**ACADEMIC
INVESTIGATIONS
& CONCEPTS**

SECTION 1

CORPORATE GOVERNANCE AND RISK MANAGEMENT IN GCC BANKS

Ahmed A. El-Masry*, Tarek Abdelfattah**, Ehab Elbahar***

* Plymouth Business School, UK & Mansoura University, Egypt
** Hamdan Bin Mohammad Smart University, UAE & Mansoura University, Egypt
*** Plymouth Business School, UK

Abstract

Purpose - The current study examines the relationship between corporate governance and risk management in GCC banks. It aims to contribute to the literature by providing empirical evidence from the GCC's banking industry of the association between risk management and corporate governance characteristics such as role duality, board size and percentage of nonexecutives.

Design/Methodology - Using sample of 900 observations from banks in the Gulf countries, non-parametric regression, Quantile and panel data analysis have been used to test the hypotheses and the proposed model. The study uses data from financial institutions in the Gulf countries over the period from 2003 till 2012.

Findings - Findings suggest that role duality and board size are negatively associated with the risk management. On other hand the percentage of non-executive members on the board was found to be insignificant. Moreover, findings indicate a positive significant relationship between governmental ownership and risk management.

Research Implications - The results suggest that Islamic banks have a positive significant association with risk management measured by capital adequacy ratio. The results suggest future research to explore the relationship between risk management and other types of ownership structure such as institutional ownership. Future research can focus on risk management framework and practices in Islamic banks as such banks has its own risk.

Keywords: Risk Management, Corporate Governance, Capital Adequacy, Islamic and Conventional Banks, GCC Countries

1. INTRODUCTION

Corporate governance is a crucial issue that is being addressed widely by regulators and capital market participants around the world. The global financial crises emphasized the important role of boards of directors in managing risk. Theoretically, it can be argued that good corporate governance implies good risk management. Different corporate governance codes indicate that effective risk management is one of the main responsibilities of board of directors. The issue of corporate governance and risk management has received great attention in financial institutions. However, while much of the focus in corporate governance literature has been on corporate governance systems in highly developed countries, there has been much less discussion of corporate governance institutions in emerging capital markets (Mueller, 2006). One of underlying questions in this regard is about the appropriateness of western concepts and systems; such as codes of corporate governance, in developing countries.

The expression corporate governance carries different interpretations and its analysis also involves diverse disciplines and approaches (Keasey et al., 2005). Corporate governance is the system by which business organization are directed and controlled. The structure of corporate governance identifies the rights and responsibilities of corporate participants and specifies the rules and procedures for making decisions on corporate affairs. In addition, corporate governance ensures that all major stakeholders receive reliable information about the value of the firm and motivates managers

to maximize firm value instead of pursuing personal objectives (Luo, 2005). Anand (2005) points out that the concept of corporate governance continues to expand and suggests that a more appropriate definition of corporate governance includes additional components such as disclosure of board composition, including the number of independent directors on the board; composition of various committees of the board; and separation of chair of the board and CEO.

It is generally accepted that risk management practices need to be supported by good corporate governance practices especially in complex industries such as banking. Generally, risk management is considered as one of the key aspects of corporate governance and the ultimate responsibility of effective risk management is held by the board of directors. Without direct support and involvement from the board it is impossible to make risk management effective (AbdulRahman et al. 2013). The boards of several banks were blamed for inefficient risk management practices before and during the financial crises (Ingley and Walt, 2008).

Furthermore, Islamic finance model has some features that differentiate it from the traditional finance model. Among these features are risk sharing and risk pooling. It might be thought that such characteristics make the Islamic finance model less risky, this thought may be enhanced by the evidence from the literature of the superiority of the Islamic model during the period of financial crises. However, the International Monetary Fund indicates that Islamic finance has its own unique set of risks, which can be equivalently risky as the conventional finance (Cihak and Hesse, 2008). Moreover, using some risk management instruments is prohibited in Islamic banks due to Shari'ah compliance. This suggests that Islamic banks may face more risk as a result of such limited ability to deal with risk (Elgari, 2003). Such unique risks of Islamic finance need more research to be well understood. Risk management in Islamic banking is still an under-researched area of study (AbdulRahman et al., 2013)

Recently the risk management literature in financial institutions has been expanded to include explanatory factors such as corporate governance characteristics and ownership structure. While majority of studies in risk management literature focus on banks in highly developed countries, less discussion of risk management and corporate governance institutions has been taken place in developing countries. Moreover, Abdul Rahman et al. (2013) indicate that there is no empirical study that explores the relationship between governance and risk management process and the subsequent effect on the significance of good governance on the effectiveness of risk management practices. The current study aims to fill this gap by providing empirical evidence of the association between corporate governance and risk management in a sample of GCC banks over the period from 2003 till 2012.

The next section presents the literature review and hypotheses development. Section 3 presents the research methodology followed by results and discussion in sections 4. Conclusion is presented in section 5.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

One implication of the increasing attention to corporate governance is the growing amount of academic research. Recently, an increasing number of studies combine two streams of the literature, risk management and corporate governance. Tandelilin et al. (2007) investigate the relationship between corporate governance and both of risk management and bank performance. They provide evidence of negative relationship between corporate governance and risk management. However, they report that the relationship between corporate governance and risk management is sensitive to type of bank ownership. Moreover, bank performance was found to be negatively associated with risk management.

In Hong Kong, Christopher and Yung (2009) conclude that banks with larger size of board of directors and with a lower level of related-party loans tend to perform well. The extent of related-party loans is a key consideration for effective corporate governance practices. High levels of related-party lending may signal to the market that the corporate governance policy of the bank is unhealthy. This will adversely affect the reputation of the bank and damage its performance. Brian and Anna (2014) conclude that there is statistically significant relationship between CAR, PTC and corporate governance. TA, NPL, ROA are not statistically significant relationship between corporate governance. There is also statistically significant relationship between CAR, PTC and board size. TA, NPL and ROA are not statistically significant relationship between board sizes. Besides, there is showed statistically significant relationship between PTC, TA, ROA and board meeting. CAR and NPL are not statistically significant relationship between board meetings. Separation of CEO and the Board Chairman does not have a statistically significant effect on the financial performance (Durgavanshi, S. 2014). The combination between the two positions of chairman and executive manager in one person has had a positive effect on bank performance; role duality may be attributed to the family ownership, which characterizes Jordanian banks (Al-Hawary, 2011). Hoque and Muradoglu (2013) conclude that there is role duality in 49% of the sample and they do not find that duality destroys value to the board and the duality is not significant for the stock market return regressions.

Kumah et al. (2014) examine the degree to which banks in Ghana use risk management practices and corporate governance in dealing with different types of risk. The result of the study indicated that, Board of Directors, senior staffs and not all staff are actively involved in risk management and the most important types of risk facing the sampled banks are credit risk, operating risk, solvency risk, interest rate risk, and liquidity risk. The study also found out that the sampled banks are efficient in managing risk. Cheung (2010) concludes that the quality of corporate governance appears very significant in explaining future company returns and risk. Good corporate governance is associated with both higher stock returns and with lower unsystematic risk and vice

versa. However, Tsorhe et al. (2011) conclude that board strength does not have significant impact on capital risk, credit risk nor liquidity risk. They report that there is no statistical difference between the strengths of bank boards in Ghana and that board strength does not have significant impact on capital risk, credit risk nor liquidity risk.

Rachdi and Ben Ameur (2011) investigate the relationship between board characteristics; performance (Return on Assets and Return on Equity) and bank risk taking (Z-score) in Tunisian banks. They conclude that a small bank board is associated with more performance and with more bank risk-taking, the presence of independent directors within the board of directors affects negatively the performance, but has no significant effect on the risk-taking, a lower CEO ownership is associated with lower performance. Aebi et al. (2011) argue that banks have to significantly improve the quality and profile of their corporate governance and risk management function in order to be well prepared to face a financial crisis. Tarraf and Majeske (2011) investigate the relationship among corporate governance, risk taking and financial performance at bank holding companies (BHCs) during the financial crisis of 2008. While the paper did not find a significant relationship between corporate governance and risk-taking level, it shows that BHCs with lower risk performed better than BHCs with higher risk during the crisis. The results suggest that risk taking contributed to the financial crisis.

Ranti and Samuel (2012) report a negative relationship between board size and bank financial performance in Nigeria. Moreover, larger boards were found to be less effective than smaller boards because increase in board's size occurs with increase in agency problems. The authors recommend that a smaller board size (6 and 8) for better financial performance of banks in Nigeria. Minton et al. (2012) indicate that financial expertise among independent directors of U.S. banks is positively associated with balance sheet and market-based measures of risk. While financial expertise is weakly associated with better performance before the crisis, it is strongly related to lower performance during the crisis. Overall, the results are consistent with independent directors with financial expertise supporting increased risk-taking prior to the crisis.

Ismail (2012) explores the perceptions and role of internal auditors in the audit of risk management in Egyptian banks. The study concludes that the majority of Egyptian conventional banks are employing a framework of risk management to identify and manage properly the various risks. Moreover, he provides evidence of strong association between the type of bank ownership and the quality of the risk-based audit procedures; private and joint-venture banks have higher quality. Internal auditors see themselves capable of playing a larger role in the audit of risk management framework rather than outsourcing experts such as certified public accountants. If outsourcing is employed, internal auditors prefer an independent risk management consulting firm to audit risk management in banks. Hassan (2013) uses a sample of 84 Islamic and conventional banks from Bangladesh, Bahrain, Malaysia Pakistan, Saudi Arabia, the United Arab Emirates, and United Kingdom over the period of 2006-2009 to investigate the relationship between corporate governance and risk-taking. He concludes that the corporate governance and financial disclosure indices emerged as the key driving forces for risk-taking for Islamic banks. AbdulRahman et al. (2013) examine the effects of governance on both risk management process and risk management practices in addition to the impact of risk management process on the risk management practices of Islamic banks in emerging economies. They indicate that banks may lack experience in the effective application of risk management.

Stulz (2014) conclude that the success of risk management in performing its functions depends on the corporate environment and its ability to shape that environment. However, while better risk management should lead to better risk taking, there is no reason for a bank with good risk management to have low risk. Quaresma (2014) analyzes the relation between the quality of corporate governance practices and the financial performance of international listed banks. This research concluded that there is a significant relation between best corporate governance practices and financial performance of studied banks.

In view of the prior results the current study tests for a significant association between corporate governance characteristics and risk management. Specifically, we test the effect of board characteristics; namely board size, role duality, percentage of nonexecutives, CEO turnover, gender diversity and the existence of audit committee and risk committee. In addition we examine the association between governmental ownership and risk management. The main hypotheses of this study are presented below:

H1: *There is a significant relationship between corporate governance and risk management in the GCC banking sector.*

H2: *There is a significant relationship between governmental ownership and risk management in the GCC banking sector.*

3. RESEARCH DESIGN

The following points show the sample, data collection, the model, the definitions and measurement of dependent and independent variables.

3.1. Sample and Data Collection

To test the hypothesis of the current study, we use data for all banks in the gulf countries over the period from 2003 to 2012. We collect our data from the BankScope database and the annual reports of selected banks. Originally, 102 banks of GCC banking sector have been selected for the study. However, we excluded central banks (6 banks) due to the unique nature of such banks that differs from the nature of other banks. Moreover, 3 banks from Bahrain and UAE were excluded due to merger and acquisition. The final sample consists of 90 banks with 900 observations after excluding 3 more banks due to unavailability of required data. To examine the association between corporate governance and risk management, we employ the following model:

$$RM = \beta_0 + \beta_1 Bsize + \beta_2 Nexc + \beta_3 Rdual + \beta_4 Audcom + \beta_5 Riskcom + \beta_6 CEOturn + \beta_7 Gender + \beta_8 Govown + \beta_9 Banksize + \beta_{10} btype + \beta_{11} Fincris + \beta_{12} ROA + \varepsilon$$

3.2. Dependent Variable

The dependent variable in this study is risk management (RM). We use Non Performing Loan (NPL) as a proxy for risk management. Non-performing loan ratio (NPL) is a ratio of non-performing loan to total loans. This ratio reflects the managerial risk-taking behavior relative to bank's resources. The higher NPL ratio, the more risk that bank takes in its operations and investment. Therefore, it is recommended to keep this ratio within acceptable level. Some central banks require banks to maintain their NPL less than 5%, for example Indonesia. NPL is used as a proxy of risk management in previous studies, (e.g. Altunbas et al., 2000; Tandelilin et al., 2007; and Epure and Lafuente, 2012). Following the literature we use NPL ratio as a proxy for risk management. Moreover, we use Capital Adequacy Ratio (CAR) as a second proxy of our dependent variable; risk management.

3.3. Independent Variables

The current study classifies independent variables into three categories the first is corporate governance characteristics; board leadership, board composition and board size. The second is ownership structure; governmental ownership. The third is bank characteristics as control variables which include bank size, bank type: commercial or Islamic, profitability and financial crises: before and after 2008. Table 1 includes the definition and measurement of each independent variable.

Table 1. Definition and measurement of variables

Variable	Definition	Measurement
Dependent RM: NPL CAR	Non-performing loan Capital Adequacy ratio	Non-performing loan to total loans.
Independents Bsize	Board size	The total number of the members on the board
Nexc	Percentage of non- executives	Ratio of non-executive directors to the total number of directors on the board.
Rdual	Role duality	1 if CEO is the chairman and 0 if otherwise.
AudCom	Audit Committee	1 if there is audit Committee and 0 if otherwise
RiskCom	Risk Committee	1 if there is risk Committee and 0 if otherwise.
CEOturn	CEO turnover	1 if it is the first year of CEO, 0 if otherwise.
Gender	Gender	1 if there is female on the board, and 0 if otherwise
GovOwn	Governmental ownership	1 if government owns more than 50% and 0 if otherwise.
Banksize	Bank size	Logarithm of total assets.
Bank Type	Bank type	1 if Islamic bank and 0 if otherwise.
Finan Cris	Financial crisis	1 if before 2008, 0 if otherwise
Roabp	Return on Assets	Net income / Total assets

4. RESULTS AND DISCUSSION

The current study uses STATA statistical computer package to analyze and test the hypotheses. We use Longitudinal / panel data analysis to address the association between dependent variable; risk management, and independent variables; characteristics of board of directors and governmental ownership.

4.1. Descriptive Statistics

Table 2 presents the descriptive statistics of the independent variables. As indicated in the table, the average of board size is 8.69, there is a wide range having a minimum and maximum of 3 and 15 members respectively. The mean of the percentage of nonexecutive members on the board is 91%, which is high. As indicated in panel B, the mean of role duality, as a dummy variable with minimum 0 and maximum 1, is 0.04, which means that chairman and CEO in 4% of the sample are the same. Moreover, the table shows that in 18% of the observations governmental ownership is more than 50%. Panel B shows that 83% of our sample has audit committee and 75% of the sample has risk committee. These high percentages can be explained by the nature of banking sector as a regulated industry. Furthermore, table 2 indicates that 90% of boards of our sample are dominated by male which is consistent with the culture of gulf countries. 69% of the sample is commercial banks while 31% is Islamic banks.

Table 2. Descriptive Statistics

Panel A: Descriptive for Regression Variables

Variable	Mean	Min.	Max.	S.D.	Skewness	Kurtosis
Board size	8.693333	3	15	1.955956	-0.17697	3.350372
Non-executives	0.913889	0.25	1	0.121388	-2.91137	14.55028
Profitability	0.101067	-1.36	0.7	0.163044	-3.25167	26.31152
Bank size	8.424833	2.49	12.81	2.311955	-0.18538	2.152578

Panel B: Descriptive Statistics of Dummy variables (N=900)

Variable		*N*	*%*
Role duality	1	35	4
	0	865	96
Audit Committee	1	747	83
	0	153	17
Risk committee	1	678	75
	0	222	25
CEO turnover	1	74	8
	0	826	92
Gender	1	93	10
	0	807	90
Governmental ownership	1	160	18
	0	740	82
Bank type	1	280	31
	0	620	69
Financial Crisis	1	450	50
	0	450	50

However, the figures in table (2) indicate that some variables are skewed which need more attention during the analysis process. Before running regression analysis we started with regression diagnostic using STATA to employ a number of graphical and numerical methods. For multicollinearity we used correlation coefficients and variance inflation factors (VIF) with tolerance values. Table (3) provides Pearson correlation coefficients between dependent and independent variables. In addition, the results of VIF and correlations coefficients confirm that there is no multicollinearity. Regarding The Variance Inflation Factor (VIF), Gujarati (2003) indicates there is no problem if the VIF is less than 10, others suggest that that the value of 5 can be used as a rule of thumb (Groebner et al.; 2005). In the current study, the maximum VIF is 1.46 and the mean VIF is 1.19. Therefore, there is no an unacceptable level of multicollinearity in the current study.

4.2. Multivariate Analysis

Using several approaches is recommended to ensure that the results are not method driven but are robust across methods. To test our model, we run three types of regression analysis; pooled OLS, Quantile and panel data regression. Robust regression analysis such as Quantile regression is an example of techniques that focus on minimizing the sum of absolute residuals not the sum of squared errors as in OLS. Contrary to the classical regressions techniques and M estimators that deal with variable means, Quantile regression focuses on the median. It is more robust against possible outliers; skewed tails; and heteroscedasticity (Buchinsky and Hahn, 1998; and Koenker and Hallock, 2001). The results of the three regressions methods are presented in tables (4) and (5).

As shown in the table (4), there is a negative relationship between non-performing loans (NPL) as a proxy of risk management and characteristics of corporate governance except the existence of audit committee and CEO turnover. The three regression support that role duality has a significant negative relationship with NPL but at different significant levels. Furthermore, Table (5) shows that the parametric and nonparametric regressions employed in the current study support the negative significant

association between role duality and CAR as a proxy of risk management. For the board size, table (4) shows that it was negatively significant with NPL at 10%. However, quantile and panel data didn't support this result. The results in table (4) and (5) show that there is no significant relationship between the percentage of nonexecutives on board and risk management measured by NPL and CAR.

With regard to audit committee, the results in table (4) and (5) show no significant association for the existence of audit committees with CAR and NPL, except the pooled OLS regression which shows that NPL has a positive significant relationship with audit committee at 1%. Moreover, table (5) indicates that risk committee has negative significant association with CAR and NPL at 5% and 10% respectively. This result suggests that the existence of risk committee helps in reducing NPL and CAR and therefore highlights the role and importance of such committee in risk management. There is a weak evidence of the association between CEO and turnover and the gender variable. Based on the above discussion we can accept the first hypothesis of association between corporate governance or board characteristics and risk management in financial institutions in gulf countries. However, more research is needed to explore other factors of corporate governance.

With regard to the second hypothesis, the results in table (4) provide evidence of a strong positive association between the percentage of governmental ownership and risk management measured by NPL under the three regressions employed in the current study. In the same way, table (5) provides another evidence of a strong positive association between the percentage of governmental ownership and risk management measured by CAR. These results raise a question of the risk management framework and practices in CGG banks. Based on our results, we can accept the second hypothesis of positive association between governmental ownership and risk management.

Furthermore, the results of table (5) suggest a strong positive association between bank type and capital adequacy ratio (CAR). Bank type was found to have a positive significant association with CAR not NPL. This suggests that Islamic banks have capital adequacy ratio higher than conventional banks. Table (6) summarizes the results of this study.

Table 3. Pearson Correlation Matrix

	CAR	Bsize	Nexc	Rdual	AudCom	RCom	CEOturn	Gender	GovOwn	banksize	Bank Type	FinCris	ROA
Bsize	-0.1326*												
nexc	0.009	0.1003*											
Rdual	-0.0522	0.058	-0.0439										
AudCom	-0.1370*	0.2664*	0.0564	-0.0467									
RCom	-0.012	0.0421	-0.039	-0.1915*	0.4478*								
CEOturn	-0.1135*	-0.0275	0.0034	-0.0393	0.0601	0.0399							
Gender	0.0634	0.1466*	0.0619	-0.0683*	0.1536*	0.0672*	0.0313						
GovOwn	-0.0122	-0.0906*	-0.0271	-0.0935*	-0.0836*	0.0301	-0.0757*	-0.0624					
banksize	-0.4982*	0.2398*	-0.002	-0.0748*	0.0535	-0.1237*	0.0055	-0.1525*	0.1624*				
Bank Type	0.1924*	0.0367	0.0784*	0.1255*	-0.1303*	0.0226	-0.0089	-0.1729*	-0.1869*	-0.1031*			
FinCris	0.0498	-0.0114	0.0256	0.0287	-0.1449*	-0.2320*	-0.2022*	-0.011	0	-0.0741*	0		
ROA	0.1430*	-0.0137	-0.1063*	0.0183	-0.1219*	-0.1146*	-0.1940*	0.0047	-0.0208	0.0565	-0.0357	0.2292*	
NPL	0.0472	-0.1161*	0.0037	-0.0486	0.1022*	0.0783*	0.0211	0.0062	0.0543	-0.3089*	-0.0007	-0.013	-0.019

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

Table 4. Regression results using NPL

	OLS		Quantile		Panel	
	Coef.	P>t	Coef.	P>t	Coef.	P>z
Board size	-0.00382	0.072	-0.00048	0.814	0.001312	0.558
Non-executives	-0.00997	0.750	-0.00890	0.769	0.012618	0.823
Role duality	-0.04938	0.016	-0.03628	0.063	-0.14039	0.000
Audit Committee	0.05844	0.000	0.00335	0.772	-0.0205	0.622
Risk Committee	-0.01860	0.076	-0.00452	0.652	-0.04302	0.204
CEO turnover	0.00125	0.936	0.00723	0.594	-0.06413	0.000
Gender	-0.02375	0.030	0.00822	0.513	0.014785	0.613
Government ownership	0.03497	0.001	0.02014	0.044	0.052744	0.000
Bank size	-0.01751	0.000	-0.00970	0.000	-0.04889	0.000
Bank type	-0.00128	0.907	-0.00413	0.623	0.081815	0.000
Financial crisis	0.00144	0.865	-0.00589	0.455	-0.02834	0.105
Profitability	-0.08929	0.175	-0.07341	0.003	0.628524	0.004
_cons	0.24341	0.000	0.15579	0.000	0.688089	0.000
R²	0.1461					
Pseudo R²			0.0525			
Wald chi2(12)					2457.22	
Prob. > chi2					0.000	

Table 5. Regression results using CAR

	OLS		Quantile		Panel	
	Coef.	*P>t*	*Coef.*	*P>t*	*Coef.*	*P>z*
Board size	0.001312	0.600	0.000127	0.958	0.001312	0.558
Non-executives	0.012618	0.758	0.053053	0.141	0.012618	0.823
Role duality	-0.14039	0.000	-0.05847	0.012	-0.14039	0.000
Audit Committee	-0.0205	0.382	-0.02013	0.143	-0.0205	0.622
Risk Committee	-0.04302	0.036	-0.02513	0.035	-0.04302	0.204
CEO turnover	-0.06413	0.000	-0.02889	0.075	-0.06413	0.000
Gender	0.014785	0.565	-0.01189	0.427	0.014785	0.613
Government ownership	0.052744	0.000	0.052698	0.000	0.052744	0.000
Bank size	-0.04889	0.000	-0.02431	0.000	-0.04889	0.000
Bank type	0.081815	0.000	0.04654	0.000	0.081815	0.000
Financial crisis	-0.02834	0.046	-0.0164	0.075	-0.02834	0.105
Profitability	0.628524	0.000	0.416732	0.000	0.628524	0.004
_cons	0.688089	0.000	0.403565	0.958	0.688089	0.000
R²	0.3381					
Pseudo R²			0.1513			
Wald chi2(12)					2457.22	
Prob. > chi2					0.000	

Table 6. A summary of results

Independent Variables	Bivariate analysis				OLS
	Pearson	*Spearman*	*T-test*	*Mann Whitney*	
Board size	(-)***	(-)**			(-)**
Non-executive board member		(+)*			
Gender diversity				(-)***	(-)*
CEO- turnover					
Role duality				(-)***	(-)**
Audit committee			(-)***	(-)**	(+)***
Credit and investment committee			(-)***	(-)***	(+)**
Capital ratio	(+)***	(+)***			(-)*
Loan to deposit ratio					(-)***
Risk committee			(-)***	(-)***	(-)**
Bank type				(-)*	
Financial crisis					
Government ownership					(+)***
Bank size	(-)***	(-)***			(-)***

5. CONCLUSION

The current study investigates the association between corporate governance characteristics and risk management. Specifically, it focuses on board characteristics; namely board size, role duality, nonexecutives, CEO turnover, gender, the existence of audit committee and risk committee. Moreover, it examined the relationship between governmental ownership and risk management. Using sample of 900 observations from banks in The Gulf countries, the results provide evidence of negative significant association between role duality and risk management. The same is for the existence of risk committee. However, the results suggest that there is no significant relationship between risk management and the percentage of nonexecutives on the board or CEO turnover. Furthermore, we found a positive significant relationship between governmental ownership and risk management. The results suggest that Islamic banks have a positive significant association with risk management measured by capital adequacy ratio. The results and the limitation of the current study suggest future research to explore the relationship between risk management and other types of ownership structure such as institutional ownership. Future research can focus on risk management framework and practices in Islamic banks as such banks has its own risk.

This study contributes to the corporate governance and risk management literature, as it is an attempt to fill the gaps in literature in this region of the world. In addition, it provides a good evidence that the explanatory variables vary among the corporate governance and risk management. The results of this study can be generalized in different regions, especially in countries that have similar cultural and regulatory factors. Finally, it provided evidence that banks manage their governance and risks over time regardless of regulatory changes that consequently affect the bank performance.

The current study has some limitations that need to be acknowledged and identified when assessing the results of the study. First, the current study used a multi-paradigm approach to provide descriptive analysis of corporate governance and risk management practice. Furthermore, this study used mainly quantitative methods in collecting and analyzing its data and its main objective is to examine the three constructs and discover its key determinants. It is mainly classified as a quantitative research. The qualitative methods were not adopted in the current study because it mainly aims to evaluate the extent of corporate governance practices to test empirically the association between corporate governance and risk management. However, using qualitative techniques, such as interviews and case studies in addition to the quantitative approach may improve our understanding to the issue of corporate governance and risk management. Second, this study relies on secondary data as a main source for collecting its data. Primary data may be a useful tool if it is accompanied by secondary data. Many attempts have been made to use a questionnaire as a supported method for collecting the data from the banks. However, the response rate is very low. Therefore, we decided to depend on secondary data only in collecting data for this study.

In terms of the above limitations, this study suggests some areas for future research. First, the current study focused on studding the association between corporate governance, risk management in GCC banking sector for the period from 2003 to 2012. Future researchers can investigate the same in GCC banking sector but after 2012, because we expect the management maturity in this sector will be enhanced toward the better understanding of corporate governance and risk management and consequently better performance. Second, in this study, we defined some corporate governance variables such as board's committees as a dummy variable whereas if the committee is existed takes one and zero otherwise. Actually, we decided to use these dummy variables by this definition because the concept of governance and dedicating specialized committees (audit - risk - credit) still new and the banks in GCC stared to establish such committees in latest years. Future researchers can develop the definition of these committees variable with more characteristics such as number of meeting, qualification of members, member's experience, and member age. Third, future research could consider employing different research paradigm that can benefit from both quantitative and qualitative techniques. Triangulation can add more to our understanding to corporate governance in general. Fourth, in this study we selected the NPL as a measurement of risk management and, we suggest that the future researchers can select another dependent variable for risk management they can test the corporate governance effect on liquidity risk, credit risk, or capital risk.

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