negative correlation, suggesting that small board size enhance the bank's profitability.

As for hypothesis two which states that: “*Non-executive directors is positively related to bank performance.*”, the proportion of non- executive was found negatively insignificant with both performance measures, indicating that the presence of non-executive board members will not improve the performance and vice versa, accordingly, this hypothesis is rejected. This result is in consistent with studies such as Adams and Mehran (2012); Josephine and Joseph (2015) find that board independence has an insignificant relationship with Malaysian banks performance. In the same line (Odudu *et al.*, 2016) in Nigeria, and Elbannan and Elbannan (2014) find the same result in Egyptian banks. However, this result doesn't support the stewardship theory perspective, stipulating that superior performance of the firm is linked to having a majority of executives' directors on the board as those inside directors (managers) better understand the business, and are better placed to govern than non-executive directors, and therefore take better decisions (Donaldson and Davis, 1991) In the same line Yermack (1996) and Bhagat and Black (2002) find an inverse correlation between the percentage of external directors and corporate performance. The finding also doesn't support the agency theory, which arguing that non-executive directors is able to monitor any opportunistic actions by managers and so will reduce the agency costs. Rowe *et al.* (2011); Nyamongo and Temesgen (2013); Mohsin. *et al.* (2016) find positive relationship between board outsiders' directors and bank performance, suggesting high percentage of non-executive directors in a bank would increase its performance and accordingly, lower percentage of insiders would improve the bank performance .

As for hypothesis three which stated that: “*CEO duality is positively related to bank performance*”, the CEO's duality is found positive significantly at 5% level with both the performance measures. This result indicates that when the CEO is the chairman this increases the power of the CEO and increase performance due to clear and unified leadership accordingly, this hypothesis is accepted. This result supports the stewardship theory perspective states that duality provide strong leadership to the bank and enhance the opportunity of the traditional benefits of unity of command and control (Donaldson and Davis, 1991).

In the same line, Pathan (2009) found that the CEO duality decreases risk-taking and accordingly, improve bank performance. Similarly, Maxwell *et al.* (2014) and Naushad and Abdul (2015) find a significant positive correlation between CEO duality and bank performance arguing that banks with CEO duality would be expected to perform better than banks where the two positions are occupied by different persons due to the quick decision making. However, the result doesn't support the agency theory arguing that the role of duality probably curbs the board to monitor management and accordingly, increase agency costs (Jensen, 1993).

As for hypothesis four stated that: “*Board female is positively related to bank performance*”, the study found that the proportion of board female is not significantly related to firm performance, accordingly this hypothesis is rejected. The finding indicates that the percentage of women in the board has no effect on bank performance. This result is consistent with Odudu *et al.* (2016) who find that the existence of female director has no significant impact on both ROA and ROE of Nigerian banks. The result is in contrast with the finding of Pathan *et al.* (2013); Ongore *et al.* (2015) who document a significant positive relationship between the proportion of women directors and banks' performance, and with Ujunwa (2012); Mohsin. *et al.* (2016) find that the female directors have an adverse relation on Iraqi bank performance

As for hypothesis five stated that: “Board member with a Ph.D. qualification is positively related to bank performance”, the study found that board member with a Ph.D. degree is not significantly related with the two measures of performance, and accordingly, this hypothesis is rejected. This is in contrast with the finding of Ujunwa (2012) whose results show a significant correlation with banks ROA. It is apparently seems that it is not only the qualification that affect the bank performance but also how the members mix different knowledge and skills with their educational qualifications in enhancing the bank efficiency.

As for hypothesis five stated that: “Block holders is negatively related to bank performance”, the study found that block holders is not significantly related with the two measures of performance, and accordingly, this hypothesis is rejected. The result is consistent with Rowe *et al.* (2011). However, the result is in contrast with the arguing that concentrated ownership is considered one of the governance tools that curbs firm management from deviating from shareholder interests (Levine, 2004; Naushad and Abdul, 2015). It is also in contrast with the finding of Arouri *et al.* (2011) who show an adverse relationship between ownership concentration and ROA suggesting that block holders reduces the minority ability to monitor and control managers, which increase the agency cost, and reduce the bank value, and with Elbannan and Elbannan (2014) who show that concentration ownership has a negative correlation with Egyptian banks performance.

Concerning the control variables, the study found that bank size is positively correlated at 5%, 1% level with ROA and ROE respectively as expected, indicating that large bank size improves the bank performance. This result is consistent with many previous studies such as Fanta *et al.* (2013); Mohsin. *et al.* (2016). Capital adequacy ratio has been found significant positively correlated to ROA at 1% level, while it is insignificant with ROE. Indicating that the well-capitalized banks reduce the expected bankruptcy costs and enhances performance, which is in consistent with Fanta *et al.* (2013); Elbannan and Elbannan (2014). Debt ratio and real, GDP growth has been found not related to bank performance. Crisis has been found insignificant to both performance measures indicating that Egyptian banks may not be fully integrated to the international financial system. Meanwhile, revolution has been found significant negatively correlated with ROA at 10% level, while, it's negatively insignificant correlated with ROE, indicating that Egyptian banks suffered significantly during the revolution period.

The researcher also investigate the relationships among these variables by type of banks after dropping crisis and the real gdp growth for two reasons, the first, is both of them are insignificant correlated to the two measures of performance, and secondly to perform the regression the number of cross-section must be bigger than the number of estimators. Hence, regressions are run for foreign banks, and local banks (National), whether these local banks are state-owned banks or private banks. The researcher will concentrate on the results of Random Effects models as it is the preferred according to the insignificant result of Hausman Test.

Results of return on assets are shown in Table 7.

For foreign banks, CEO Duality, bank size and capital, adequacy are positively correlated with return on assets, significant at 10%, 5%, and 1% level respectively, while the other variables are not significant, which is similar to the results of the total sample. For local banks board size, CEO Duality, board female, Ph.D., and capital, adequacy are positively correlated with return on assets, significant at 10%, 1%, 1%, 5% and 1% level respectively. The block holders and revolution are negatively significant with ROA at 1% respectively, indicating that the more concentrated in ownership structure, the lower return on assets is. It seems that small shareholders take advantage of block holders. It is also noticed that local banks are much affected negatively by the political situation during the revolution period.

Table-7. Results of regression analysis of the three groups with return on assets

Variable	Foreign Banks (N=106)		Local, Banks(N=82)		Total, Sample (N=188)	
	ROA		ROA		ROA	
	FE	RE	FE	RE	FE	RE
C	-4.208636 0.2401	-6.381904 0.0381 **	-0.233674 0.9129	-0.927387 0.5195	-2.212264 0.2213	-2.722343 0.0865 *
BS	0.091131 0.1422	0.033453 0.5031	0.058869 0.2626	0.041787 0.0972 *	0.093911 0.0156 **	0.070366 0.0371 **
NON-E	-0.007029 0.3621	-0.005232 0.4825	0.003029 0.7180	-0.000672 0.9272	-0.003889 0.4729	-0.003690 0.4857
DUAL	0.333777 0.0624 *	0.272566 0.1044 *	0.314562 0.0231 **	0.401707 0.0001 ***	0.293229 0.0083 ***	0.287886 0.0070 ***
BFEMALE	-0.001191 0.9383	0.004040 0.7772	-0.013985 0.2095	0.018945 0.0065 ***	-0.004077 0.6434	0.002297 0.7786
BQUAL	-0.003840 0.6589	-0.002434 0.7516	-0.005388 0.5642	0.015354 0.0295 **	-0.003077 0.6129	-0.001792 0.7502
BLOC	0.006745 0.1915	0.005317 0.2618	0.000872 0.8940	-0.012734 0.0000 ***	0.005047 0.1816	0.001553 0.6434
FS	0.243400 0.2491	0.393130 0.0275 **	-0.008840 0.9346	0.090196 0.1407	0.105710 0.2941	0.156144 0.0668 *
CAR	0.051525 0.0921 *	0.070088 0.0129 ***	0.086193 0.0001 ***	0.088917 0.0000 ***	0.068950 0.0002 ***	0.078252 0.0000 ***
REV	-0.308132 0.1292	-0.279716 0.1652	-0.421798 0.0071 ***	-0.526002 0.0007 ***	-0.323968 0.0098 ***	-0.327530 0.0088 ***
R-squared	0.742814	0.146785	0.786570	0.605139	0.748848	0.165273
Adjusted R-squared	0.670676	0.066796	0.725590	0.555781	0.695030	0.123068
S.E. of regression	0.572146	0.579445	0.408743	0.520054	0.500880	0.503267
F-statistic	10.29719	1.835067	12.89882	12.26028	13.91437	3.915942
Prob(F-statistic)	0.000000	0.071564	0.000000	0.000000	0.000000	0.000146

Source: Calculated by the author using E-Views 9

We carried out similar investigation for return on equity. Results are illustrated in table 8.

For foreign banks, CEO Duality, and bank size are positively correlated with return on equity, significant at 5%, and 1% level respectively, while the other variables are not significant, which is similar to the results of the total sample except for board size and revolution. For local banks CEO Duality, board female, are positively correlated with return on equity, significant at 1% and 10%, level respectively. The block holders and revolution are negatively significant with ROE at 1% and 5% respectively, which indicates again that local banks are significantly affected by most governance factors. It is also noticed that local banks are much affected negatively by the situation during the revolution period rather than the foreign banks.

The overall conclusion from testing hypothesis and the classification according to bank's types is that governance components have strong effects on the two performance measures, and board size and duality have the strongest effects on performance measures.

Table-8. Results of regression analysis of the three groups with return on equity

Variable	Foreign Banks (N=106)		Local, Banks (N=82)		Total, Sample (N=188)	
	ROE		ROE		ROE	
	FE	RE	FE	RE	FE	RE
C	-56.43815 0.1323	-80.85008 0.0117 ***	1.519492 0.9540	19.38615 0.2762	-18.93379 0.3394	-22.57901 0.2013
BS	1.242114 0.0564 *	0.502818 0.3314	0.917050 0.1582	0.298655 0.3334	1.222400 0.0043 ***	0.953632 0.0116 ***
NON-E	-0.089900 0.2647	-0.072289 0.3522	-0.030783 0.7660	-0.015664 0.8630	-0.070136 0.2386	-0.068693 0.2388
DUAL	4.551969 0.0157 **	3.736260 0.0345 **	2.298409 0.1727	4.132195 0.0011 ***	3.154536 0.0096 ***	3.141187 0.0075 ***
BFEMALE	-0.255005 0.1147	-0.176497 0.2362	-0.168127 0.2210	0.141736 0.0936 *	-0.137514 0.1557	-0.074831 0.4086
QUAL	0.048722 0.5916	0.046198 0.5631	-0.082904 0.4722	0.119057 0.1669	0.003274 0.9608	0.008991 0.8853
BLOC	0.069289 0.1985	0.058926 0.2319	0.017443 0.8288	-0.129766 0.0000 ***	0.048607 0.2405	0.021099 0.5721
FS	3.596254 0.1042 *	5.347873 0.0041 ***	0.532299 0.6889	0.094390 0.8998	1.459854 0.1869	1.872462 0.0497 **
CAR	-0.130133 0.6811	0.046296 0.8725	-0.335578 0.1952	-0.276670 0.2344	-0.241498 0.2163	-0.152828 0.4152
REV	-3.370407 0.1120	-3.004829 0.1532	-2.503383 0.1854	-4.015126 0.0315 **	-2.764172 0.0436 **	-2.779173 0.0421 **
R-squared	0.758607	0.147201	0.718488	0.394215	0.738910	0.124302
Adjusted R-squared	0.690899	0.067252	0.638057	0.318492	0.682962	0.080025
S.E. of regression	5.971451	6.192648	5.040381	6.916375	5.493479	5.500444
F-statistic	11.20410	1.841173	8.932884	5.206010	13.20710	2.807376
Prob(F-statistic)	0.000000	0.070495	0.000000	0.000019	0.000000	0.004171

Source: Calculated by the author using E-Views 9

5. THE CONCLUSION OF THE RESEARCH

The paper examined the effect of some features of governance on the Egyptian banks performance. The sample contains 25 Egyptian banks working in Egypt covering a period from 2006 to 2014. Random effect regression analysis is used to investigate this relationship.

The results revealed a positive significant correlation between board size and both performance measures of ROE and ROE, indicating that large board size tend to increase the bank profitability. The result can be interpreted as large board size at a certain limit, means better division of assignments, more management supervision, and more skills and expertise that enhance the bank performance. Evidence shows that board composition measured by proportion of non- executive directors has no significant correlation with ROA, and ROE. However, this result supports neither the stewardship theory nor the agency theory. The result can be interpreted as bank executives can easily access specific-bank data, information, knowledge, and are more communicated with other bank employees, accordingly they have the opportunities to stimulate, and enhance employees' performance and productivity, and or the bank non executive directors are not really independent. In spite of the Egyptian code of governance requesting banks to split between the chairman and the chief executive director (Rule 3.2.2), to reduce agency cost and alleviate managerial entrenchment. The empirical evidence shows that the relation between

CEO/Chairman duality and bank performance is positively significant. This result supports the stewardship theory perspective. The finding indicates that the percentage of women in the board has no effect on both bank performance measures. A potential, explanation of this result is the poor percentage of female existence in the Egyptian bank's boards (on average 6.05%) that hinder them from affecting the decision-making. The study found that board member with a Ph.D. degree is not significantly related with the two measures of performance. One possible explanation of this result that it is not only qualifications of board members that affect the Egyptian bank performance but also how the members mix between knowledge, skills and educations in supporting the bank efficiency. However, it is positively correlated with return on assets in local banks. In addition, block ownership is negatively insignificant related to the two measures of performance in the whole sample, while it is negatively significant with local banks only.

Finally, concerning the control variables, the study found that bank size and capital adequacy ratio is positively correlated with performance, indicating that large bank size improves the Egyptian bank performance. It is also indicated that well-capitalized banks enhances bank performance. Debt ratio and real, GDP growth has been found not related to bank performance. Crisis has been found insignificant to both performance measures indicating that Egyptian banks may not be fully integrated to the international financial system. Meanwhile, revolution has been found significant negatively correlated with ROA, indicating that Egyptian banks were suffering during the revolution period specially the local banks.

The findings of the research show that a lot of research effort still needed in governance area. Future research should focus on assessing the effect of corporate governance mechanisms and performance market measures.

5.1. Policy Implications Recommendations

The findings also suggest that:-

- The bank should keep an appropriate number of directors in a bank board to a maximum size, based on the scale and complexity of the banks' operations, as long as large boards perform its supervision activities properly.
- The board of directors should comprise a mix of executive and non-executive directors. The non-executive directors should be truly independent directors and not affiliated to the bank management by any means.
- Block holders should actively participate in establishing good corporate governance in their banks in order to increase the efficiency.
- Management of Egyptian bank should monitor of their capital adequacy as long as the capital adequacy is positively related to bank performance, and the Central, Bank of Egypt (CBE) should encourage banks to increase the ratio either by not distributing any cash dividends or by increasing its capital.
- Some banks should expand their branches and their size as well to benefit from economies of scale, and to boost its performance.
- The central bank of Egypt should encourage banks to offer a good proportion of their shares on the Egyptian stock exchange to expand the base of ownership, improve governance, and enrich the stock market.
- The central bank must force banks to abide by the rules of disclosure and transparency and the need to announce data of interest to investors, researchers and other parties.

5.2. Research Limitations

There are several limitations in this research. First, the research sample is limited to those banks that have governance data in *KOMPASS EGYPT* or in some banks financial reports as these data are only available through these resources.

Secondly, a few banks are listed in the Egyptian Stock of Exchange (EGX). This hinders the researcher from using performance market measures such as Tobin's Q and other measures.

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