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EDITORIAL

Dear readers!

The recent issue of the journal *Corporate Ownership and Control* pays attention to issues of corporate social responsibility, risks management, audit issues, corporate codes etc. More detailed issues are given below.

Ahmed A. El-Masry, Tarek Abdelfattah and Ehab Elbahar suggest that Islamic banks have a positive significant association with risk management measured by capital adequacy ratio; future research to explore the relationship between risk management and other types of ownership structure such as institutional ownership. *Suzan Abed and Basil Al-Najjar* show that the extent of voluntary disclosure of Forward Looking (FL) information is positively and significantly associated with growth opportunities, leadership, audit committee, competition rate, corporate size, and cross-listing. *Juan Pablo Gonzales-Bustos and Ana Beatriz Hernández-Lara* show that the main topics discussed include ownership concentration and the composition and structure of boards of directors, whose impacts on innovation have been analyzed with scarce consensus. *Ibrahim Khalifa Elmghaamez and Collins G. Ntim* investigate that internal auditors in Libya have limited skills including public speaking and presentation skills; additionally, they have limited skills of IT audit and international financial report preparation skills. *Julio Quispe Salguero and Jaime Rivera-Camino* propose the applicability of CSR to other organizations, while at the same time offering recommendations to a sector with economic and sociological global repercussions. *Rainer Lueg and Magdalena Knapik*, using risk management as an example, take a pragmatic-constructivist stance to explore how such a tool might be integrated in actor-based Management Control Systems. *Pradeepta Sethi and Ranjit Tiwari* provide the choice of optimal capital structure can be influenced by factors such as profitability, size, growth, tangibility, non-debt tax shields, uniqueness and signal. *Thomas Loy* examines fundamentals of earnings management and shows that it is a profoundly ethical issue.

Amarjit Gill, Nahum Biger, Pradeep Prabhakar and Rajen Tibrewala indicate that mergers may contribute to an improvement of the efficiency of working capital management. *Qingfu Chai, Dimitrios Vortelinos and Huainan Zhao* improve the understanding of the interdependence between capital structure and investment decisions in the present of a managerial behavioural bias.

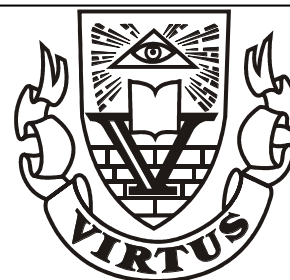
Muneer Mohamed Saeed Al Mubarak and Allam Mohammed Mousa Hamdan interpret the relationship between corporate governance and market capitalization of firms listed in Bahrain Bourse (BB). *Sara AbdulHakeem Saleh AlMatrooshi, Abdalmuttaleb M. A. Musleh AlSartawi and Zakeya Sanad* conduct the research based on Kingdom of Bahrain analysis through the year 2014, where it investigates the relationship between Audit Committee characteristics as a tool of CG and IFR.

We hope that you will enjoy reading the journal and in future we will receive new papers, outlining the most important issues and best practices of corporate governance!

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SECTION 1



CORPORATE GOVERNANCE AND RISK MANAGEMENT IN GCC BANKS

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

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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 have 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 Ameer (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 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

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

	<i>OLS</i>		<i>Quantile</i>		<i>Panel</i>	
	<i>Coef.</i>	<i>P>t</i>	<i>Coef.</i>	<i>P>t</i>	<i>Coef.</i>	<i>P>z</i>
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

	<i>OLS</i>		<i>Quantile</i>		<i>Panel</i>	
	<i>Coef.</i>	<i>P>t</i>	<i>Coef.</i>	<i>P>t</i>	<i>Coef.</i>	<i>P>z</i>
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
R ²	0.3381					
Pseudo R ²			0.1513			
Wald chi2(12)					2457.22	
Prob. > chi2					0.000	

Table 6. A summary of results

<i>Independent Variables</i>	<i>Bivariate analysis</i>				<i>OLS</i>
	<i>Pearson</i>	<i>Spearman</i>	<i>T-test</i>	<i>Mann Whitney</i>	
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 have 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 studying 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 started 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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DETERMINANTS OF THE EXTENT OF FORWARD LOOKING INFORMATION: EVIDENCE FROM UK BEFORE FINANCIAL CRISIS

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Abstract

The study aims to propose a multi-theoretical framework based on information asymmetry and institutional theories by focusing on the OFR regulation changing period from 2004-2006. We carry out an empirical investigation to detect the extent of forward-looking information for a sample of 690 UK non-financial firm-year observations which are drawn from the top 500 UK. We show that the extent of voluntary disclosure of Forward Looking (FL) information is positively and significantly associated with growth opportunities, leadership, audit committee, competition rate, corporate size, and cross-listing. However, the extent of FL information is negatively and significantly associated with blockholders. This paper applies a multi-theoretical lens based on information asymmetry and institutional theories are employed in order to identify potential new determinants of voluntary disclosure in regards to forward-looking information in the UK context.

Keywords: Forward-Looking Information, Leadership, Computersised Content Analysis, QSR Nvivo 8, Institutional Theory, Information Asymmetry

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1. INTRODUCTION

Corporate disclosure practices are one of the main themes in financial accounting research. One particular area of interest is the disclosure of forward-looking information. Most of the prior studies on forward-looking information have a focus on earnings forecasts (e.g., Clarkson et al., 1994; Frankel et al., 1995; Miller and Piotroski, 2000; Johnson et al., 2001; Kent and Ung, 2003), and their primary theoretical foundation was the notion of information asymmetry. In contrast, Adhikari and Tondkar (1992) argued that diversity in disclosure practices reflects the influence of a range of different characteristics including both economic and behavioural factors.

Abed et al. (2014) employed institutional theory to examine determinants of cash flow forecasts. Based on this proposition, the determinants of forward-looking information are subject to two types of influence: information asymmetry characteristics (Healy and Palepu, 2001) and institutional incentives (DiMaggio and Powell, 1991). The unique features of forward-looking information suggest trade-off beyond the typical factors considered by the single theoretical framework of information asymmetry. For example, Zucker (1987) highlighted that organisations are affected by pressures from external influences such as the state or/and pressures arising from the organisation itself. Thus, a multi-theoretical lens based on information asymmetry and institutional theories

are used in this study in order to identify potential new determinants of voluntary disclosure in regards to forward-looking information.

To test the aspects of the proposed framework, this study involves an empirical investigation of the narratives in annual reports of UK non-financial listed companies. The UK financial reporting environment is seen as a rich area for examining several aspects of the proposed theoretical framework. We contribute to the literature by looking at different aspects of the FL disclosure which include corporate governance, ownership structure, institutional aspects and firm specific factors. These factors are investigated within an interesting period of the OFR regulation changes.

The reminder of this study is organised as follows: Section 2 reviews previous studies related to the current study. Section 3 develops the study hypotheses. Section 4 presents the methodology of the study. Section 5 discusses the results of the study. Section 6 presents sensitivity analyses. Section 7 concludes and suggests future studies.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The majority of previous studies have examined the determinants of forward-looking disclosures tests on the propositions provided by economic theories. The primary theoretical foundation of these theories is based on the problem of information asymmetry between the manager and the shareholder/

debtholder. Based on this perspective, previous studies in the accounting literature have focused on corporate characteristics. However, different measurements of the extent of corporate disclosures and alternative firm characteristics were employed. Earlier studies conducted on determinants of FL information in this area have concentrated on the earnings forecast as a proxy for forward-looking information (e.g., Clarkson et al., 1994; Frankel et al. 1995; Miller and Piotroski, 2000; Johnson et al., 2001; Kent and Ung, 2003). However, Wasley and Wu (2006) examined the determinants of disclosure of cash flow forecasts using a keyword search to identify forecasts in the press release. The results of logistic regression performed of 792 firm-year observations for 2000-2003 revealed that the disclosure of cash flow forecast is positively related to good cash flow information, when analysts are forecasting an earning loss, when prevailing management earning guidance conveys bad news, and when the firm is young. Cao et al. (2007) were influenced by Wasley and Wu (2006), who investigated the economic factors that explain managers' strategic behaviour when choosing the level of verifiability in a voluntary disclosure of 1067 firm-observations drawn from COMPUSTAT for the 2000-2003 periods. The results of the probit model documented that managers' decisions to issue "soft talk" cash flow forecasts are positively and significantly related to litigation risk and financial stress, but negatively and significantly related to cash flow performance, analyst following, and the issuance of previous cash flow forecasts. Abed et al. (2014) found a positive relation between cash flow forecasts and industry behavior. That is companies try in general to copy the behavior of other companies in the same industry.

Studies in other line of literature can be further divided into studies examining the determinants of the extent of forward-looking information using; disclosure indices, manual content analysis, and computerised content analysis.

2.1. Previous Studies Employing Disclosure Indices

In one of the earliest comparative studies that used non-financial disclosure indices, Robb et al. (2001) examined factors that determine the non-financial forward-looking disclosure of firms from culturally similar countries. The results revealed that there is a positive relationship between non-financial FL information and cross-listing, company size, and geographic dispersion. In a more informative study, Vanstraelen et al. (2003) replicated the study of Robb et al. (2001) using an alternative set of countries, which differs in terms of legal and institutional settings (Belgium, Germany, and the Netherlands). They also extended the research of Robb et al. (2001) by examining the relationship between non-financial disclosure and the dispersion and accuracy of analysts' earnings forecasts. The results found a positive relationship between cross-listing, company size, and non-financial FL information. Furthermore, Vanstraelen et al. reported that a higher level of FL non-financial information is associated with lower dispersion and higher accuracy in financial analysts' earnings forecasts. Cahan and Hossain (1996) in their study employed a more comprehensive proxy to measure

the quality of disclosure. They employed a measure to count the frequency of disclosure items rather than using a dichotomous approach to investigate the presence/absence of an item. They demonstrated that forward-looking information is positively related to company size, but that it is negatively related to blockholding of 10% or more. Studies conducted afterwards were generally motivated by the methodology used in Cahan and Hossain (1996). For example, Hossain et al. (2005) was influenced by the former study in examining the relationship of the disclosure of forward-looking information and the investment opportunity. They found that FL information was positively related to company size, growth opportunities, and public offerings. Furthermore, they tested for endogenous relationships between IOS and disclosures using a simultaneous system of equation. The results supported the hypothesis that IOS is positively related to the level of disclosure.

Additionally, voluntary disclosures are means by which multinationals can cope with international diversity, thus suggesting that voluntary disclosures are more likely to provide a basis for harmonising accounting standards for culturally similar countries (Robb et al., 2001). By contrast, the use of voluntary disclosure for countries that differ in legal practices, financial accounting practices, and cultures may be inappropriate (e.g., Vanstraelen et al., 2003). That is, voluntary disclosure in one country might be mandatory in other country, and vice versa, this may affect the reliability of disclosure results. On the other hand, Lim et al. (2007) implied that more disclosure is "better", yet this may not be the case, and future research could develop a new proxy for the quality of disclosure. Although the construction of disclosure indices involves subjective judgments on the part of the researcher, such indices demonstrate their ability as valuable research instruments for measuring the level of corporate disclosure (Marston and Shrivess, 1991; Botosan, 1997; Healy and Palepu, 2001).

2.2. Previous Studies Employing Manual Content Analysis

Other studies have used manual content analysis to measure the extent of forward-looking information. For example, in the emerging market, Celik et al. (2006) examined factors which affect the level of voluntary disclosure by counting the number of sentences with forward-looking information. The results showed that size, foreign offers, and industry are found to be positively and significantly related to FL information, but negatively and significantly related to free float ownership, profitability, foreign investment, and institutional investors. Moreover, Celik et al. counted the number of sentences with financial forward-looking information only. In this determination phase, they found that the disclosure of financial information has different characteristics; in particular, free float and performance were found to be negatively related to the disclosure of forward-looking financial information.

Further studies were generally motivated by Beattie et al. (2004). For example, Beretta and Bozzolan (2008) adopted a multi-dimensional framework and calculated a quality disclosure index

for forward-looking. Phrases were coded using manual content analysis based on four dimensions: content, type of measure, economic sign, and outlook profile. The regression results showed that the extent of forward-looking information is positively related to corporate size, industry, and firm's with other form of disclosure. The result of the determinants of disclosure quality revealed that financial analysts and the industry are negatively related to quality of disclosure, whereas they are positively related to earnings surprise. Similarly, Abad et al. (2008) were influenced by Beretta and Bozzolan (2008) in examining the determinants of the quality of disclosure. Moreover, Abad et al. (2008) used two other indices to measure the scope and quantity of disclosure. However, sentences were used as a unit of code instead of phrases in Beretta and Bozzolan's (2005) study. The results revealed that, when considering the quality index or scope index, size is the only variable which is positively and significantly related to forward-looking information. When using a quantity index, the results indicated that size, leverage, and growth opportunities are positively and significantly related to forward-looking information. The regression results of several disclosure indices demonstrated different results, which may suggest that the determinants of quality are different than the determinants of quantity of the forward looking information.

To sum up, manual content analysis involves in classifying text units into categories in order to draw valid inferences with the aim of quantifying disclosure items (e.g., Beretta and Bozzolan, 2008; Abad et al., 2008) or reading a narrative section in order to determine information related to forward-looking disclosures (Celik et al., 2006).

2.3. Previous Studies Employing Computerised

Content Analysis

Explanatory studies witnessed the inclusion of automated content analysis to score narratives. The majority of the studies conducted in this area are based on the research of Hussainey et al. (2003). For example, from emerging markets perspectives, Aljifri and Hussainey (2007) empirically explored the relationship between forward-looking information and firm-specific characteristics for 64 companies listed on either the Dubai or the Abu Dubai financial markets. The results documented a positive relationship between forward-looking information and debt ratio, but a negative association with profitability.

In the UK, Athanasakou and Hussainey (2009) examined cross-sectional variation in abnormal disclosure scores that deviate from the industry and years average. The results of first stage regression revealed that the disclosure of forward-looking information is positively related to abnormal share trading, analyst following, analysts dispersion, a change in capital structure, company size, and audit quality, but that it is negatively related to proprietary costs and earnings benchmarks. The results of second-stage specification showed that there is a positive relationship between the disclosure of forward-looking information and stock price reaction. Additionally, Athanasakou and

Hussainey (2009) examined whether investors assessed forecast reputation and reported earnings quality in order to ensure the creditability of forward-looking statements in the narrative sections in the annual reports. The results of pooled OLS regression revealed that the market's responsiveness to forward-looking information is positively related to forecasting reputation, analyst following, and audit size, but that it is negatively related to decline in earnings and financial distress. The findings documented that reporting credibility is positively related to size and sales volatility, but negatively related to growth perspective, financial distress, analyst following, and external funds.

Al-Najjar and Abed (2014) examined the relationship between forward looking information and corporate governance variables using computerized content analysis. The results confirmed that forward looking information is positively related to both board size and independence of audit committee.

Previous studies explained variation in voluntary disclosure of forward-looking information based on a single theoretical framework (e.g., Clarkson et al., 1994; Cahan and Hossain, 1996; Clarkson et al., 1999; Johnson et al., 2001; Kent and Ung, 2003; Robb et al., 2001; Vanstraelen et al., 2003; Hossain et al., 2005; Celik et al., 2006; Lim et al., 2007; Bozzolan and Mazzola, 2007; Aljifri and Hussainey, 2007). Thus, their empirical results have not been subjected to alternative tests. However, Miller and Piotroski (2000) identified cross-sectional factors that affect the disclosure of forward-looking earnings information based on information asymmetry and institutional theories. Recently, institutional theory has begun to focus more directly on institutional phenomena within organisations (Moll et al., 2006). Specifically, it argues that organisation could be influenced by cognitive, normative, and regulative structures and activities which may provide consistent explanation of disclosure practices (Scott, 1995).

As discussed above, most of the previous studies ignored the effect of institutional theory, with the exception of Miller and Piotroski (2000), who examined the effect of legal and external pressures which may affect the disclosure level. Therefore, the present study examines the determinants of forward-looking disclosures using a multi-theoretical framework based on both information asymmetry characteristics and institutional incentives. Such a framework provides a more comprehensive prospective on forward-looking disclosures as it recognizes that organisations evolve within a society that encompasses many different industries. Additionally, a multi-theoretical framework aims to increase our understanding of disclosure practices and to identify potential new determinants of forward-looking disclosures.

Another motivation for using automated content analysis is that the previous literature on corporate disclosures used limited sets of disclosure items or employed simple coding procedures (e.g., Cahan and Hossain, 1996; Clarkson et al., 1999; Robb et al., 2001; Kent and Ung, 2003; Vanstraelen et al., 2003; Hossain et al., 2005; Bozzolan and Ippino, 2007; Lim et al., 2007). The current study employs automated content analysis using computerised

software, QSR NVivo 8, to investigate the extent of forward-looking information by employing quite large list of topics. NVivo unifies coding procedures for companies drawn from the top 500 UK listed companies (which are selected for the period 2004-2006) by market capitalization as listed by the *Financial Times* UK 500 on 30 March 2007. This method dramatically decreases the level of subjectivity involved in the coding scheme used, thus resulting in improving comparability and consistency across firms and over time.

Previous studies that used automated content analysis (e.g., Hussainey et al. 2003; Beattie et al., 2004; Aljifri and Hussainey, 2007; Athanasakou and Hussainey, 2009) have employed Nudist software, which performs coding at the sentence level as a unit of code. In the current study coding is performed at the text unit as a unit of analysis.

Finally, Abed et al. (2015) argued that the decision to use computerised or a manual content analysis is not driven by differences in the resulting measures, but is related to the trade-off between the time for setting up coding rules and the saved time of not undertaking the analysis itself. Hence, automated content analysis offers significant time saving which will compensate the additional needed time to formalize the search rules.

3. HYPOTHESES DEVELOPMENT

Based on above and consistently with previous studies, the current study hypothesizes that disclosures of forward-looking information is functions of information asymmetry and institutional characteristics.

3.1. Information Asymmetry Factors

Growth Opportunities

Smith and Watts (1992) and Gaver and Gaver (1993) stressed that firms with high growth opportunities have greater information asymmetry and agency costs than non-growth companies, so they are expected to disclose additional information in order to reduce the level of information asymmetry. Similarly, Hossain and Ahmed (2000) showed that firms with a higher percentage of growth options are more likely to disclose additional information. Growth companies are more likely to provide additional information to maximise the market value of the firm. Strebel (1996) argued that growth firms have incentives to increase their disclosure practices as a means of financing future growth opportunities, as well as to decrease the high level of information asymmetry around future opportunities. Signalling theory suggests a possible relationship between growth perspective and disclosure (Lev and Penman, 1990). Frankel et al. (1999) noted that the agency problem is observed more frequently in companies with high growth prospects, because they have greater information asymmetry than other firms. Gaver and Gaver (1993) found that growth companies pay higher compensation to executives than non-growth companies do. Smith and Watts (1992) demonstrated that growth firms have higher levels of remuneration for executives and employ better stock option plans. On the other hand, Prencipe (2004) highlighted that competitive costs

arise from disclosing additional information which tends to be high for growing companies. Healy and Palepu (2001) pointed out that firms have an incentive not to disclose information that will reduce their competitive position, even if this makes it costly to raise their capital. Hossain et al. (2005) showed that growth opportunities are positively related to the extent of forward-looking disclosure. In the same way, Athanasakou and Hussainey (2009) showed that growth opportunities measured by book to market value is negatively related to forward-looking information. Hence, high growth companies are more likely to provide additional information to maximise shareholder value in the market. A positive relationship is expected between companies' forward-looking information and growth opportunities:

H1: *There is a positive association between the level of forward-looking information and growth opportunities.*

Leverage

Ahmed and Nicholls (1994) concluded that when firms are financed by financial institutions, they are more likely to provide additional information compared to companies with a small amount of debt in their capital structure. Jensen and Meckling (1976) pointed out that, because companies with large debt in their capital structure incur more monitoring costs, they seek to reduce these costs by additional disclosure to satisfy the creditors' needs. Highly risk companies are perceived as risky by shareholders. For example, the potential wealth transfers from fixed claimants to residual claimant's increases as leverage increases (Myers, 1977). Therefore, voluntary disclosure reduces information asymmetry, thereby decreasing the borrower's risk of default, and in turn reducing the cost of capital (Baiman and Verrecchia, 1996). Leverage has been widely used in prior studies to examine the determinants of FL information (Vanstraelen et al., 2003; Celik et al., 2006; Lim et al., 2007; Aljifri and Hussainey, 2007; Abad et al., 2008; O'Sullivan et al., 2008). For example, O'Sullivan et al. (2008), Aljifri and Hussainey (2007), and Abad et al. (2008) documented a positive relationship between debt ratio and forward-looking information. Based on the above argument, a positive relationship is hypothesised between the disclosure of FL information and leverage:

H2: *There is a positive association between the level of forward-looking information and leverage.*

Performance

Agency theory suggests that because of the separation between managers and owners and the difficulties that stakeholders face in monitoring managers' behaviour, investors based on reported performance to monitor their investment and to ensure that managers' behaviour is directed toward profit maximisation. Based on signalling theory, Ross (1979) Verrecchia (1983) and Dye (1985) demonstrated that companies with good news are more likely to disclose voluntary information to convince the capital market but companies with bad

news are more likely to withhold information. Likewise, Milgrom (1981) demonstrated that even if disclosures are costless, external users will interpret non-disclosure as implying bad news. Courtis (1978) highlighted that when the rate of return is low, managers may not disclose too much because of the fear of losing their position in the company. Conversely, Wallace and Naser (1995) argued that profitable companies may not provide additional information because their investors are extremely satisfied; hence they do not need to disclose any additional information. Cahan and Hossain (1996) and Aljifri and Hussainey (2007) showed positive relationship between forward-looking disclosure and performance. Bozzolan and Mazzola (2007) revealed that the accuracy of forward-looking information increases for a profitable firm. Based on this assumption it can be hypothesised:

H3: *There is a positive association between the level of forward-looking information and firm performance.*

Earnings Volatility

Brown and Hillegesit (2007) anticipated earnings volatility to be related to information asymmetry. Based on the prediction of Verrecchia (1983) and Dye (1985), companies with good news are more likely to provide additional information. Lev and Penman (1990) defined good news as the magnitude of the increase in earnings. Prior studies indicated that firms which frequently disclosed earnings forecast are less likely to experience volatile earnings than firms which infrequently disclose forecasts (Waymire, 1985; Lev and Penman, 1990). On the other hand, Kent and Ung (2003) argued that legal liability occurred from inaccurate forecasts. That is, if the management frequently provides inaccurate FL information, the capital market might discredit any future performance. Previous studies have examined the relationship between forward-looking information and earnings volatility (Miller and Piotroski, 2000; Walker and Tsalta, 2001; Kent and Ung, 2003; Vanstraelen et al., 2003; Wasley and Wu, 2006). Miller and Piotroski (2000) showed that firms with more persistent and continuous earnings are more likely to provide forward-looking information during the turnaround period. Similarly, Kent and Ung (2003) found that companies with less volatile earnings are more likely to provide earnings forecast information. Walker and Tsalta (2001) documented no relationship between earnings volatility and disclosure quality. Vanstraelen et al. (2003) showed negative and insignificant relationship between changes in earnings and both the accuracy and dispersion of analysts' forecasts. Based on the above arguments, a negative relationship is expected between earnings volatility and FL information. Thus, it can be hypothesised:

H4: *There is a negative association between the level of forward-looking information and earnings volatility.*

Operating Cash Flow

Information asymmetry increases when management earnings forecasts are not consistent with their

expectations. Therefore, additional information is needed to interpret the news in the management's earnings guidance. Moreover, when there is bad news in earnings, information asymmetry increases around earnings; thus, managers provide additional information to signal good news. Barth et al. (1998) argued that when financial distress increases, earnings become less informative and cash flows become more useful for valuation (Ohlson, 1980). Prior studies have examined the relationship between forward-looking information and OCF. Adhikari and Duru (2006) found a positive but insignificant relationship between cash flow to net income ratio and the disclosure of free cash flow. However, Wasley and Wu (2006) found positive relation between cash flow forecasts and operating cash flow. Athanasakou and Hussainey (2009) detected a positive but insignificant relationship between the credibility of forward-looking information and changes in operating cash flow. Hence, a positive relationship is expected between OCF and FL information:

H5: *There is a positive association between the level of forward-looking information and operating cash flow.*

Capital Need

The demand for external funds-whether debt or equity- exerts pressure on companies to provide voluntary disclosure in order to reduce information asymmetry around the company (Healy and Palepu, 2001). Diamond and Verrecchia (1991) argued that greater disclosure improves stock market liquidity by reducing the cost of capital through either decreased transactions costs or increased marketability of a firm's securities. Greater disclosure also enhances companies' reputations in the eyes of potential investors (Gray and Roberts, 1989). Similarly, Choi (1973) stressed that an increase in disclosure reduces the amount of uncertainty associated with both the present and the future of the company; hence, this leads to a lower rate of return required by investors which in effect reduces the cost of capital. Cerf (1961) highlighted that the managements of companies which rely on external capital are more likely to be aware of shareholders' needs and to appreciate their requirements for additional information. Verrecchia (1983) argued that greater voluntary disclosure reduces information asymmetry and lowers the firm's cost of external finance. However, if the problem of information asymmetry cannot be solved, it might be quite costly for companies seeking external funds to issue new debt or equity as a means of raising their capital since they are classified as risky companies (Myers and Majluf, 1984; Meek and Gray, 1989). Therefore, such circumstances force companies to provide additional information to the public through their annual reports, or other media, such as press releases, interim reports, and conference calls.

Previous studies have examined the relationship between the disclosures of forward-looking information and companies' needs for external funds (Clarkson et al., 1994; Frankel et al., 1995; Cahan and Hossain, 1996; Clarkson et al., 1999; Miller and Piotroski, 2000; Johanson et al.,

2001; Kent and Ung, 2003; Hossain et al., 2005; Bozzolan and Ipino, 2007; Athanasakou and Hussainey, 2009). For instance, Clarkson et al. (1994) and Frankel et al. (1995) found that firms are more likely to issue forecasts if they are seeking external finance. Clarkson et al. (1999), Hossain et al. (2005), Bozzolan and Ipino (2007), and Athanasakou and Hussainey (2009) demonstrated a positive association between forward-looking information and new issues of equity funds. Hence, a positive relationship is expected between capital need and voluntary disclosure of FL information. It can therefore be hypothesised that:

H6: *There is a positive association between the level of forward-looking information and capital need.*

Competition Rate

Healy and Palepu (2001) argued that managers' incentives to disclose additional information appear to be sensitive to the nature of competition; this is particularly the case in firms which face competition whether such competition is from existing competitors or merely from being a new entry. Furthermore, Healy and Palepu (2001) stated that companies compete primarily on the basis of price or capacity decisions. Based on this proposition, when companies are competing on a price basis, they have incentives not to provide additional information that might affect their competitive position. This is consistent with proprietary cost theory. Conversely, when companies are competing on capacities, firms try to disclose more information based on economic theory (Shin, 2002). Companies facing capacity (product) competition need funds to finance their capital investment to increase their market share; hence, they are expected to disclose more to reduce information asymmetry and in turn, to reduce the cost of capital. Shin (2002) employed the concept of strategic substitutes and strategic complements to identify capacity and price competition. By this he concluded that companies which engage in capacity competition (strategic substitutes) provide more information than companies which engage in price competition (strategic complements). Moreover, based on a "structure-conduct-performance hypothesis", Melnik et al. (2005) suggested that highly concentrated markets are less competitive than markets in which many small firms operate. That is, if market concentration reaches a high level, the competition decreases. This study investigates the effect of product competition based on economic theory; thus, a positive relationship is expected between competition rate and FL information.

H7: *There is a positive association between the level of forward-looking information and competition rate.*

Audit Committee

Corporate governance has a significant force in predicting and explaining management behaviour in disclosure studies. Corporate governance is viewed in the academic literature as an agency perspective. Different corporate governance mechanisms that

may influence disclosure practices have been examined in previous studies. For example, the audit committee has been examined by Forker (1992). Agency theory predicts that the existence of an audit committee reduces agency cost through monitoring the management's activities.

A debate has occurred over the independence of the audit committee (the Blue Ribbon Committee, 1999). The Blue Ribbon committee suggested that audit committee should have at least three members, with at least one of these members possessing accounting or financial management experience. PricewaterhouseCoopers (2000) recommended that audit committee performance should be of high quality when members are independent, and when they have significant governance expertise (Fama, 1980; Fama and Jensen, 1983). Empirically, O'Sullivan et al. (2008) found a positive relation between the independence of audit committee and disclosure of forward-looking information. Consequently, the above discussion results in the following hypothesis:

H8: *There is a positive association between the level of forward-looking information and independence of audit committee.*

Ownership Structure

In the discussion of ownership structure, it is important to recognise that there are different types of investors exist in the capital market such as individuals, companies and banks, foreigners, professional investor bodies, and government. Each of these groups has different impact on disclosure. Thus, this study is limited to blockholding ownership. Agency theory suggested that substantial shareholders are expected to have both the power and the incentives to monitor managers' behaviours. Institutional shareholders can easily develop a strong relationship with the directors. In other words, firms with concentrated ownership have less agency costs arising from shareholder/manager conflicts. By contrast, Byrd et al. (1992) highlighted that large shareholdings have stronger incentives to monitor managerial behaviour. McKinnon and Dalimunthe (1993), Mitchell et al. (1995), Cahan and Hossain (1996) and Schadewitz and Blevins (1998) indicated a negative relationship between voluntary disclosure and blockholder ownership. Thus, it can be hypothesised that:

H9: *There is a negative association between the level of forward-looking information and blockholding ownership.*

3.2. Institutional Factors

Analyst Following

Another important determinant which may explain variability in the extent of forward-looking disclosure is the number of analyst following the company. Healy and Palepu (2001) argued that financial analysts are viewed as strategy advisors to the company that they are analysing. Based on normative isomorphism in institutional theory, companies comply with suggestion recommended by

external institutions such as professional bodies and consultants (DiMaggio and Powell, 1983). An institution might result from human activities, and it is expected to influence human activity; however, institutions do not necessarily reflect conscious human design (DiMaggio and Powell, 1991; Moll et al., 2006). Fogarty and Rogers (2005) argued that professions are dynamic bodies whose work requires a broader understanding, which is available in their output. Jung and Kwon (1988) argued that if investors acquire information from other independent sources, such as press releases or financial analysts, companies are less likely to provide additional information in their annual reports. Alternatively, firms with high analyst following may not need to disseminate information since they are less likely to be abandoned by the market, or they might provide disclosure about forward-looking information through press releases or through discussion with financial analysts. Empirical evidence concerning the association between FL information and analyst following has received mixed reactions. Walker and Tsaltas (2001) and Athanasakou and Hussainey (2009) showed that forward-looking disclosure is positively related to a high number of analyst following the company. Based on the above arguments, it can be hypothesised that:

H10: *There is a positive association between the level of forward-looking information and analyst following.*

Leadership

Institutional theory suggests that the existence of a dominant firm with a high level of disclosure in a particular industry makes it a leader in the industry. McPeak and Tooley (2008) showed that the leader of Corporate Social Responsibility (CSR) reporting performs better financially than non-leader. Furthermore, they highlighted how, as the company produces more innovative ways to weave CSR into their business strategy, there is an increase in their competitive advantage and also improvement in their long-term financial outlook. Therefore, leader companies provide more information in order to protect their position. Melnik et al. (2005) pointed out that the measure of leadership is critical, because there is no clear definition of leadership. Scherer (1980) mentioned the importance of market share for each single firm without proposing any threshold for market leadership. Nevertheless, some econometrics has argued that a measurement of leadership requires a firm to have at least half of the sales in the industry to be defined as a leader. In practice, a firm can still be a leader even if it has less than half of the sales of the market. This may happen if other firms in general and the second largest firm, in particular, are small by comparison to the leading firm (Melnik et al., 2005). The concept of leadership requires a quantitative measurement in order to distinguish between concentrated markets with the leading firm and a market where no firm has dominance (Melnik et al., 2005). Market dominance depends upon the company size, the number of firms in the industry, the size of other firms in the same industry, and the number of

product units sold in the market. We hypothesise that:

H11: *There is a positive association between the level of forward-looking information and leadership.*

It is worth noting that in the current study, leadership is measured by determining the market share for each company. The market share is measured by the ratio of firm sales to industry sales. Industry sales are employed using the Industry Classification Benchmark system, as given by the London Stock Exchange (LSE), and the classification of the top 500 UK listed firms by total market capitalization, as listed by the *Financial Times* UK 500 on 30 March 2007. Melnik et al.'s (2005) equation (1) is used to measure leadership:

$$D = [1/2(1+1/N)]^2 - [1-1/2(1+1/N)-(N-2)/Q]^2 \text{ equation (1)}$$

Where:

D = leader

Q: number of product units sold in the market

N = number of companies in the industry

However, if the number of units sold in the market is very large, $(N-2)/Q$ approaches zero; hence, the new equation is:

$$D = 1/N \text{ equation (2)}$$

Equation (2) is used to determine the market share for the leader. That is, if the market shares are above $1/N$ for each industry, then the company is considered as a leader; otherwise it is considered to be a non-leader. A categorical variable is used to determine whether a company is a leader in the industry or not.

Change in OFR Regulation

It has been argued that corporate provision of information should be regulated to ensure that external users receive at least the minimum amount of information (Darus and Taylor, 2007). Companies must comply with government rules and regulations; otherwise, these companies will be punished for non-compliance. Based on institutional coercive isomorphism, external factors such as government regulation enforce organisations to adopt internal structures and procedures (DiMaggio and Powell, 1983). Organisations may view regulatory pressures as a force or persuasion to confirm expected behaviour (DiMaggio and Powell, 1983; Greening and Gray, 1994). By contrast, the perspective which is opposed to regulation argues that, due to competitive capital pressure, the provision of additional information by companies is more likely to attract investments at a lower cost. Johnson et al. (2001) examined the impact of the Private Securities Litigation Reform Act on the disclosure of earnings and sales forecasts for high technological firms. The results indicated that the Act increased the number of firms' issued forecasts. In regards to the change in FL regulations, the government issued statutory statement in April 2005 which introduced the OFR requirement. All listed companies are required to produce a statutory OFR for the reporting period beginning on or after 1 April 2005. Unfortunately, the government cancelled the mandatory disclosure

on 12 January 2006 and issued a statement of best practice of OFR, which is intended to have persuasive rather mandatory force. This study focuses on 2004-2006 period, since this time presents an important period of changes in regulation that might affect the level of voluntary disclosure of FL information. Thus, consistently with institutional theory and previous studies, it can be hypothesised that:

H12: *There is a positive association between the level of forward-looking information and the change in OFR regulation.*

4. DATA AND METHODOLOGY

4.1. Data and Variables

Similar to the data have been used by Abed et al. (2014), the current study employs the same dataset.

The population consists of the top 500 UK listed firms by total market capitalization as listed by the *Financial Times* UK 500 on 30 March 2007. The final sample consists of 690 firm-observations. Similar to the method has been used by Al-Najjar and Abed (2014), Abed et al. (2014) and Abed et al. (2015), the extent of voluntary disclosure of forward-looking information for each company is based on the automated content analysis received by that company. The dependent variable consists of the number of forward-looking text units in annual report narratives. Computerised content analysis using QSR NVivo 8 software is chosen to perform coding for the large sample. It appears that using a computerised content analysis, while involving considerable set-up costs, has the potential to offer significant time savings when applied to a relatively large sample of narratives. Table 1 summarises the independent variables used in this study and the proxies used in the primary regression models.

Table 1. Summary of Independent Variables and their Measures

Independent Variables	Measures
	Variables of the Study
(a) Information Asymmetry Variables	
Growth opportunities	Firm i's equity capital and reserves at the end of t (DS 305) to market value at the end of t (DS MV).
Leverage	Firm i's total debt at the end of t (DS 1301) to total assets at the end of t (DS 392).
Performance	Firm i's published after tax profit at the end of t (DS 623) divided by total assets at the end of t (DS 392).
Earnings volatility	Firm i's published after tax profit at the end of t (DS 623) minus firm i's published after tax profit at the end of t-1 (DS 623) divided the difference by firm i's published after tax profit at the end of t-1 (DS 623).
Operating cash flow to lagged total assets	Firm i's cash in operating activities at the end of t (DS 1015) divided by total assets at the end of t-1 (DS 392).
Capital need	Firm i's equity capital and reserves at the end of t (DS 305) minus firm i's equity capital and reserves at the end of t-1 (DS 305), the difference deflated by total assets at the end of t (DS 392)
Competition rate	Firm i's four sales concentration ratio measured by total sales of the four largest firms in the industry at the end of t (DS 104) divided by the total of industry sales at the end of t (DS 104). The distinction between industries based on the Industry Classification Benchmark system is given by the London Stock Exchange (LSE).
Audit committee	The percentage of independent non-executive directors on the audit committee.
Blockholding of 5% or more	The percentage of total shares in issue held strategically at the end of t (DS NOSHST).
Institutional Variables	
Analyst following	The number of analyst following the company in FACTSET Excel Connect Database at the end of t.
Leadership	A dichotomous variable equal to 1 if the firm i market shares is above 1/N (N= number of companies in the industry), and 0 otherwise
Change in OFR Reg.	A dichotomous variable equal to 1 if the firm i year-ends during changes in OFR regulation (1 April 2005-12 January 2006), and 0 otherwise.
Firm specific Variables	
Company size	The natural logarithm of total sales at the end of t (DS 104).
Cross-listing	A dichotomous variable equal to 1 if the firm is cross-listing on the US NYSE or NASDAQ, and 0 otherwise.
Year-end 2004	A dichotomous variable equals 1 for the 2004 year-end firm observations, and 0 otherwise.
Year-end 2005	A dichotomous variable equals 1 for the 2005 year-end firm observations, and 0 otherwise

4.2. Research Design: The Extent of Forward-Looking Disclosure

The current study employs a pooled regression model to test the study hypotheses. The pooled Ordinary Least Squared (OLS) regression includes year-specific intercepts is used to reflect the fact that the population may have different distributions in different time periods; the intercepts are allowed to differ across years. This is accomplished by including dummy variables for all but one year. A pooling of data requires several assumptions to be valid; all pooled models discussed in the literature assume that explanatory variables are non-stochastic and errors are independent. The following model

summarises the adopted approach in the empirical analysis in order to examine how firm characteristics affect the level of FL information.

$$\text{Level of forward-looking disclosure} = f(\text{information asymmetry variables, institutional variables, and control variables})$$

As previously mentioned, a multivariate pooled OLS regression is used to examine the determinants of forward-looking information. The model controls for the time period by adding two year-end dichotomous variables. The first is (YearEnd 04) that takes the value of 1 for the 2004 year-end firm observations, and 0 for the 2005 and 2006 year-end

firm observations. The second is (YearEnd05) that takes the value of 1 for the 2005 year-end firm

5. RESULTS

The analysis of the voluntary disclosure of forward-looking information for the sample of 690 UK non-

observations, and 0 for the 2004 and 2006 year-end firm observations.

financial companies covers the narrative sections of the annual reports for the 2004-2006 periods. Panel A in Table 2 provides the descriptive analysis for the number of voluntary disclosures of forward-looking text units (FLTUs) exported by NVivo software.

Table 2. Descriptive Analyses of the Extent of FLTUs before and after Transformation

	<i>Panel A</i>	<i>Panel B</i>
Descriptive analysis	FLTUs	LN FLTUs
Mean	80.33	4.22
Standard Deviation	48.80	0.57
Median	68.00	4.22
Minimum	16.00	2.77
Maximum	322.00	5.77
Kurtosis	3.19	-0.21
SE Kurtosis	0.205	0.21
Skewness	1.55	-0.07
SE Skewness	0.10	0.10
Kolmogorov-Smirnov a (Lilliefors)	0.12	0.03
K-S Significance	0.000	0.200*

FLTUs = forward-looking text units; LN FLTUs = natural logarithm of forward-looking text units.

a. Lilliefors Significance Correction.

** This is a lower bound of the true significance*

It can be seen in this Table that, on average companies provide 80.33 text units related to forward-looking information, and the range is from a minimum of 16 to a maximum of 322 text units. Moreover, this Table reveals that FLTU is not normally distributed as indicated by skewness and kurtosis tests: The rule of thumb for a normality test based on skewness and kurtosis analysis indicates normality with a skewness of ± 1.96 and a kurtosis of ± 2 (Cooke, 1989), but the FLTU in the current study is found to have a skewness of 1.55 and a kurtosis of 3.19, which means that the data set is negatively skewed. This result is confirmed by a non-parametric Kolmogorov-Smirnov normality test (K-S), which is conducted to test the violation of the normality assumption. The value of K-S (Lilliefors) with a significance of $< .200$ indicates a reason to doubt normality.

When the dependent variable violates normality, data transformations steps are undertaken. This is performed by normalising the dependent variable using a natural logarithm. Panel B in Table 2 presents the descriptive analysis for the voluntary disclosure of forward-looking information after transformation of the dependent variable using the natural logarithm. Panel B in Table 2 shows that the transformation of forward-looking text units leads to a mean of 4.22 and a standard deviation of 0.57, with a skewness of -0.07 and a kurtosis of -0.21. This means that the problem of normality in terms of skewness and kurtosis no longer exists. This result is also supported by the Kolmogorov-Smirnov test. Table 3 provides a summary of descriptive statistics for the continuous independent variables used in the multivariate analysis. This Table reports the descriptive analysis for pooled data across the three-year sample period.

Table 3. Descriptive Analysis: Continuous Variables

<i>Variables</i>	<i>Mean</i>	<i>Median</i>	<i>Std. Deviation</i>
BVMV	.3768	.3387	.2989
LEV	.2631	.2132	.3546
ROA	.0646	.0564	.1009
COMP	.4369	.3083	.2398
AUDCOM	.9609	1.000	.1237
EV	.5433	.1636	6.310
OCF	.1238	.1065	.1446
CAPNEED	.0300	.0321	.2083
NOSHST	40.13	42.00	21.06
ANFL	12.56	11.00	10.91
Size	13.50	13.55	1.880

Where BVMV = growth opportunities; LEV = leverage; ROA = performance; COMP = competition rate; AUDCOM = audit committee ratio; EV = earnings volatility; OCF = operating cash flow to lagged total asset; CAPNEED = capital need; NOSHST = blockholding of 5% or more; ANFL = analyst following; Size = ln sales

Table 4 presents the Pearson correlations for the variables used in multivariate regression analysis. The rule of thumb for checking for a collinearity problem involves looking for such a

problem when the correlation is more than 0.80 (Gujarati, 1995). No High correlation is found among the variables and hence multicollinearity is not of a concern in our models.

Table 4. Pearson Correlations: Pooled Data

	<i>BVMV</i>	<i>LEV</i>	<i>ROA</i>	<i>EV</i>	<i>OCF</i>	<i>CAPNEED</i>	<i>NOSHST</i>	<i>ANFL</i>	<i>LEAD</i>	<i>REG</i>	<i>AUDCOM</i>	<i>Size</i>	<i>CrossList</i>	<i>COMP</i>
<i>BVMV</i>	1	-.134** (.000)	-.127** (.001)	.030 (.451)	-.157** (.000)	.127** (.001)	-.020 (.609)	.007 (.856)	-.029 (.446)	.022 (.570)	.078* (.042)	.081* (.033)	-.004 (.920)	.040 (.300)
<i>LEV</i>	-.134** (.000)	1	.191** (.000)	.009 (.825)	.330* (.000)	-.171** (.000)	-.064 (.095)	.063 (.111)	.024 (.525)	-.018 (.641)	-.018 (.640)	.188** (.000)	.146** (.000)	.101** (.008)
<i>ROA</i>	-.127** (.001)	.191** (.000)	1	.028 (.493)	.631** (.000)	.046 (.224)	-.004 (.919)	-.088* (.025)	.022 (.561)	.026 (.492)	-.006 (.885)	.183** (.000)	.079* (.037)	-.038 (.313)
<i>EV</i>	.030 (.451)	.009 (.825)	.028 (.493)	1	.018 (.645)	.083* (.039)		-.033 (.434)	-.054 (.179)	-.038 (.343)	-.019 (.639)	.004 (.912)	-.039 (.333)	.002 (.966)
<i>OCF</i>	-.157** (.000)	.330** (.000)	.631** (.000)	.018 (.645)	1	.041 (.280)	.022 (.560)	-.076 (.054)	.019 (.625)	-.019 (.618)	-.044 (.255)	.150** (.000)	.121** (.002)	.082* (.031)
<i>CAPNEED</i>	.127** (.001)	-.171** (.000)	.046 (.224)	.083* (.039)	.041 (.280)	1	.053 (.170)	-.048 (.223)	-.044 (.253)	-.026 (.491)	-.089* (.021)	-.078* (.040)	.007 (.851)	.054 (.161)
<i>NOSHST</i>	.021 (.589)	-.064 (.095)	-.004 (.919)	-.017 (.683)	.022 (.560)	.053 (.170)	1	-.054 (.171)	-.112** (.003)	.267** (.000)	-.059 (.125)	-.094* (.014)	-.070 (.066)	-.103** (.007)
<i>ANFL</i>	.007 (.856)	.063 (.111)	-.088* (.025)	-.033 (.434)	-.076 (.054)	-.048 (.223)	.055 (.166)	1	.203** (.000)	-.044 (.269)	.091* (.021)	.112** (.004)	.121** (.002)	.134** (.001)
<i>LEAD</i>	-.029 (.446)	-.054 (.179)	.022 (.561)	.024 (.525)	.019 (.625)	-.044 (.253)	-.112** (.003)	.203** (.000)	1	-.009 (.818)	.107** (.005)	.581** (.000)	.231** (.000)	-.075* (.049)
<i>REG</i>	.022 (.570)	-.018 (.641)	.026 (.492)	-.038 (.343)	-.019 (.618)	-.026 (.491)	-.267** (.000)	-.044 (.269)	-.009 (.818)	1	.022 (.564)	-.019 (.627)	-.048 (.203)	-.062 (.106)
<i>AUDCOM</i>	.078* (.042)	-.018 (.640)	-.006 (.885)	-.019 (.639)	-.044 (.255)	-.089* (.021)	.059 (.124)	.091* (.021)	.107** (.005)	.022 (.564)	1	.055 (.151)	.071 (.064)	.084* (.028)
<i>Size</i>	.081* (.033)	.188** (.000)	.183** (.000)	.004 (.912)	.150** (.000)	-.078* (.040)	-.094* (.014)	.112** (.004)	.581** (.000)	-.019 (.627)	.055 (.151)	1	.178** (.000)	-.067 (.076)
<i>CrossList</i>	-.004 (.920)	.146** (.000)	.079* (.037)	-.039 (.333)	.121** (.002)	.007 (.851)	-.071 (.065)	.121** (.002)	.231** (.000)	-.048 (.203)	.071 (.064)	.178** (.000)	1	.213** (.000)
<i>COMP</i>	.040 (.300)	.101** (.008)	-.038 (.313)	.002 (.966)	.082* (.031)	.054 (.161)	-.103** (.007)	.134** (.001)	-.075* (.049)	-.062 (.106)	.084* (.028)	-.067 (.076)	.213** (.000)	1

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

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

Table 7.6 presents Pearson correlation for regression variables examining the extent of voluntary disclosure of forward-looking information. The correlation matrix uses a sample of 690 firm-years observations. P-values are given in parentheses. Variables definitions: *BVMV* = growth opportunities; *LEV* = leverage; *ROA* = performance; *EV* = earnings volatility; *OCF* = operating cash flow; *CAPNEED* = capital need; *NOSHST* = blockholding of 5% or more; *ANFL* = analyst following; *LEAD* = leader in the industry; *REG* = change in OFR regulation; *AUDCOM* = audit committee ratio; *Size* = Ln sales; *CrossList* = cross-listing; *COMP* = competition rate

In order to test whether the extent of voluntary disclosure of FL information among UK non-financial companies is significantly associated with variables identified under information asymmetry characteristics, institutional variables, and control variables, a pooled OLS regression analysis is performed using the Limdep 7 econometric software package. Four separate regression models are performed based on the untransformed model and on different forms of transformed models; this is done using natural logarithm of the dependent variable¹, normal scores, and ranking.³ Table 5 provides a summary of the results of these regression analyses.

The reported results of pooled OLS regressions in Table 5 indicate that different transformation models yield quite similar results in terms of both the significance of variables and the adjusted R^2 . In the case of the standard OLS, untransformed model (1), this model is highly significant ($F = 20.18$ P-Value = 0.000) with an adjusted R^2 0.352. That is, the combination of independent variables explains 35.2 % of the variation in the voluntary disclosure of forward-looking information between companies. Blockholding of 5 % or more, competition rate, cross-listing, growth opportunities, and size are found to be highly significant at the 1% level. Analyst following and leadership are found to be significant at the 5%. The audit committee ratio is found to be significant at the 10% level. Therefore, the null hypotheses that the coefficients associated with these variables are not significantly different from zero are rejected.

Table 5 presents the results of multivariate pooled regression analysis examining the determinants of voluntary disclosure of FL information.⁴ In terms of a proxy for growth opportunities, as predicted, BVMV ($t = -3.460$) is negative and significant, consistently with H1, which indicates that the inverse to BVMV is positively related to the disclosure of FL information. This result is also consistent with the arguments that growth firms have greater information asymmetry and more agency costs (Smith and Watts, 1992; Gaver and Gaver, 1993); hence, disclosure of additional information may reduce the level of information asymmetry. This finding is also consistent with previous studies (Cahan and Hossain, 1996; Hossain et al., 2005; Abad et al., 2008; Athansakaou and Hussainey, 2009).

With respect to the independence of the audit committee, as predicted, and consistently with H8, a positive and significant relationship between FL disclosures and the audit committee ratio is found to be consistent with agency theory, which predicts that the existence of an audit committee reduces agency cost. This result is also consistent with previous studies by Karamanous and Vafeas (2005) and O'Sullivan et al. (2008).

As for ownership structure, shareholding of 5% or more is found to be significant, as predicted,

consistently with H9 and the agency theory prediction that substantial shareholders are expected to have close relationship with managers which help them to have full access to internal information. In other words, firms with more concentrated ownership are less likely to provide FL information, because they have low agency cost. Moreover, this result is consistent with the prior studies, such as those by Cahan and Hossain (1996) and O'Sullivan et al. (2008).

In terms of the competition rate, as predicted, positive and significant relationship between FL information and the competition rate is found to be consistent with economic theory and the "structure-conduct-performance hypothesis", which assumes that highly concentrated markets are less competitive than markets in which many small firms operate. The significance of the competition variable implies that companies belonging to a particular sector facing serious competition disclose more, rather than concealing information in order to reduce the risk of a competitive disadvantage. This result is inconsistent with those of Kent and Ung (2003), Abad et al. (2008), and Athansakaou and Hussainey (2009) who failed to find significant association between competition rate and the voluntary disclosure of forward-looking information.

However, leverage ($t = -1.501$) is negative and insignificant, inconsistently with H2 and inconsistently with O'Sullivan et al. (2008), Alfri and Hussainey (2007), and Abad et al. (2008). A possible reason for this is because UK corporate debt is predominately private (Ball et al., 2000). Thus, private debt reduces information asymmetry between managers and lenders; in this case lenders are more likely to have a close relationship with managers, providing them with the required information without publishing such information in the annual reports; hence, this reduces agency costs (Richardson, 2000). Moreover, consistently with Cahan and Hossain (1996) and Kent and Ung (2003), the result demonstrates that there is no significant relationship between capital need and the disclosure of forward-looking information. However, this result is in contradiction to prior studies that have found a positive relationship between FL information and external finance (e.g., Clarkson et al., 1994; Frankel et al., 1995; Clarkson et al., 1999; Hossain et al., 2005; Bozzolan and Ipino, 2007). A possible reason for this is because companies with a need for external fund may disclose additional information on press releases, conference calls, interim reports, or other media without waiting until the announcement of their annual reports.

¹ The normal score is performed for the dependent variable using natural logarithm.

² The regression results of normal scores using a natural logarithm and normal scores using Van der Waerden reveal exactly the same results.

³ Normal and rank scores are involved in the transformation of both the dependent and the continuous independent variables.

⁴ The coefficient and P-value of the regression results relies on Model (1).

Table 5. Results of Pooled OLS Regression Analyses of Determinants of Voluntary Disclosures of FL Information

<i>Independent variables</i>	<i>Untransformed (1)</i>	<i>Transformed (dep) (2)</i>	<i>Normal scores (3)</i>	<i>Ranked (4)</i>
Intercept	-35.020 -1.438	2.976 9.759***	-0.056 -0.717	226.450 5.048***
BVMV	-21.760 -3.460***	-0.274 -3.513***	-0.157 -3.889***	-0.174 -4.193***
LEV	-9.867 -1.501	-0.035 -0.449	-0.026 -0.670	-0.032 -0.808
ROA	-14.24 -0.664	-0.327 -1.178	-0.054 -1.206	-0.054 -1.153
EV	0.075 0.335	0.001 0.260	-0.171 -0.441	-0.013 -0.297
OCF	26.020 1.571	0.204 0.981	0.014 0.325	0.018 0.395
CAPNEED	-6.601 -1.262	-0.066 -1.000	0.015 0.409	0.026 0.675
NOSHST	-0.373 -3.577***	-0.004 -2.961**	-0.157 -3.154**	-0.132 -2.445**
ANFL	0.587 2.412**	0.004 1.482	0.104 2.273**	0.075 1.557
LEAD	15.070 2.999**	0.195 3.285***	0.136 1.277	23.160 1.002
REG	0.956 0.163	1.366 0.172	0.932 0.693	15.690 0.578
AUDCOM	19.160 1.927*	0.439 2.733**	0.156 2.638**	0.196 3.004**
Size	6.236 3.826***	0.059 3.099**	0.283 5.031***	0.289 4.977***
CrossList	28.570 3.915***	0.238 3.253**	0.323 2.728**	48.22 2.074**
COMP	49.390 5.751***	0.457 4.622***	0.171 4.106***	0.144 3.717***
YearEnd04	3.257 0.677	0.019 0.295	0.126 1.146	20.160 0.899
YearEnd05	0.263 0.050	-0.003 -0.377	-0.007 -0.059	-11.930 -0.464
Adjusted R ²	0.352	0.273	0.288	0.256
Model F Test	20.18 P-value = .000	14.28 P-value = .000	15.31 P-value = .000	13.16 P-value = .000

This Table presents the results of pooled OLS regression by examining the determinants of FL information. The above results are corrected for heteroscedasticity using White's heteroscedasticity-corrected variances and standard errors provided by LIMDEP; Model (1) Regression using untransformed data; Model (2) Regression using a transformed dependent variable only; Model (3) Regression using normal scores (van der Warden) for the dependent and independent variables; Model (4) Regression using ranked data;

*** Significant at the 1% level

** Significant at the 5% level

* Significant at the 10% level

Additionally, firm performance ($t = -0.664$) is negative and insignificant consistently with Clarkson et al. (1999), but inconsistently with Celik et al. (2006), Bozzolan and Mazzola (2007), Aljifri and Hussainey (2007), and Athansakaou and Hussainey (2009), which indicates that companies with bad news try to disclose more information to reduce the litigation cost as well as to protect their reputation in the market. Moreover, this result is inconsistent with Cahan and Hossain (1996), who found a strong positive relationship between performance and FL information. In term of OCF, the result shows that there is a positive and insignificant association ($t = 1.571$). This result is consistent with Adhikari and Duru (2006), but inconsistent with Wasley and Wu (2006) who find a significant positive relationship. For earnings volatility ($t = .335$), while of the correct sign, is insignificant inconsistently with Miller and Piotroski (2000) and Kent and Ung (2003). A possible reason for this is because sometimes a company with bad news tries to disclose information earlier in order to reduce the effects of litigation costs.

In terms of institutional variables, as predicted, leadership ($t = 2.999$) is positively and significantly consistent with institutional theory, which states the existence of dominant firm with high level of

disclosure in a particular industry makes it a leader in that industry. Prior literature has theoretically argued concerning the importance of leadership in disclosures studies. For analyst following variable as predicted ($t = 2.412$) is positively and significantly consistent with normative isomorphism; institutional theory suggests that companies comply with the recommendation of external institutions such as professional bodies. This result is constant with the literature (e.g., Clarkson et al., 1999; Miller and Piotroski, 2000; Walker and Tsalta, 2001). For changes in OFR regulation ($t = 0.163$) is positively but insignificantly consistent with the mechanism of coercive isomorphism in institutional theory. A possible reason for this result is that, in the case of compulsory regulation, companies may be less likely to provide additional information in order to reduce the risk of litigation in the event of a failed prediction.

The results also show that company size is positively related to voluntary disclosure of FL information, consistently with previous studies (e.g., Clarkson et al., 1994; Cahan and Hossain, 1996; Clarkson et al., 1999; Miller and Piotroski, 2000; Johnson et al., 2001; Walker and Tsalta, 2001; Kent and Ung, 2003; Vanstraelen et al., 2003; Hossain et

al., 2005; Celik et al., 2006; Bozzolan and Ipino, 2007; Bozzolan and Mazzola, 2007; Abad et al., 2008; Beretta and Bozzolan, 2008), but inconsistent with O'Sullivan et al. (2008). For cross-listing, as predicted, ($t = 3.915$) is positive and significant consistent with Vanstraelen et al. (2003), but it is inconsistent with Clarkson et al. (1999) and Abad et al. (2008).

6. SENSITIVITY ANALYSES

Additional regression models are performed using different proxies for independent variables in order to ensure that multivariate results are robust to a different combination of independent variable

proxies. The regressions are repeated using alternative specifications for Competition Rate

Table 6 reports the results of multiple regression analysis using the ratio of fixed assets to total assets as proxy for price competition. The result shows a negative but insignificant relationship between the fixed assets ratio and voluntary disclosure of FL information. This result is consistent with proprietary cost theory. The regression result for both transformed and untransformed models reveal that leadership is no longer significant based on the new combination of independent variables. In terms of transformed model, analyst following is positively and significantly related to FL information.

Table 6. The Results of Pooled OLS Regression Analysis with Competition Rate

	Untransformed		Transformed	
	Coefficient	t-Statistic	Coefficient	t-Statistic
Intercept	-58.443	-2.166	2.641	7.878***
BVMV	-23.992	-3.213**	-0.274	-2.969**
LEV	-12.831	-1.321	-0.015	-0.131
ROA	-22.648	-1.016	-0.415	-1.396
EV	0.058	0.247	0.000	0.111
OCF	22.934	1.078	0.221	0.808
CAPNEED	1.582	0.230	0.021	0.242
NOSHST	-0.402	-3.800***	-0.004	-3.106**
ANFL	0.736	2.593**	0.006	1.742*
LEAD	5.867	1.102	0.091	1.468
REG	-0.726	-0.123	0.052	0.661
AUDCOM	26.724	2.473**	0.512	3.132**
Size	9.116	4.827***	0.094	4.250***
CrossList	30.847	4.080***	0.242	3.335**
COMP	6.679	0.789	-0.001	-0.014
YearEnd04	3.020	0.621	0.020	0.308
YearEnd05	0.354	0.064	-0.026	-0.345
Adjusted R2	0.314		0.255	
Model F Test	17.10 P-Value = .000		13.02 P-Value = .000	

*** Significant at the 1% level; ** Significant at the 5% level; * Significant at the 10% level

Finally, we use free float rather than blockholding of 5% or more, as a proxy for ownership and report the results in Table 7. For both the untransformed and the transformed models, the results reveal that free float is positively

and significantly related to the extent of forward-looking information. The regression results for other variables reveal similar inferences to those obtained by the primary regression models.

Table 7. The Results of Pooled OLS Regression Analysis with Free Float

	Untransformed		Transformed	
	Coefficient	t-Statistic	Coefficient	t-Statistic
Intercept	-71.731	-2.889***	2.568	8.375***
BVMV	-21.777	-3.464***	-0.274	-3.519***
LEV	-9.827	-1.491	-0.034	-0.442
ROA	-14.287	-0.666	-0.328	-1.179
EV	0.076	0.337	0.001	0.262
OCF	25.977	1.568	0.203	0.977
CAPNEED	-6.580	-1.257	-0.066	-0.996
NOSHFF	0.366	3.506***	0.0041	2.891**
ANFL	0.586	2.409**	0.004	1.480
LEAD	15.084	3.002***	0.196	3.288***
REG	0.941	0.160	1.363	0.171
AUDCOM	19.219	1.934*	0.440	2.738**
Size	6.235	3.822***	0.059	3.096**
CrossList	28.593	3.919***	0.238	3.257**
COMP	49.353	5.745***	0.457	4.618***
YearEnd04	3.116	0.649	0.017	0.265
YearEnd05	-0.451	-0.009	-0.031	-0.433
Adjusted R2	.351		.273	
Model F Test	20.14 P-value = .000		15.34 P-value = .000	

*** Significant at the 1% level; ** Significant at the 5% level; * Significant at the 10% level

7. CONCLUSION AND LIMITATION OF THE STUDY

This study examines the determinants of FL disclosure for the 2004-2006 periods. This time window incorporates pure voluntary disclosure in 2004, mandatory disclosure for the time period spanning 1 April 2005 to 12 January 2006, and another period of voluntary disclosure in 2006.

Previous studies of forward-looking information have concluded that companies provide additional information to reduce information asymmetry. This theoretical perspective considers forward-looking disclosures as part of a company's overall voluntary disclosure practices. Nevertheless, the unique features of forward-looking information suggest a trade-off beyond the typical factors considered by economic theories. Gray (1988), Cooke and Wallace (1990), and Adams et al. (1998) argued that regulations themselves, changes in regulations, and reporting practices are subject to both internal and external factors. In the same context, DiMaggio and Powell (1983) highlighted that disclosure practices might be affected by coercive, mimetic, and normative isomorphism. Based on this discussion, this study proposes a multi-theoretical framework based on information asymmetry and institutional theories to identify potential new determinants of voluntary disclosure of forward-looking information.

The results document that proxies for information asymmetry characteristics and institutional variables are important factors in explaining the extent of forward-looking information. Specifically, the extent of FL disclosure is found to be positively and significantly related to growth opportunities, audit committee, and competition rate, but it is negatively and significantly related to blockholding of 5% or more. This seems to support information asymmetry theories which suggest that companies provide additional information to reduce information asymmetry and agency cost. Furthermore, the extent of FL disclosure is found to be positively and significantly related to leadership and analyst following. This seems to support institutional theory. Firm size and cross-listing are also found to be positively and significantly related to the extent of FL information.

The first limitation of the current study is that the extent of voluntary disclosure of FL information based on automated content analysis is limited to the list of forward-looking keywords presented in the study. One of the underlying assumptions of this methodology is that more voluntary disclosure may exist in the narratives, but it has not been included in the study. This study also limits narrative disclosure and ignores non-narrative forms of disclosure, such as tables, figures, and images. However, the disclosure scores used in this study imply that more disclosure is better. This may not be correct and future research may develop a new proxy for the quality of disclosure. Moreover, this study focuses on voluntary disclosure of forward-looking information in the annual report narratives, since annual reports are considered to be the best communication media. Despite the fact that the annual reports suffer from a lack of timelines, since much value relevant events are reflected in stock prices as soon as the information reaches the

market while their influence on reported earnings often occurs with a time lag.

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CORPORATE GOVERNANCE AND INNOVATION: A SYSTEMATIC LITERATURE REVIEW

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Abstract

The main objectives of this study are two-fold. The first one is to determine the relevance that the academic world has given to the study of the relationship between corporate governance and innovation. The second is to identify the key aspects of this relationship that deserve further investigation, and the models in which the research is recently interested in order to advance in this field. To do so, a systematic literature review was conducted on the relationship between corporate governance and innovation. The findings show that the main topics discussed include ownership concentration and the composition and structure of boards of directors, whose impacts on innovation have been analyzed with scarce consensus. Many academic works have studied these elements of corporate governance separately; however, studies analyzing ownership and board together are becoming more frequent, highlighting the moderating effect of some aspects of government on others, and how their influence depends on contingent factors. To the authors' best knowledge, no similar systematic review has been undertaken on this subject, although such reviews allow us to visualize better the evolution of topics with a long research tradition and identify the main findings and the lines of research open.

Keywords: Corporate Governance, Ownership Structure, Board of Directors, Innovation, Systematic Literature Review

JEL Classification: G3

1. INTRODUCTION

Nowadays business competence is influenced by a turbulent context, characterized by constant and unpredicted changes, where the introduction of new practices into the market, of all kinds, organizational, commercial, financial, institutional or technological, are becoming crucial tools to improve companies' competitiveness and survival. Thus, innovation has become a crucial element for the creation and improvement of competitive advantage in the long term (Becheikh *et al.*, 2006; Johannessen *et al.*, 2001). However, until now, there is not sufficient research to completely understand why companies with similar external conditions show different behavior towards innovation (Belloc, 2012).

Literature on corporate governance offers some useful ideas for the comprehension of innovation in companies (Belloc, 2012), recognizing that businesses differ in the structure and organization of their governance bodies, and that these differences may explain partially, amongst other factors, innovations adopted by them (Barker and Mueller, 2002; Lin *et al.*, 2011). Indeed, within the concept of corporate governance itself lies the implication that it may affect innovation, as far as corporate governance involves all the companies' management bodies with decision-making powers and the distribution of powers amongst them (Fama and Jensen, 1983; Jensen and Meckling, 1976).

Despite the link between different aspects of corporate governance and innovation, and the fact

that its analysis started decades ago (Goodstein and Boeker, 1991), there have been much fewer research studies conducted on this relationship between corporate governance and innovation, than on the relationship between corporate governance and business performance (Shah *et al.*, 2011).

This paper has two objectives. Firstly, it seeks to conduct a systematic literature review (SLR) on the influence of corporate governance on innovation. To the authors' best knowledge, no similar review has been undertaken on this subject, although such a review is advisable when embarking on a line of research that has been analyzed over time using different perspectives. This review methodology allows for the existing literature on this line of research to be identified and systematized, as well as establishes the degree of interest that this topic has generated amongst scientific production in the field of business management. Secondly, a content review of the relevant research was carried out to determine the main findings already established and the lines of research still open.

The goal of these objectives is to contribute to the academic field by determining if the relationship between corporate governance and innovation is an emerging topic or a mature one, which aspects of this relationship have been sufficiently demonstrated, and which others merit further additional research. Overall, this study intends to provide some guidelines about the new models of relationships in the field of corporate governance and innovation.

2. CONCEPTUAL FRAMEWORK

2.1. Innovation

Research on innovation has resulted in a vast literature, mostly motivated by the abstract, wide and multidimensional character of innovation. As a matter of fact, nowadays a consensual theory does not exist that explains all about innovation, its adoption, development and success in organizations (Damanpour, 1987; Gatignon *et al.*, 2002; Johannesses *et al.*, 2001).

The first academic conceptualization of innovation emerged with Schumpeter (1934), who defined innovation as a wide phenomenon that involved any new way of doing things in the economic field. From this concept, innovation could be understood as any change, modification, improvement or creation, independently on its object (product, process, structure, method, etc.) as far as it has been implemented or applied in the market. Thus, innovation involves a process with different stages, where the new ideas must be first created, proved, put into production, and finally, placed on the market, to affect individuals, companies and the whole society (Schumpeter, 1939; Thompson, 1965; Van de Ven, 1986).

At the level of firms and industries, many types of changes can be considered, for example, those that affect their methods of work, their use of factors of production, their outputs to improve productivity and performance, etc.... These multiple changes have raised different categories and types of innovation; such as innovation of products, processes and organizations; technological or non-technological changes; radical or incremental innovations, etc. (OECD, 1997). Given the different nature and extent of the concept of innovation, it becomes necessary to select a subset of all the possible changes in companies for further study. This work concentrates in technological innovation, specifically based on goods, in order to focus in just one type of innovation, with similar patterns and features amongst companies. This choice is based on different reasons. First, previous research has been very interested in R&D as a necessary condition to innovate, since R&D enhances the capacity of firms to innovate, is frequently recognized as one of the most relevant inputs for innovation, and is a starting point for its analysis (Balkin *et al.*, 2000; Dalziel *et al.*, 2011; Kor, 2006). Second, different aspects related to R&D activities have been frequently used as an innovation indicator; for example, R&D expenses or R&D intensity are used to measure the efforts made by companies to innovate (Evangelista *et al.*, 1998; Gugler, 2003; Hitt *et al.*, 1991); the number of registered patents, obtained as a result of R&D activities, serves as measure or innovation outcomes (Alegre-Vidal *et al.*, 2004; Coombs *et al.*, 1996; Griliches, 1990; Hitt *et al.*, 1991). Third, many companies organize their innovation activities through R&D departments in charge of finding new uses for the existent products, improving their fabrication processes, and analyzing the novelties of the competences (Roman, 1968). Fourth, there has been relatively little research on innovation in services and organizational innovation in comparison with technological innovation in products (Sirilli and Evangelista, 1998). Fifth, high-

tech companies, responsible for launching radically new products into the market, are especially relevant nowadays due to their high contribution to the global Economy (Balkin *et al.*, 2000).

2.2. Corporate governance

One of the first definitions widely accepted on corporate governance was offered by the Cadbury report (1992) when considered corporate governance as "the system by which companies are directed and controlled" (p. 14). Some adaptations of this first definition have been used later on by most of the corporate governance reports that emerged in other countries, like the Cardon report of Belgium (1998), or the Preda report of Italy (1999), and by other works, like Du Plessis *et al.* (2005) and Monks and Minow (1995).

The main goal of good governance in companies is to protect shareholders and other stakeholders from the managerial discretion. The separation between ownership and control and divergent interests of different stakeholders, make it necessary to adopt governance mechanisms to align stakeholders' interests (Cuervo, 2002). These mechanisms try to reduce agency costs and guarantee an efficient decision-making process that maximizes the company's wealth (Ahlering and Deakin, 2007).

There are multiple corporate governance mechanisms recognized by research, both internal and external (Fama and Jensen, 1983; Jensen, 1993). Amongst the internal mechanisms, the most relevant ones seem to be the board of shareholders, ownership structure, board of directors, and the role of compensation of directors and managers.

This study is focused in the influence of internal corporate governance mechanisms on innovation, specifically ownership structure and board of directors, which emerge as the most frequent topics in corporate governance literature.

3. APPLICABILITY OF A SYSTEMATIC LITERATURE REVIEW INTO CORPORATE GOVERNANCE RESEARCH

A search of works dedicated solely to reviewing corporate governance literature revealed some relevant studies, some of which were undertaken in the last few years and demonstrate the recent interest that this subject has generated at a theoretical level. Amongst these studies, we can highlight, for example, the research undertaken in the fields of accounting and finance, which reviews literature that relates corporate governance with best practices in accounting and auditing (Carcello *et al.*, 2011). Also notable are those studies that were conducted to examine literature on corporate governance within specific business sectors, such as the pharmaceutical industry (Dadfar *et al.*, 2010) or banking (Wang and Xi, 2004). Others undertook reviews of current topics in the field of corporate governance related to the use of data or new information and communication technologies (ICTs) (Schneckenberg, 2009). It is also worth mentioning some papers which review the new regulations and reforms introduced in corporate governance (Beh, 2007) or specific characteristics of governance, such as the relationship between different stakeholders

with decision-making powers and how they integrate with each other (Petrovic, 2008), etc.

These studies constitute reviews on corporate governance. Nevertheless, none of the studies mentioned undertook a SLR on matters related to corporate governance. And more precisely, neither did we find any studies of literature review that jointly analyzed the relationship between corporate governance and innovation. We think that it is interesting to conduct this kind of revision of these two topics considered together, because although academics seem to have been especially interested in analyzing the relationship between corporate governance and the companies' performance, the influence of corporate governance on innovation has also emerged as an interesting topic of research for some decades now. SLR is recommended in order to fully understand previous research on fields that count with a certain tradition, to make clear and order their main topics and conclusions (Moustaghfir, 2008). This kind of literature review avoids some bias and limitations of traditional "narratives" reviews and allows the systematization and visualization of the current state of scientific research into one topic, in our case, the relationship between corporate governance and innovation.

The SLR consists of making a search of the papers that deal with the subject of the research, through the use of explicit and reproducible search criteria. This technique also implies that the processes developed during the search are logged, with the objective of leaving behind a working road-book of the decisions made, as well as the procedures followed, facilitating the replication of future scientific studies in a transparent way (Cook *et al.*, 1997). The search process usually brings up a large number of documents, which are subsequently reviewed according to agreed criteria for inclusion or exclusion, often by a review panel (Moustaghfir, 2008). In this way, the intention is to obtain quantitative information on the relevance of the topic to the research, as well as its development over time.

In the field of business management and administration, Tranfield *et al.*, (2003) and Thorpe *et al.*, (2005) established the criteria for applying an SLR to this field.

Moustaghfir (2008), following the initial proposals of Tranfield *et al.*, (2003), sets out some steps to follow as part of the SLR process in the field of business management, which are: planning the review, identification of keywords, selection of databases, selection of the period of search, selection of studies, data extraction, data synthesis, getting evidence on results and recommendations.

Details are given below on how the most important stages of the SLR in this study were carried out. Some of these stages are methodological by nature, whilst others allow results to be specified and conclusions drawn on the subject of this research.

4. METHODOLOGY

4.1. Identification of keywords

The keywords chosen to use from the outset are related to broad or generic subjects linked to the relationship between the concepts of interest in this

review; on the one hand, there is "corporate governance", "ownership structure", and "board of directors"; and, on the other hand, there is "innovation" and "research and development (R&D)".

The choice of these keywords was due to a variety of reasons. First, there was a need to identify any studies which dealt with the relationship addressed by this paper, regardless of the aspect analyzed, and, to that end, the study started with more generic searches, using the general terms "corporate governance" and/or "innovation". In this way, it was not necessary to take any *a priori* decision on how to limit the search to specific aspects of both topics when, the interest was in obtaining the highest number of articles possible. Second, once the preliminary searches had been done, other general topics also appeared, closely related to corporate governance and innovation respectively. This gave rise to the consideration of other keywords, such as "ownership structure" and "board of directors", in relation to corporate governance; and "R&D", in relation to the type of innovation in which we are interested.

In the case of corporate governance, as far as it emerges from the separation between ownership and control, and the existence of distinct agents with decision-making powers, ownership structure and boards of directors raise as elementary parts of it, both of them being in the cusp of what represents power within the company, and being internal mechanisms of corporate governance (Fama and Jensen, 1983; Jensen and Meckling, 1976). Regarding innovation, research has frequently analyzed R&D as a key indicator of the effort that companies put into innovation and it is frequently used due to the access to R&D data (Wu, 2008).

This review also showed other general issues related to corporate governance and innovation, such as "internal control", "family control", "concentration", "blockholders", "top management teams", "technological innovation", "R&D strategy", "R&D expenses" and "patent", however these new keywords were included in the general concept already considered, and did not add new studies to our review. Following on from this approach to the subject of the study, and given that this paper intends to review the literature pertaining to the influence of corporate governance on innovation and not treat them as separate subjects, different combinations of the keywords mentioned above were used in such a way that each of these combinations would bring together one keyword related to corporate governance and another related to innovation.

4.2. Selection of database

The database selected to do the search was the *Web of Science*. This decision was based on the general acceptance of this database and its high level of prestige in the academic world (Richart-Ramón *et al.*, 2011). Additionally, the *Web of Science* covers a large number of journals specialized in the fields of company administration and management. The *Web of Science* lists two categories of journals that deal with general management topics, these being "business" and "management," where the number of journals has practically doubled during the last decade. Thus, in 1997, the "business" category

appeared in 51 registered journals, which increased to 111 in 2013. The “management” category appeared in 59 registered journals in 1997, which went up to 173 in 2013. Between the two categories, if we exclude the duplication of journals, in 2013 they accounted for 240 academic journals. Our purpose is not to develop an exhaustive search of all the papers that deal with our research subject, but to systematize and visualize the current state of the scientific research about our topic, and we consider that the studies offered by the *Web of Science* database were enough to obtain our goal.

4.3. Search period

The search period started at the beginning of the 1990s, it was when a movement began to reform the control system and to improve the transparency and ethical behavior of companies. From that time, it began to be evident the need for some recommendations related to better governance,

which turned into a movement that led to the appearance of various codes of good governance. The movement started firstly at a European level with the British “*Cadbury Report on the financial aspects of corporate governance*” in 1992, and then a little later extended to an international level. Another factor that favored the development of these codes was the financial scandals of relevant European and American companies, such as Enron (2001), Tyco (2002), Xerox (2002), Ahold (2003) or Parmalat (2003), among others. Thus, the search period was limited to 1990-2014.

The keywords selected were combined into six possible combinations. The search initially produced 272 publications. Eliminating duplications and analyzing the abstracts of these articles allowed us to discount some of the 272 papers, those that were repeated and those that only made a negligible reference to the search criteria. At the end of this evaluation process, 163 papers were included for detailed analysis (Table 1).

Table 1. Keywords’ combinations and number of papers

<i>Search criteria</i>	<i>Results</i>	<i>Number of papers considered</i>
Corporate governance and innovation	57	38
Corporate governance and R&D	17	7
Ownership structure and innovation	121	89
Ownership structure and R&D	24	12
Board of directors and innovation	47	11
Board of directors and R&D	6	6
Total	272	163

Source: Elaborated by authors

5. RESULTS

5.1. Analysis of the evolution in the number of papers and journals on the relationship between corporate governance and innovation

In an attempt to confirm the relevance that research gives to the relationship between corporate governance and innovation, and determine whether it is possible to observe an evolution or a clear trend in its direction, the first analysis involved a count of the number of papers published and the journals that published these papers during the period between 1990 and 2014. The results of the analysis are summarized in Table 2.

As noted in Table 2, one of the first publications in this field dates from 1991. This is the work of Goodstein and Boeker “Turbulence at the top - a new perspective on governance structure changes and strategic change”. Figure 1 shows that, in the first stages of the period under consideration, the number of publications on the subject was low. In 1997, we found five publications, although, from that point on, the number of publications and their frequency dropped again. It was not until 2004 that this tendency began to change, which is an indication of when the study of the relationship between corporate governance and innovation began to acquire interest at an academic level. Most of the

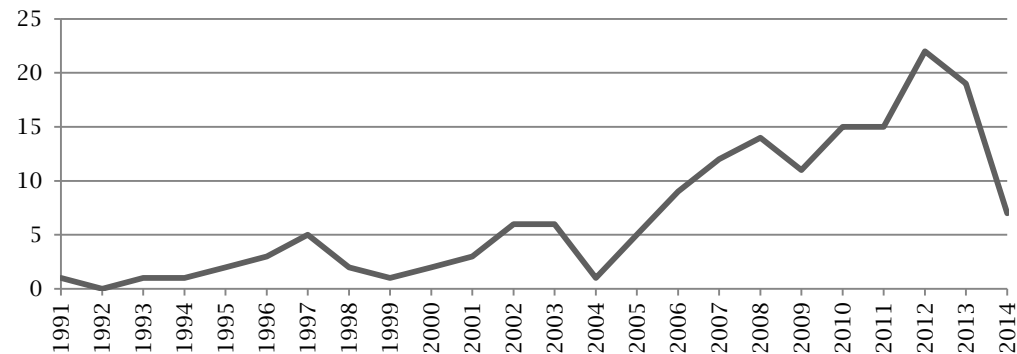
papers, 78.2%, were published over the last nine years. The growth in the number of papers might be also undoubtedly related to the higher scientific and academic research over the last years. However, in relative terms, the percentage of papers on the relationship between corporate governance and innovation in these journals represents 0.11% of the total number of articles published by them in 1991. On the contrary, in 2014, this percentage increased to 1.06%. These data show the low volume of research on the relationship between corporate governance and innovation, but also points out that the evolution is changing, and the interest of research is growing, evidencing a positive trend despite the ups and downs in the publications in the reporting period.

If we analyze the journals in which these papers were published, it is worth noting that their number is relatively small. Of the 240 journals found in the “business” and “management” categories on the *Web of Science* database, only 75 journals published research related to corporate governance and innovation, considered together. On the other hand, only a few journals repeatedly published papers on the relationship between corporate governance and innovation. The most relevant ones are: *Corporate Governance-An International Review*, *Research Policy*, and the *Academy of Management Journal*.

Table 2. Papers on the relationship between corporate governance and innovation from Web of Science database

Título de Revista	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	TOTAL
CORP GOV-OXFORD																	2	2				2		3	9
RES POLICY							1			1		1							1	1	2	1			8
ACAD MANAGE J	1					1					1	1	1					1				1			7
J MANAGE STUD													1			1				3					5
J BUS RES							1									1	1	1		1					5
ASIA PAC J MANAG																		1				2	1	1	5
FAM BUS REV																	1		1				2		4
IND CORP CHANGE															1				1		1		1		4
J MANAGE				1											1				2						4
STRATEGIC MANAGE J						1							1			2									4
OTHERS (With three publications)							1	1		1			2	1			2	2		2		2	1		15
OTHERS (With two publications)					1				1		1	1			1	2	2	5		1	5	2	2	2	26
OTHERS (With a publications)			1		1	1	2				1	2	1		1	1	2	1	3	6	5	9	9	1	47
PROC. OF I. CONFERENCE								1				1			1	2	2	1	3	1	2	3	3	0	20
TOTAL	1	0	1	1	2	3	5	2	1	2	3	6	6	1	5	9	12	14	11	15	15	22	19	7	163

Source: Elaborated by authors

Figure 1. Evolution in the number of papers

Source: Elaborated by authors from data of Web of Science

If we consider the content of the studies, we can appreciate that, although research was basically initially concentrated in North America and England (Driver and Coelho-Guedes, 2012; Lee and O'Neill, 2003), there is an increasing number of papers analyzing companies in other geographical areas. These papers have focused on companies in areas with strong economies like Canada or Australia (Di Vito *et al.*, 2010), or in emerging Asian ones, such as China and Taiwan (Choi *et al.*, 2012; Choi *et al.*, 2011; Lee, 2012; Tsao and Chen, 2012; Van Essen *et al.*, 2012). Research papers have also analyzed companies in countries in continental Europe, such as France, Germany and Spain (Galia and Zenou, 2012; Lehmann *et al.*, 2012; Tribo *et al.*, 2007). Although most of the studies tend to consider companies in specific regions, some of the research also compares how companies operate in different geographical areas and countries (Lee and O'Neill, 2003).

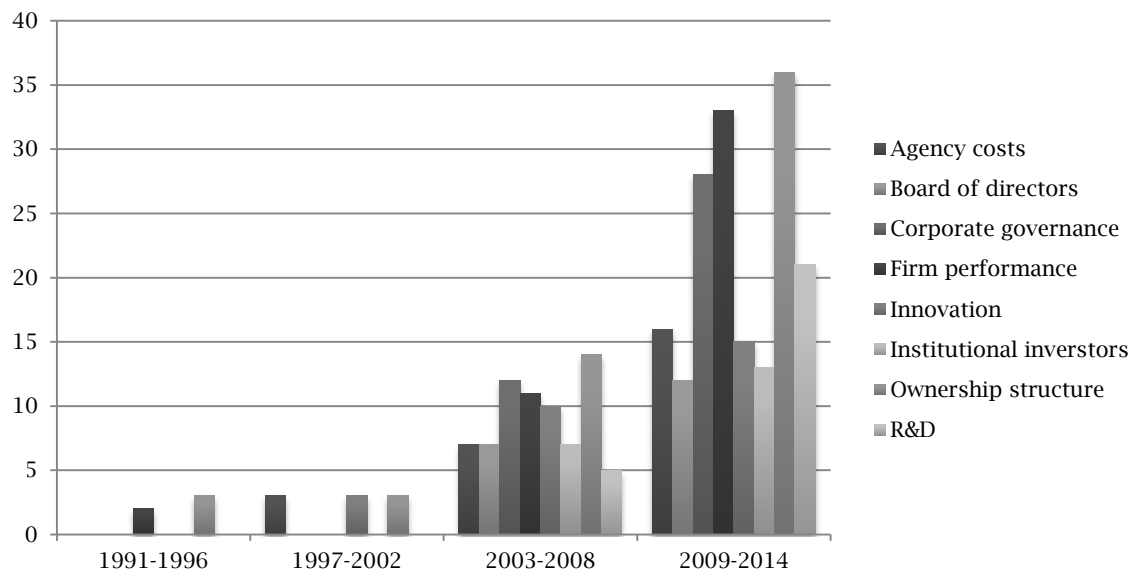
It is, therefore, evident that there is a certain shortage of research focusing on the relationship between corporate governance and innovation. Also noticeable is the lack of specialized journals and the fact that virtually most of the journals that have

published papers on this relationship are North American or British, although these studies increasingly analyze other regions, such as countries with a strong economy, in Asia or continental Europe.

5.2. Main lines of research

A review of the keywords mentioned permitted the identification of eight main subjects, which are: agency costs, board of directors, corporate governance, firm performance, innovation, institutional investors, ownership structure, and R&D (Figure 2). The selection of these main topics was based on an analysis of the keywords specified in the papers. The frequency with which these keywords came up was analyzed and put into order from most to least frequent. Two criteria were used for selecting the keywords: 1) they genuinely reflected the subject of the keywords and not a fringe aspect, and 2) the frequency of occurrence is higher than the average, in this case ten. Applying both criteria enabled the subjects identified to be chosen.

Figure 2. Evolution in the main research topics



Source: Elaborated by authors

As can be seen in Figure 2, the first and second set corresponding to the periods 1991-1996 and 1997-2002 respectively, in this period, the literature was centered in few and quite generic research topics. In the first period (1991-1996) the only two research topics addressed included ownership structure and firm performance. In the second period (1997-2002) the most relevant issues were ownership structure, innovation and agency costs. In the third period (2003-2008) a pronounced increase is noticeable in the number of studies and research topics. Specifically, four new topics appear; we refer to institutional investors, R&D, corporate governance and board of directors. Finally, in the last period (2009-2014) we find works that make reference to the seven keywords mentioned above, with some of them appearing 183 times in the papers of the

period. The analysis of ownership structure is the research topic most relevant in this literature, appearing in more than 20.6% of the studies. Furthermore, it is the most important research topic in all the periods considered and its importance continues to grow.

5.3. State of the art of the relationship between corporate governance and innovation

The analyses of the selected papers paves the way to establishing which theories were most widely used to explain the relationship between corporate governance and innovation, what the most important discoveries have been, and which aspects of this relationship are yet under research.

Regarding the theoretical perspectives used to explain the effects of corporate governance, the agency theory is the one that stands out (Brunnerge *et al.*, 2007; Liang *et al.*, 2013; Tsao and Chen, 2012), as evidenced by the fact that “agency costs” is one of the keywords frequently repeated. Amongst its assumptions, this theory reveals the opportunist behavior of individuals concerned only with looking out for their own interests (Eisenhardt, 1989). The divergence of interests affects the firm performance and is especially evident in respect to certain business strategies that involve significant risks, as in the case of innovation (Barroso *et al.*, 2011; Dalton *et al.*, 1998; Zahra *et al.*, 2000).

Despite the relevance of agency theory to explain the relationship between corporate governance and innovation, it is not the only perspective that can be applied. Another relevant theory on this topic is the stewardship theory. According to this theory, the managers' and owners' interests are aligned, so, managers ensure an improvement in the company's situation, considering that this situation is one that can ultimately benefit everyone (Davis *et al.*, 1997).

A review of the literature demonstrates frequent cases in which a contingent approach is adopted and, depending on the situation, assumptions from one theory or another are applied (Lee and O'Neill, 2003; Wu, 2008). Other theoretical perspectives that have also been taken into account, although in a much more marginal way, are the transaction costs theory (Choi *et al.*, 2012), the prospect theory (Zona, 2012), the institutional theory (Chizema and Kim, 2010), the upper echelon theory (Chen *et al.*, 2015), and the resource-based theory (Chen *et al.*, 2010).

As we stated above, the assumptions of these theories have been mostly applied to explain the effects of corporate governance on the companies' performance and results. This is the reason why even in a review on the relationship between corporate governance and innovation, the keyword “firm performance” still appears as one of the most relevant topics of research in this field since the very beginning.

5.2.1. Ownership structure

Ownership structure and board of directors emerge as the most relevant keywords related to corporate governance, especially ownership structure, which is the topic that most frequently appears in the literature that links corporate governance with innovation. In fact, ownership concentration and the existence of large shareholders or “blockholders” is a significant feature of corporate governance in some regions, and the study of its influence on innovation has been seen as a priority. Some studies have demonstrated a positive relationship between a concentrated shareholding and innovation, for example, in respect to R&D investments (Lee, 2012). According to this author, the long-term orientation effect dominates over the risk-averseness effect of ownership concentration. In other cases, the

relationship has been proven negative (Brunnerge *et al.*, 2007; Di Vito *et al.*, 2010; Zeng and Lin, 2011). Some arguments supporting this negative relationship has to do with the greater risks supported by shareholders due to the lack of diversification of their portfolio. These studies demonstrate that companies with highly concentrated ownership structures or the presence of controlling minority shareholders turn out to be less innovative (Czarnitzki and Kraft, 2009) or have less R&D intensity (Di Vito *et al.*, 2010). There are also many studies that fail to demonstrate if ownership concentration has significant effects on innovation.

This inconsistency in the results has encouraged researchers to look for other types of relationships. Thus, on the one hand, some authors have put forward a curvilinear relationship, in the form of an inverted ‘U’, whereby, when ownership in the hands of major shareholders grows, its effect on innovation might be positive to start with, but then becomes negative from a certain level (Liu, 2012). It also highlights the compensatory role that can be played by major shareholders who are not the largest individual shareholder, but the second or third, etc., with combined voting rights that can offset the influence of the main shareholder on the matter of innovation (Liu, 2012). However, the vast majority of studies attempt to explain the lack of consensus in the effects of ownership concentration on innovation by analyzing different types of blockholders, given that their profile determines their interests and, therefore, what their influence will be. This accounts for a large amount of literature, mainly concentrated on studying the influence of particular types of large shareholders. Some relevant research on this matter is shown in the following table (Table 3).

The previous table mentions only a few of the studies interested in the influence of different types of large shareholders on R&D and innovation, we have summarized the main findings of these investigations, but this research does not go as far as confirming a consensus into the effects of these large shareholders on innovation. Table 3 also confirms the relevance of one of the keywords highlighted above, “institutional investors”, which emerges as one of the blockholders to which the literature has paid special attention, being possible to distinguish also amongst different kind of institutions, like governmental institutions or financial institutions, because their effects on innovation could be different.

The type of innovation taken into consideration, how it is measured even in the case of R&D (R&D expenditures, R&D outcomes, R&D intensity, the existence or not of an R&D department, etc.) (Di Vito *et al.*, 2010), the contingent factors affecting businesses, and the specific characteristics of the different types of blockholders, often cause relationships to be open to modification which, in many cases, is manifested in different ways.

Table 3. Types of blockholders

<i>Types of blockholders</i>	<i>Authors</i>	<i>Sample</i>	<i>Findings</i>
Institutional investors	Choi et al., 2012 Choi et al., 2011	301 Korean firms (2000-2003) 548 Chinese firms (2001)	Institutional ownership influences positively technological innovation
	Brossard et al., 2013	324 European firms (2002-2009)	Institutional ownership influences positively R&D spending
	Lee, 2012 Singh and Gaur, 2013	424 Korean firms (1999-2008) 16,337 firm-year observations Indian firms (2002-2009)	Institutional ownership has no significant relationship with R&D investments
	Tribo et al., 2007	3,638 Spanish firms (1996-2000)	Institutional ownership, excluding financial institutions, affects positively R&D investments
Government ownership	Choi et al., 2011 Zeng and Lin, 2011	548 Chinese firms (2001) 780 Chinese firms (2000-2005)	Government ownership enhances the number of patents, although with a certain delay Government ownership improves R&D investments
Banks ownership	Tribo et al., 2007	3,638 Spanish firms (1996-2000)	Ownership held by banks influences negatively R&D investments
Family ownership	Block, 2012 Chen and Hsu, 2009	154 Northamerican firms (1994-2003) Taiwanese Firms (2002-2007)	Family ownership reduces R&D intensity
	Singh and Gaur, 2013	16,337 firm-year observations Indian firms (2002-2009)	Family ownership positively affects R&D intensity
	Chen et al. 2013	516 Taiwanese firms (1996-2007)	Family firms invest more in innovation than nonfamily firms
Founder ownership	Block, 2012	154 North American firms (1994-2003)	Ownership held by founders has a positive effect on the intensity and productivity of R&D investments
Foreign investments	Lee, 2012 Choi et al., 2011	424 Korean firms (1999-2008) 548 Chinese firms (2001)	Great foreign shareholders have a positive effect on R&D investments Foreign ownership has a positive relationship with innovation
Insider ownership	Choi et al., 2011 Zeng and Lin, 2011	548 Chinese firms (2001) 780 Chinese firms (2000-2005)	Insider ownership reduces innovation and R&D investments

Source: Elaborated by authors

Although most of these studies have analyzed the direct influence of ownership concentration on innovation, there are some authors interested in analyzing the moderating effect that large shareholders can exert. Thus, as an example, Tsao and Chen (2012) believe that ownership concentration can moderate the relationship between internationalization and innovation. Meanwhile, Kim *et al.* (2008) studied how various significant owners can moderate the relationship between lack of financial resources and R&D investment, and they conclude that family ownership has a positive moderating effect while institutional ownership and foreign investors give rise to a negative moderating effect.

5.2.2. Board of directors

The search for the main topics in this research also highlighted the effect that the board of directors has on innovation. These studies basically analyze the structure and composition of the board (Van Essen *et al.*, 2012), which is determined by variables, such as the proportion of directors of different types (executive, affiliated and independent), the existence of duality, demographic characteristics, and the diversity of board members, for example, in terms of age, gender, operational or functional experience, educational background, etc. Most studies consider these board member characteristics in isolation, although an ever-increasing number of authors

consider interrelationships between different bodies with decision-making powers within a company, such as the board of directors and the top management team, indicating that this is not a widely studied research topic (Wu, 2008). Thus, for example, Wu (2008) suggests that the relationships between board members and top management teams have a non-linear effect on the introduction of new products by companies. Brunninge *et al.* (2007), meanwhile, demonstrate that the board and the top management team interact and succeed in affecting strategic change within the company.

Amongst the variables related to the board of directors, the literature has given particular attention to those related to structure, due to the fact that their effects are unclear. As Petrovic indicates (2008, p. 1375) "there are serious doubts about whether it is better that the board is dominated by external members not close to the company or by non-independent directors with valuable inside knowledge." On the one hand, independent directors can control and supervise in a more effective way (Dalton *et al.*, 1998; Zahra *et al.*, 2000). As Kemp points out (2006, p. 60) "external board members see themselves as better guardians and supervisors than board members with a different affiliation to the company as they concentrate exclusively on the financial performance of the organization, which is a very important element for the aforementioned supervision." Thus, a board dominated by internal directors may be less

efficient in supervising managers, which could translate into a lower level of innovation in the case of a management averse to risk. On the other hand, internal board members have valuable operational knowledge of the companies whose management they are involved in, which helps to strengthen the strategic function of the board, given that they can understand the internal workings of the company and the challenges it faces better than independent directors (Nicholson and Kiel, 2007). These arguments indicate that it is not clear whether innovation would improve with a majority of internal or external directors. An important gap is also to analyze in depth not only the direct effect of board's structure on innovation, but also the functions or roles of different directors and their efficiency, and take a better look into the processes inside the board that can explain its effects (Jaskyte, 2012).

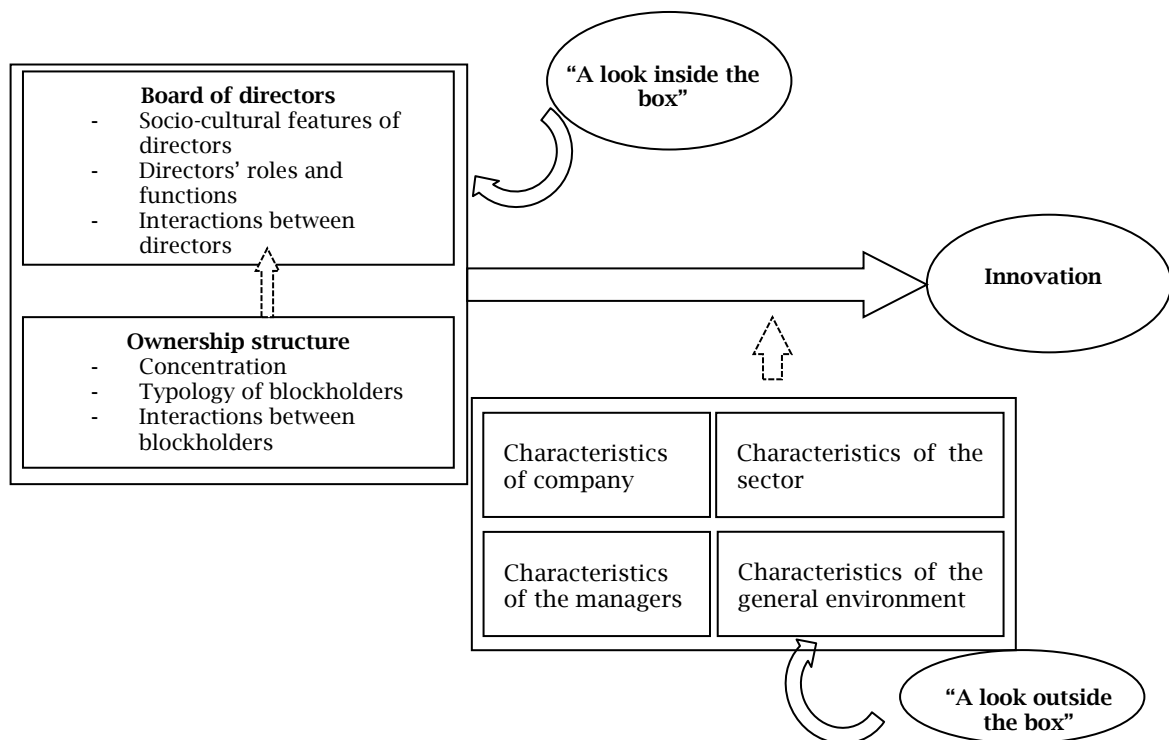
As for duality, the literature yields no conclusive results either. In the presence of duality, the board finds itself in a weak position in relation to the CEO. This can complicate the introduction of new ideas, which foster innovation (Zahra *et al.*, 2000). The centralization of corporate powers and decision-making is generally detrimental to innovation and risk taking as it takes power away from the board and increases managerial discretion (Chen and Hsu, 2009; Dalton *et al.*, 1998; Zahra *et al.*, 2000). Nevertheless, other authors consider that duality favors the elimination of ambiguity in respect to leadership and enhances the legitimacy of a strong leader, avoiding any confusion as to where

the power within the company lies (Dalton *et al.*, 1998; Sanders and Carpenter, 1998). In these cases, if the leader was disposed toward risk taking and in favor of innovative strategies, then duality could be positive.

So, as it has been previously stated, the review of the literature shows that the most common studies are those analyzing specific aspects of corporate governance regarding ownership structure or the board of directors. Nevertheless, recent research considers that simple direct relationships are not appropriate for fully understanding the influence of corporate governance on innovation. More sophisticated analyses are necessary that take into account the different casuistry and typology of the variables to be considered. Furthermore, direct relationships are increasingly enriched through mediation and moderation effects that allow to include in the models situational and contingent factors, as well as more details of the whole process, which could end up explaining the influence of corporate governance on innovation. These new tendencies in research point out the need to consider new conceptual models to better understand this relationship between corporate governance and innovation.

These new models must not only consider the most visible and measurable variables of management, but attempt to develop a more in depth look into other more complicated processes and interrelationships. Figure 3 proposes an example of one of these more detailed models.

Figure 3. New models on the relationship between corporate governance and innovation



Source: prepared by the authors

On the one hand, Figure 3 proposes to take “a look inside the box” on the functioning of corporate

governance. The purpose is not only considering the direct influence on innovation of the most typical

characteristics of governance, related to the typology of directors, their independence, ownership concentration and typology of blockholders, but also the interrelationship between directors and between owners and directors, and the processes that explain their roles and efficiency. Recent research has partially considered some of these interrelationships between ownership structure and the board. It is the case, for example, of the studies that prove that the effects of ownership structure on innovation are affected by characteristics of the board (Brunninge *et al.*, 2007; Chen and Hsu, 2009), or that the effects of the board on innovation are affected by ownership structure (Hernández *et al.*, 2010; 2014). Also, some evidence has been found about the interrelationship of different blockholders, such as institutional ownership and family ownership (Chang *et al.*, 2010; Gomez-Mejia *et al.*, 2014); and the interrelationship between some board's characteristics, such as directors' social capital features and their policy of compensation (Chen, 2014; Chen *et al.*, 2013; Deutsch, 2007). A better understanding of these variables, all their interrelationships and the real configuration and processes inside these bodies of corporate governance will help to understand their influence on innovation.

On the other hand, Figure 3 also proposes to take a "look outside the box" of corporate governance, and to analyze the possible effects of contingent and contextual variables. For example, it would be relevant to consider characteristics of the company like the company's age or size and their degree of complexity (Bertinelli, 2011; Markarian and Parbonetti, 2007; Zona *et al.*, 2013), and characteristics of its management, for example the social capital characteristics of their top managers, like their educational/professional background or their tenure (Chen *et al.*, 2013). Also, the specific industry or economic sector to which the company belongs interacts in the effects exerted by their bodies of governance on innovation (Kang *et al.*, 2007), as well as the characteristics of the environment, like its turbulence (Coles *et al.*, 2008), and the relationships of the company with competitors, suppliers and other kind of stakeholders (Kotlar *et al.*, 2014). All these variables can act as antecedents and as moderator variables affecting the relationship between corporate governance and innovation.

6. CONCLUSION

This study has two main objectives. The first consists of systematizing and visualizing the current situation of scientific research about corporate governance and its influence on innovation. The second attempts to establish what status this research has reached.

To achieve the first objective a SLR was conducted, which to the authors' best knowledge, not has been previously undertaken on the relationship between corporate governance and innovation. We think that it is interesting to conduct this kind of revision, of these two topics considered together, because to systematize and visualize the current state of the art in fields with a certain tradition could be useful to recognize proven by research and overcome models, and to know how to

advance addressing new relationships between government bodies that deserve further analyses.

The analyses carried out showed that most of the research about this subject was undertaken within the last ten years, from 2004, and that the number of studies published is relatively low, especially if compared to the analysis of the influence of corporate governance on business performance and wealth (Tsao and Chen, 2012; Van Essen *et al.*, 2012).

Furthermore, previous research has not achieved consensus on the effects of ownership concentration and the composition and structure of the board of directors on innovation. This could be due to various reasons. On the one hand, it concerns complex variables that are not uniform but rather have underlying typologies that can end up affecting innovation in different ways. On the other hand, there are different theoretical perspectives and assumptions that may explain its influence. This inconsistency in the results encourages the instigation of studies that propose more complex relationships and which examine, through moderating effects, the influence that variables of situation or context might exert; and, through the effects of mediation, all of the relationship processes that may exist between corporate governance and innovation. Thus, it is more and more common to find studies that analyze the interrelationship that may exist between the different variables of corporate governance (interrelationships between blockholders and directors, between managers and directors, between different types of directors, etc.) whose effects on innovation are evident.

Our review does not show a systematic relationship between corporate governance and innovation, although most of the research recognizes that ownership structure and boards of directors affect innovation. This finding underscores the relevance for companies to have good recommendations about the best practices in corporate governance, and the necessity for public institutions to develop codes that improve these recommendations. This kind of research emphasizes that managers are not the only important body in companies for decision-making. There are other important mechanisms to exert power and decision-making that do not act just as rubber stamps; on the contrary, these other mechanisms are necessary to exercise supervision, control, and affect strategic decisions in companies. However, previous research does not offer unique and universal recommendations on the best ownership structure and board of directors to be innovative. Consequently, each company has to look for the best governance practices in its case. For this reason, it is important to figure out the map of factors that affect the company's performance and its innovation.

This research has also limitations. Mainly, the generic search made at the beginning, based on the most analyzed topics of research, allowed us to select specific but also wide topics, like R&D, ownership structure and boards. This selection has influenced the focus of our study, leaving aside very interesting and less studied topics, like other types of non-technological innovation and other types of government not based on boards. This choice also

addressed our search of studies towards big companies, leaving aside more specific kind of companies, such as “gazelles” firms, small fast growing and innovative firms, where the role of the board may be not relevant. In addition, it would be interesting to use some other databases to expand the search, even if it means screening work to avoid duplication. Also, it would be appropriate to consider a greater number of keywords in order to obtain a greater number of articles.

Some of the following guidelines could be useful when establishing future research lines. First, it would be interesting to start searching which are the more innovative companies, and analyze the specific forms of governance used in these cases although they do not respond to the most traditional ones. Second, it might be useful to further investigate and compare different types of innovation, not just technological innovations. Finally, there is an interesting research line about the proposal of new models of relationships in the effects of corporate governance on innovation, which include mediation and moderation effects that better describe these relationships, for example between different corporate governance bodies, like top management teams and boards of directors, or amongst diverse factors and characteristics of a specific governance body in order to better understand its functioning.

This review paper does not make a contribution on an empirical level, but it does seek to contribute from a different point of view, conducting a review with a specific and exhaustive method that permits a valuable guide on an academic level for deciding future lines of research.

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ASSESSING THE EFFECTIVENESS OF INTERNAL GOVERNANCE CONTROLS: THE CASE OF INTERNAL AUDITORS SKILLS AND CHALLENGES IN LIBYA

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Abstract

Purpose: The main aim of this research is to assess the effectiveness of internal governance controls and processes with specific focus on the skills and challenges facing internal auditors operating in Libya when they conduct internal audits. This study also investigates whether Libyan internal auditors have sufficient skills needed to implement their internal audit function effectively.

Design/methodology/approach: Forty one internal auditors working in six banks and three insurance companies listed on the Libyan Stock Market were surveyed. Wilcoxon signed test and Z-test were used to test the research hypotheses.

Findings: The findings of this study illustrate that internal auditors operating in companies listed on the Libyan Stock Market have limited professional, interpersonal and technical skills. Specifically, the findings show that internal auditors in Libya have limited skills including public speaking and presentation skills. Additionally, they have limited skills of IT audit and international financial report preparation skills.

Originality/value: There is a dearth of empirical evidence on the extent of audit, interpersonal, professional and technical skills relating to internal auditors generally, but particularly acute in Arab and developing countries. This study, therefore, contributes to the literature by offering new insights with particular focus on Libya.

Keywords: Internal Governance Controls, Internal Audit, Internal Audit Function, Challenges, Libyan Stock Market, Libya

1. INTRODUCTION

Internal governance controls and processes are critical to the success of every organization (Ntim et al., 2012a, b; Ntim et al., 2015a, b; Al-Bassam et al., 2016; Al-Bassam and Ntim, 2016; Ntim et al., 2016). One such internal governance control is the role of internal audit and auditors in public corporations. Indeed, the internal audit function is an essential mission for all types of institutions especially for publicly-traded companies, where objectives are commonly difficult to measure (Onumah and Krah, 2012). However, many listed firms in countries with developed stock exchanges, such as the Australian Securities Exchange (ASX) either do not have internal audit departments or only have a small number of internal auditors (Goodwin-Stewart and Kent, 2006). In return, other stock exchanges in other developed countries, such as the New York Stock Exchange (NYSE) require listed companies to retain an effective internal audit function in order to meet the requirements of listing on the NYSE (Soh and Martinov-Bennie, 2011). According to the published report requested by the House of Lords of the UK Parliament in 2011, internal audit departments of listed firms face new challenges in recruiting the right people with the right skills. Specifically, the

smaller listed firms are more prone to face such challenges.

A number of individual theories has been developed to predict and explain the effectiveness of internal auditing, including for example: (i) communications theory, which indicates that the internal audit effectiveness depends mainly on the communication skills possessed by internal auditors (Smith, 2005; Clampitt and Downs, 1993; Carvalho, 2013); (ii) agency theory which has widely been applied not only to explain the effectiveness of external auditors, but also used to provide a useful theoretical explanations for studying the effectiveness of internal auditing (Adams, 1994; Colbert and Jahera, 2011; Mihret, 2014; Sarens and Abdolmohammadi, 2011); (iii) structuration theory, which indicates that culture, power and morality are the main structural properties needed to explain the interactions between the social actions, including accounting and auditing events (Omoteso et al., 2010; DeSanctis and Poole, 1994; Mahdavi and Daryaei, 2015); and (iv) institutional theory, which indicates that internal audit practices are basically determined by the institutional norms, which in turn identify the institutional changes required to improve the existing internal audit practices (Al-Twaijry et al., 2003; Ahmad, 2015; Mihret et al., 2012). However, very few studies have applied

multiple theoretical frameworks to examine the effectiveness of internal auditing, such as agency theory, communication theory and institutional theory (Endaya and Hanefah, 2013; Swinkels, 2012; Abdullah, 2014). Hence, this study extends the literature by applying a multi-theoretical framework.

Empirically, a recent study performed by Fourie et al. (2013) has examined the effectiveness of internal auditing by identifying the basic skills required by internal audit management teams in South Africa. These skills include general competencies, behavioural skills and technical skills. Another study has been conducted by Ahmed et al., (2009) to examine the importance of internal audit quality to foster the effectiveness of internal auditing in Malaysian public sector. The study investigated three basic skills required to enhance the effectiveness of internal auditing. These skills involve the objectivity of internal auditors, the quality of internal audit work and the competence of internal auditors, which include several skills, namely professional qualification, educational background, training and development, knowledge and experience. Further research has been performed by Cohen and Sayag (2010) to examine the effectiveness and the determinants of internal auditing function. The study examined the influence of five major skills on the internal audit quality. These skills include professional proficiency, quality of internal audit work, organisational independence, career advancement, and top management support.

The extant literature review shows that the number of studies that have been conducted on examining the effectiveness of the internal audit function in developing countries is very limited (Al-Twajry et al., 2003; Stewart and Subramaniam, 2010; Ahmad et al., 2009; Mihret and Yismaw, 2007; Lagoarde-Segota and Lucey, 2008). This study, therefore, contributes to the literatures on the internal audit function in a different context. Theoretically, this research contributes to the literature by applying and testing multi-theoretical perspective to examine the challenges facing internal auditors operating in listed firms on the Libyan Stock Market. There is a dearth of empirical evidence on the extent of audit, interpersonal, professional and technical skills relating to internal auditors generally, but particularly acute in Arab and developing countries. This study, therefore, contributes to the literature by offering new insights with particular focus on Libya.

The rest of this paper is organised as the following sections. The next section outlines the Libyan internal auditing setting. Thereafter, section 3 discusses the theoretical and empirical literature and develops hypotheses. After that, section 4 presents the research design and methodology. Finally, section 5 reports the empirical findings and discussion, whilst section 6 the summary and conclusion.

2. LIBYAN INTERNAL AUDITING SETTING

According to the 1953 Libyan Commercial Code, all Libyan public companies should have internal audit department to be headed by a director. Additionally, Libyan public firms are required to appoint external auditors to audit their financial statements primarily for tax purposes (Abuazza, et al., 2015). The

Treasury Ministry of Libya established the State Accounting Bureau (SAB) under the 1955 Legal Act (number 35). Thereafter, in 1988, the SAB was combined with the Institute of Public Control (IPC) that released in order to ensure that all local and foreign corporations operating in Libya were running according with the Libyan laws and regulations. Subsequently, due to the shortage level of accounting and auditing standards and practices in Libya, the government established the Law No 116 in 1973 to govern accounting and audit standards. Afterward, the government established the Libyan Association of Accountants and Auditors (LAAA) in 1975 with a view to increase the standards of accountants and auditors professionally (Ahmad and Gao, 2004). Thereafter, the Government of Libya has released the 1996 Legal Act (number 55), which requires public companies to be audited by the General Auditor (Abuazza, et al., 2015).

According to the 1973 Legal Act, number 116 (subsection 32), an auditor must register with the institute of chartered accountant (LAAA) before he/she can practice as an auditor. In order to register within the LAAA institute, an auditor should possess a higher educational degree in accounting and should also have gained practical working good experience in accounting and auditing in one of the independent public accounting and auditing bureaux for five years after graduation (Sawan and Alzeban, 2015). With regard to International Standards on Auditing (ISAs), they are not required officially and therefore, are not applied within the Libyan context. This is due to the absence of professional bodies that can encourage companies to adopt these standards in Libya, such as the Institute of Internal Auditors (Al-Kilani, 2002). With respect to IFRS, Laga (2012) stated that listed firms that have recently adopted IFRS in Libya are facing many obstacles due to the apparent shortage of highly qualified professional accountants and auditors with the requisite professional and technical skills.

Against this background, this study seeks to ascertain the various challenges facing internal auditors in carrying out their internal audit roles.

3. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

3.1. Theoretical literature review

This research uses multi-theoretical framework as an integral theory to examine the challenges facing internal auditors in Libya. This section, therefore, briefly reviews these theories.

3.1.1. Communication theory

According to communication theory, all internal auditors need to improve their communication skills (Endaya and Hanefah, 2013). In a similar vein, Smith (2005) indicated that communications skills play a crucial role to in creating a successful career for internal auditors. Owing to the rapid changed in technology, internal auditors are becoming not just investigators, but business partners as well. Hence, internal auditors have to possess high levels of communication and interpersonal skills that can help them to provide consultations to senior management teams in order to help them to make

right decisions. According to Clampitt and Downs (1993) an effective communication between managers and employees can have a positive effect on corporate profitability and productivity. It can also reduce costs and increase the quality of goods and services.

3.1.2. Structuration theory

Structuration theory consists of two major components, namely structure and agency. Structures relate to rule-based resource groups that can identify productivity of strategies and social activities across corporations, while agency is to determine the capabilities of employees to act purposefully (Omoteso et al., 2010). However, Rose and Jones (2004) stated that technology can also be seen as an agent because it can help organisations to articulate influences of information and communications technology (ICT) on their performance. Further, DeSanctis and Poole (1994) who developed adaptive structuration theory (AST) suggested that AST illustrates the relationship between sophisticated IT, human interaction and social structures. Moreover, using a particular technology depends on many factors, such as the type of technology itself, the business environment, standards, pressures and structures that are associated with the technology. Thus, new structures provided by sophisticated technology should be consistent with current organisational practices. In this regard, Dowling (2009) reported that a faithful use of technology can be achieved when all internal audit members use the audit support system in a way that is consistent with the intentions of their companies.

3.3.3. Institutional theory

According institutional theory, organisations are embedded within their wider institutional environment. However, there is a new concept of institutional theory, which indicates that mutual relations between the internal and external environments define the behaviour of the organisation. As a result, many researchers in auditing have interpreted that companies facing similar challenges may exhibit similar behaviour (Arena and Azzone (2007). The institutional theory has therefore provided a way of developing internal audit departments in developing countries. This is because most of internal audit departments have established in order to meet the aims of ruling governments without looking at available resources, training and education, qualification of auditors, independence and audit scope. Hence, internal audit function is often ineffective because most companies tend to be concentrate on complying with audit rules instead of audit improving their actual audit performance (Al-Twaijry et al., 2003; Dessalegn et al., 2012).

3.2. Empirical literature and hypotheses development

This section discusses prior empirical studies that have tried to examine the four key skills needed to implement the internal auditing function effectively.

3.2.1. Professional skills

There is no specific qualification required from corporations to employ internal auditors. Nonetheless, some countries request CIA to employ some people as internal auditors. However, other certificates such as ACCA, CFE, CPA, and CISA might also be acceptable, but most of internal auditors tend to acquire (CIA) because it shows that they have a practical and theoretical knowledge about the audit job (Savcuk, 2007; Moeller, 2005). Empirically, Carey et al. (2006) carried out a survey about whether listed companies in the Australian Stock Exchange rely on their internal audit staff or use outsourcing to conduct the internal audit function. The results of this study illustrated that about 55% of these companies relied on their own internal audit staff, while 45% of these companies outsourced their internal audit function. The study also concluded that the examined firms tended to outsource the internal audit function when they intend to expand their business and also to reduce the cost of training their employees. Another recent research was conducted by Inua and Abianga (2015) to examine the influence of outsourcing of the internal audit function on the independence of internal auditors in Nigeria. The findings of the study concluded that although outsourcing of internal auditing function has some advantages for firms and clients, it has a number of disadvantages, such as hindering the independence of external auditors, when they provide internal audit services to organisations, whilst at same the time they serve external auditors. Therefore, this study posits the following hypothesis:

H1: Internal auditors operating in the banking and insurance companies listed on the Libyan Stock Market have sufficient professional skills required to implement the audit function.

3.2.2. Interpersonal skills

Karan (2011) stated that the interpersonal skill is one of the most important non-technical skills that internal auditors should develop in order to improve their audit communication throughout a corporation. Empirically, Plant and Slippers, (2015) examined whether postgraduate internal audit students in South Africa have the sufficient communication skills after taking a business communication course. The findings of the study revealed that postgraduate students have benefited from the course and their interpersonal skills have been remarkably developed. These soft skills comprise presentation skills, verbal skills and written communication skills. Further study implemented by Tabone (2010) reported that the role of internal audit mission has increased over the past few decades and it is likely to increase in the foreseeable future. The results of the study showed that the top two important skills: (i) soft skills, including critical thinking and analyses; and (ii) technical skills, encompassing knowledge of risk management processes. Both of these skills are needed in order to help internal auditor to meet emerging challenges. Therefore, this study formulates the next hypothesis:

H3: Internal auditors operating in the banking and insurance companies listed on the Libyan Stock

Market have sufficient interpersonal skills required to implement the audit function.

3.2.3. Technical skills

The technical skills are very essential to internal auditors for assessing risk management and understanding the security system of a company (Whitehouse, 2011). Empirically, Abu-Musa (2008) studied the impact of IT on internal auditors' activities in Saudi Arabia. The findings concluded that the performance of internal auditors of IT audit depends on many factors such as the number of internal auditors who specialists in IT audit and the type of industry. Another study implemented by Taghavi et al. (2013) examined the factors that influencing the IT audit in Iran. The results of the study displayed that internal auditors who have good perceptions towards IT audit tend to take advantage of IT skills needed thus improve their IT audit skills. Moreover, the educational level of internal auditors have a big impact on implementing IT audit, while job experience does not have any effect on IT audit. Christensen (2015) referred to a recent survey conducted by Protiviti Company's about audit ability and IT skills needed. The survey included about 700 of internal auditors and about 22% of them were chief audit executives (CAEs). The study concluded that internal auditors need more concentration on their IT skills which have been developed very fast in recent times. Moreover, auditors should have better understanding of audit IT techniques such as data analysis software and business networking. Therefore, this study proposes the following hypothesis:

H2: Internal auditors operating in the banking and insurance companies listed on the Libyan Stock Market have adequate technical skills required to implement the audit function.

3.2.4. Audit skills

Internal audit function is facing new challenges at the present time. These challenges need additional audit skills to avoid any skills gaps (Ridley, 2008). Empirically, Al Sawalqa and Qtish (2012) studied the relationship between the effectiveness of internal auditing function and the environment and the activities of internal auditing in Jordan. The findings of the study showed that the environment and activities of internal auditing do not provide an efficient internal auditing programme. Another study conducted by Jung and Hui (1998) investigated the internal auditing effectiveness of listed companies in Taiwan. They studied the factors that can impact the effectiveness of internal auditing. The findings of the study deduced that there are many factors that affect the effectiveness of internal auditing by the top management team.

These factors include management's behaviour, controller's behaviour, promotion programmer, training and development agenda and the professional capabilities of auditors. A recent study performed by Mebratu (2015) examined the challenges facing internal auditing function of public sector organisations in Ethiopia. The study found a positive correlation between the role of internal auditors in assessing risk management and some factors including compliance with audit standards, access to data, and support from the top management. However, they found negative correlation between the role of internal auditors in assessing risk management and a number of other factors, namely adequate funding, qualified internal auditors and organisational independence. Therefore, this study posits the following hypothesis:

H4: Internal auditors operating in the banking and insurance companies listed on the Libyan Stock Market have sufficient audit skills required to implement the audit function.

4. RESEARCH METHODOLOGY

4.1. Population and research sample

The population of this research included internal auditors operating in listed companies on the Libyan Stock Market (LSM) in order to evaluate the challenges facing these auditors. During the research interval in 2014, a sample of internal auditors operating in six banks and three insurance companies listed in the LSM has been randomly selected. The banks and insurance companies listed on the LSM have been chosen as a sample for this study because these institutions are considered to be the most active institutions on the LSM since it was established in 2007. These banks include Wahda Bank, Al jumhuria Bank, Sahara Bank, National Commercial Bank, Trade Bank, and Mediterranean Bank, as well as three Insurance companies, namely Sahara Insurance, Libya Insurance Co, and United Insurance Company.

4.2. Data Collection

This research relied on a questionnaire with open-ended questions to collect the data. The questionnaire was designed to investigate the presence of four key skills needed to implement the audit function effectively including professional, interpersonal, technical, and audit skills. A total of 50 questionnaires were distributed randomly to internal auditors operating in listed banks and insurance companies on the LSM. Table 1 shows the number of questionnaires distributed and the number of valid questionnaires received.

Table 1. Survey Responses

<i>Research sample</i>	<i>Number of distributed questionnaires</i>	<i>Number of valid received questionnaires</i>	<i>Percentage %</i>
Wahda Bank	5	4	8%
Al jumhuri Bank	7	6	12%
Sahara Bank	5	5	10%
National Commercial Bank	6	4	8%
Trade Bank	7	6	12%
Mediterranean Bank	5	3	6%
Sahara Insurance Company	4	4	8%
Libya Insurance Company	6	5	10%
United Insurance Company	5	4	8%
Total	N= 50 (100%)	41	82%

Source: researcher development

5. EMPIRICAL ANALYSES AND DISCUSSION

This study relied on descriptive statistics to reflect on the effectiveness of internal auditing function in the most active companies listed on the LSM. The frequency distribution is used to find out the challenges facing the internal audit function of the banking and insurance companies listed on the

Libyan Stock Market. The data was analysed by using SPSS.

5.1. The first axis

Table 2 shows the frequency distribution and the percentage for each question related to the availability of professional skills needed to implement the audit function effectively.

Table 2. The frequency distribution of professional skills needed to implement internal audit job

<i>N.</i>	<i>Questions</i>	<i>Frequency</i>	<i>No</i>	<i>Yes</i>	<i>Total</i>
		<i>Percent %</i>			
Q1.12	Do you think that you need to be trained into the professional skills fields?	Frequency	29	12	41
		Percent %	70.7%	29.3%	100%
Q1.13	Do you think that you need to be trained into the time management skills?	Frequency	25	16	41
		Percent %	61.0%	39.0%	100%
Q1.14	Do you think that you need to be trained in the conflict resolution and negotiating skills?	Frequency	13	28	41
		Percent %	31.7%	68.3%	100%
Q1.15	Do you think that you need to be trained into the participation skills in decision-making?	Frequency	22	19	41
		Percent %	53.7%	46.3%	100%
Q1.16	Do you think that you need to be trained to increase your ability to handle multiple tasks at the same time?	Frequency	28	13	41
		Percent %	68.3%	31.7%	100%
Q1.17	Do you have good knowledge about the local and international laws and regulations that your organization should comply with?	Frequency	30	11	41
		Percent %	73.2%	26.8%	100%
Q1.18	Do internal auditors operating in your organization communicate with the audit committee of your organization?	Frequency	37	4	41
		Percent %	90.2%	9.8%	100%

Table 3. Wilcoxon Signed Ranks test (Descriptive Statistics related to professional skills)

<i>N</i>	<i>Questions</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Test Z Statistics</i>	<i>Asymp. Sig. (2-tailed)</i>
Q 1.1	Do you speak English?	41	1.37	0.488	-1.718 ^a	0.086
Q 1.2	Have you obtained Intermediate Diploma?	41	1.22	0.419	-3.592 ^a	0.000
Q 1.3	Have you obtained Bachelor Degree?	41	1.76	0.435	-3.280 ^b	0.001
Q 1.4	Have you obtained Master Degree?	41	1.24	0.435	-3.280 ^b	0.001
Q 1.5	Is Accounting your specialty?	41	1.88	0.331	-4.841 ^b	0.000
Q 1.6	Is Legal your specialty?	41	1.15	0.358	-4.529 ^a	0.000
Q 1.7	Is Management your specialty?	41	1.02	0.156	-6.091 ^a	0.000
Q 1.8	Is Economy your specialty?	41	1.02	0.156	-6.091 ^a	0.000
Q 1.9	Have you ever obtained any certificate in professional qualifications?	41	1.37	0.488	-1.718 ^a	0.086
Q 1.10	Have you ever obtained any certificate in audit professional qualifications?	41	1.32	0.471	-2.343 ^a	0.019
Q 1.11	Have you ever obtained any certificate in professional qualifications in IT?	41	1.17	0.381	-4.217 ^a	0.000
Q 1.12	Do you think that you need to be trained into the professional skills?	41	1.29	0.461	-2.655 ^a	0.008
Q 1.13	Do you think that you need to be trained into the time management skills?	41	1.39	0.494	-1.406 ^a	0.16
Q 1.14	Do you think that you need to be trained in the conflict resolution and negotiating skills?	41	1.68	0.471	-2.343 ^b	0.019
Q 1.15	Do you think that you need to be trained into participation skills in decision-making?	41	1.46	0.505	-.469 ^a	0.639
Q 1.16	Do you think that you need to be trained to increase your ability to handle multiple tasks at the same time?	41	1.32	0.471	-2.343 ^a	0.019
Q 1.17	Do you have good knowledge about the local and international laws and regulations that your organization should comply with?	41	1.27	0.449	-2.967 ^a	0.003
Q 1.18	Do internal auditors who operating in your organization communicate with the audit committee in your organization?	41	1.1	0.3	-5.154 ^a	0.000

Table 3 reports the overall average for the answers relevant to all questions of the first axis. The Z-test was also used on average (1.5), the results have shown in Table 3. Table 3 shows that the mean of some questions are greater than the supposed median for all questions in the first axis which consists of two choices Yes or No. Therefore, the supposed median is 1.5 and the significance levels of these questions are less than 5%. Where a= is based on negative ranks, b is based on positive ranks and c is indicating to Wilcoxon Signed Ranks Test. Therefore, this study investigates whether the

overall median of the availability of professional skills is equal or different from 1.5.

H0: M = 1.5 H1: M \neq 1.5

Table 4 showed that the value of Sig (2-tailed) 0.000 is less than the significance level $\alpha = 0.05$. Therefore, we reject the null hypothesis and accept the alternative hypothesis. Moreover, the overall average mean of all answers of the first axis is 1.335 which is less than the assumed median namely 1.5. This proves that internal auditors operating in listed firms in LSM suffer from lacking into their professional skills.

Table 4. One-Sample Statistics degree of professional skills possess by internal auditors

	<i>Test Value = 1.5</i>					
	t	d.f	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
MQ1. The availability of professional skills needed to implement the audit function effectively.	-8.720	40	0.000	-.16531	-.2036	-.1270

5.2. The second axis

The table 5 in the appendices explains the frequency distribution and the percentage of all participants about the second axis related to the interpersonal skills needed to implement the audit function effectively. The median of the second axis that

consists of 5 answers is 3, therefore, the next statistical hypotheses have been assumed to examine whether the significance level for each question about interpersonal skills is equal or different from 3.

H0: M = 3

H1: M \neq 3

Table 5. The frequency of interpersonal skills needed to implement the audit function effectively

N	Statements	Frequency Percent %	Extremely important	Very important	important	unimportant	unimportant at all
11	Training internal auditors on the interpersonal skills and capabilities	Frequency	13	14	14	0	0
		Percent %	31.7	34.1	34.1	0	0
12	Training internal auditors on presentation and public speaking skills	Frequency	20	6	9	6	0
		Percent %	48.8	14.6	22	14.6	0
13	Training internal auditors on verbal skills	Frequency	4	5	19	11	2
		Percent %	9.8	12.2	46.3	26.8	4.9
14	Training internal auditors on writing skills	Frequency	14	17	6	3	1
		Percent %	34.1	41.5	14.6	7.3	2.4
15	Training internal auditors on reading skills	Frequency	5	10	13	11	2
		Percent %	12.2	24.4	31.7	26.8	4.9
16	Continuous training for internal auditors on presentation and public speaking skills	Frequency	19	8	9	4	1
		Percent %	46.3	19.5	22	9.8	2.4
17	Continuous training for internal auditors on reading and writing skills	Frequency	6	19	12	3	1
		Percent %	14.6	46.3	29.3	7.3	2.4
18	Continuous training for internal auditors to develop their interaction with audit committee	Frequency	18	13	7	2	1
		Percent %	43.9	31.7	17.1	4.9	2.4
19	Continuous training for internal auditors to develop their relationship with other committees of the Board of Directors	Frequency	3	12	8	16	2
		Percent %	7.3	29.3	19.5	39	4.9
20	Continuous training for internal auditors on critical thinking skills.	Frequency	11	12	5	9	4
		Percent %	26.8	29.3	12.2	22	9.8
21	Continuous training for internal auditors on leadership skills	Frequency	13	7	10	8	3
		Percent %	31.7	17.1	24.4	19.5	7.3
22	Continuous training for internal auditors on persuasion skills.	Frequency	9	18	7	5	2
		Percent %	22	43.9	17.1	12.2	4.9
23	Continuous training for internal auditors to teach them how they can work with teams	Frequency	16	8	15	1	1
		Percent %	39	19.5	36.6	2.4	2.4

Source: Statistical Package for Social Science SPSS

Table 6. The frequency of interpersonal skills needed to implement the audit function effectively

	Questions / statements	N	Mean	Std. Deviation	Test Z Statistics ^c	Asymp. Sig. (2-tailed)
Q 2.1	Is your age from 20-30 years	41	2.15	0.527	-5.466 ^a	0.000
Q 2.2	Is your age from 31-40 years	41	2.78	0.988	-1.406 ^a	0.16
Q 2.3	Is your age from 41-50 years	41	2.61	0.9186	-2.530 ^a	0.011
Q 2.4	Is your age from 51-60 years	41	2.49	0.87	-3.280 ^a	0.001
Q 2.5	Are you over 60 years old	41	2.17	0.629	-5.126 ^a	0.000
Q 2.6	Have you ever worked as an internal auditor at any other institutions listed in Stock Markets	41	2.32	0.722	-4.427 ^a	0.000
Q 2.7	Have you been working as an internal auditor in this institution for less than five years	41	2.41	0.865	-3.618 ^a	0.000
Q 2.8	Have you been working as an internal auditor in this institution from 6 to 10 years	41	2.85	1.038	-.905 ^a	0.366
Q 2.9	Have you been working as an internal auditor in this institution from 11 to 20 years	41	2.61	0.972	-2.412 ^a	0.016
Q 2.10	Have you been working as an internal auditor in this institution for more than 20 years	41	2.34	0.762	-4.217 ^a	0.000
Q 2.11	Training internal auditors on the interpersonal skills and capabilities	41	3.98	0.821	-4.681 ^b	0.000
Q 2.12	Training internal auditors on presentation and public speaking skills	41	3.98	1.151	-4.364 ^b	0.000
Q 2.13	Training internal auditors on verbal skills	41	2.95	0.999	-.205 ^a	0.838
Q 2.14	Training internal auditors on writing skills	41	3.95	1.094	-4.198 ^b	0.000
Q 2.15	Training internal auditors on reading skills	41	3.12	1.1	-.770 ^b	0.442
Q 2.16	Continuous training for internal auditors on public speaking and presentation skills	41	3.98	1.151	-4.180 ^b	0.000
Q 2.17	Continuous training for internal auditors on reading and writing skills	41	3.63	0.915	-3.592 ^b	0.000
Q 2.18	Continuous training for internal auditors to develop their interaction with audit committee	41	4.1	1.02	-4.528 ^b	0.000
Q 2.19	Continuous training for internal auditors to develop their relationship with other Board Committees	41	2.95	1.094	-.261 ^a	0.794
Q 2.20	Continuous training for internal auditors on critical thinking skills.	41	3.41	1.36	-1.917 ^b	0.055
Q 2.21	Continuous training for internal auditors on leadership skills	41	3.46	1.325	-2.294 ^b	0.022
Q 2.22	Continuous training for internal auditors on persuasion skills.	41	3.66	1.109	-3.203 ^b	0.001
Q 2.23	Continuous training for internal auditors to teach them how they can work with teams	41	3.9	1.044	-4.028 ^b	0.000

Table 7. One-Sample Statistics degree of interpersonal skills possessed by internal auditors

	N	Mean	Std. Deviation	Std. Error Mean
MQ2. The availability of interpersonal skills needed to implement the audit function effectively.	41	3.1220	.28398	.04435

Table 8. One-Sample Test - degree of interpersonal skills possess by internal auditors

	Test Value = 3					
	t	d.f.	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
MQ2. The availability of interpersonal skills needed to implement the audit function effectively.	2.750	40	.009	.12195	.0323	.2116

Table 6 shows that the significance levels of the most questions of the second axis are less than 5%, while, it is greater than 0.05 for other questions which means that internal auditors have skills shortage in these areas. Table 7 shows the overall mean of all answers of the second axis = 3.122 bigger than the overall mean 3. This proves that internal auditors operating on listed firms on the LSM are skills shortage into their interpersonal skills. Tables 8 showed that the value of Sig (2-tailed) = 0.009 is less than the significance level $\alpha = 0.05$. Therefore, we reject the null hypothesis and accept the alternative hypothesis. This means that internal

auditors operating on listed firms on LSM suffer from lacking into their interpersonal skills.

5.3. The third axis

The table 9 shows the frequency distribution and the percentage of all answers of the third axis related to the technical skills. The median of the third axis that consists of 5 answers is =3. Therefore, this study investigates whether the overall median of the technical skills needed is equal or different from 3.

$$H_0: M = 3 \quad H_1: M \neq 3$$

Table 9. The frequency of technical skills needed to implement the audit function effectively

<i>Statements</i>	<i>Frequency Percent %</i>	<i>Extremely important</i>	<i>Very important</i>	<i>important</i>	<i>unimportant</i>	<i>unimportant at all</i>
Internal audit members are the responsible set for assessing the enterprise risk management in your institution	Frequency	0	10	0	31	0
	Percent %	0	24.4	0	75.6	0
The Chairman is the responsible person for assessing the enterprise risk management in your institution	Frequency	0	24	0	17	0
	Percent %	0	58.5	0	41.5	0
The audit Committee are the responsible party for assessing the enterprise risk management in your institution	Frequency	0	8	0	33	0
	Percent %	0	19.5	0	80.5	0
The chief audit executive is the responsible person for assessing the enterprise risk management in your institution	Frequency	0	11	0	30	0
	Percent %	0	26.8	0	73.2	0
The risk management department is the responsible party for assessing the enterprise risk management in your institution	Frequency	0	11	0	30	0
	Percent %	0	26.8	0	73.2	0
Does your organization have a written official guide about the risk management process?	Frequency	0	21	0	20	0
	Percent %	0	51.2	0	48.8	0
Do you think that internal auditors operating in your organization need more training courses on the IT audit	Frequency	0	40	0	1	0
	Percent %	0	97.6	0	2.4	0
Do you think that internal auditors operating in your organization need more training programs to maintain the information safe?	Frequency	0	20	0	21	0
	Percent %	0	48.8	0	51.2	0
Do you think that internal auditors operating in your organization need more training courses on forensic accounting	Frequency	0	20	0	21	0
	Percent %	0	48.8	0	51.2	0
Do you think that internal auditors operating in your organization need more training on how they can detect manipulation and fraud in IT?	Frequency	0	40	0	1	0
	Percent %	0	97.6	0	2.4	0
Do you think that internal auditors operating in your organization need more training courses on how to conduct statistical analysis of the financial statements	Frequency	0	32	0	9	0
	Percent %	0	78	0	22	0
Do you think that internal auditors operating in your organization need more training program on how to retrieve and backup data	Frequency	0	27	0	14	0
	Percent %	0	65.9	0	34.1	0
IT risk is a fundamental portion of internal audit function	Frequency	21	16	4	0	0
	Percent %	51.2	39	9.8	0	0
The legal risk is a fundamental portion of internal audit function	Frequency	16	16	9	0	0
	Percent %	39	39	22	0	0
The fraud risk is a fundamental portion of internal audit function	Frequency	25	15	0	1	0
	Percent %	61	36	0	2.4	0
The strategic risk is a fundamental portion of internal audit function	Frequency	5	9	18	9	0
	Percent %	12.2	22	43.9	22	0
The Financial risk is a fundamental portion of internal audit function	Frequency	26	14	1	0	0
	Percent %	63.4	34.1	2.4	0	0
The environmental risk is a major part of internal audit function	Frequency	2	12	24	3	0
	Percent %	4.9	29.3	58.5	7.3	0
The tax audit risk is an essential part of the internal audit function 7	Frequency	4	19	15	3	0
	Percent %	9.8	46.3	36.6	7.3	0
Assessing the enterprise risk management by internal auditors	Frequency	8	11	11	11	0
	Percent %	19.5	26.8	26.8	26.8	0
Improve the internal auditor's abilities in data collection and analysis skills	Frequency	14	19	7	1	0
	Percent %	34.1	46.3	17.1	2.4	0
Improve the internal auditor's capabilities in IT audit	Frequency	26	14	1	0	0
	Percent %	63.4	34.1	2.4	0	0
Improve the internal auditor's ability to retrieve and backup data.	Frequency	3	8	23	7	0
	Percent %	7.3	19.5	56.1	17.1	0
Improve the internal auditors' abilities to comply with ISO 27000 for information security standards	Frequency	4	17	18	2	0
	Percent %	9.8	41.5	43.9	4.9	0
Improve the internal auditors abilities to prepare financial reports in accordance with IFRS	Frequency	29	10	2	0	0
	Percent %	70.7	24.4	4.9	0	0
Develop the internal auditors' skills to use information technology in the audit profession	Frequency	25	14	1	1	0
	Percent %	61	34.1	2.4	2.4	0
Develop internal auditors' skills in protection data and information technology from breakthrough	Frequency	12	15	10	4	0
	Percent %	29.3	36.6	24.4	9.8	0
Develop the internal auditors' skills to monitor any change in insertion data about the financial statements	Frequency	8	23	9	1	0
	Percent %	19.5	56.1	22	2.4	0
Improve internal auditors' skills on how to use and operate computers	Frequency	21	11	7	1	1
	Percent %	51.2	26.8	17.1	2.4	2.4

Source: Statistical Package for Social Science (SPSS)

Table 10. Wilcoxon Signed Ranks Test (Descriptive Statistics related to technical skills)

<i>N</i>	<i>Questions/ statements</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Z Test Statisticsc</i>	<i>Asymp. Sig. (2-tailed)</i>
Q 3.1	Internal audit members are the responsible set for assessing the enterprise risk management in your institution	41	2.49	0.87	-3.280a	0.001
Q 3.2	The Chairman is the responsible person for assessing the enterprise risk management in your institution	41	3.17	0.998	-1.093b	0.274
Q 3.3	The audit Committee are the responsible party for assessing the enterprise risk management in your institution	41	2.39	0.802	-3.904a	0.000
Q 3.4	The chief audit executive is the responsible person for assessing the enterprise risk management in your institution	41	2.54	0.897	-2.967a	0.003
Q 3.5	The risk management department is the responsible party for assessing the enterprise risk management in your institution	41	2.54	0.897	-2.967a	0.003
Q 3.6	Does your organization have a written official guide about the risk management process	41	3.02	1.012	-.156b	0.876
Q 3.7	Do you think that internal auditors operating in your organization need more training courses on the IT audit	41	3.95	0.312	-6.091b	0.000
Q 3.8	Do you think that internal auditors operating in your organization need more training programs to maintain information safe	41	2.98	1.012	-.156a	0.876
Q 3.9	Do you think that internal auditors operating in your organization need more training courses on forensic accounting	41	2.98	1.012	-.156a	0.876
Q 3.10	Do you think that internal auditors operating in your organization need more training on how they can detect manipulation and fraud in information technology	41	3.95	0.312	-6.091b	0.000
Q 3.11	Do you think that internal auditors operating in your organization need more training courses on how to conduct statistical analysis of the financial statements	41	3.56	0.838	-3.592b	0.000
Q 3.12	Do you think that internal auditors operating in your organization need more training program on how to retrieve and backup data	41	3.32	0.96	-2.030b	0.042
Q 3.13	IT risk is a fundamental portion of internal audit function	41	4.41	0.67	-5.479b	0.000
Q 3.14	The legal risk is a fundamental portion of internal audit function	41	4.17	0.771	-5.090b	0.000
Q 3.15	The fraud risk is a fundamental portion of internal audit function	41	4.56	0.634	-5.667b	0.000
Q 3.16	The strategic risk is a fundamental portion of internal audit function	41	3.24	0.943	-1.697b	0.09
Q 3.17	The Financial risk is a fundamental portion of internal audit function	41	4.61	0.542	-5.734b	0.000
Q 3.18	The environmental risk is a major part of internal audit function	41	3.32	0.687	-2.707b	0.007
Q 3.19	The tax audit risk is an essential part of the internal audit function	41	3.59	0.774	-3.870b	0.000
Q 3.20	Assessing the enterprise risk management by internal auditors	41	3.39	1.093	-2.296b	0.022
Q 3.21	Improve the internal auditor's abilities in data collection and analysis skills	41	4.12	0.781	-5.075b	0.000
Q 3.22	Improve the internal auditor's capabilities in IT audit	41	4.61	0.542	-5.734b	0.000
Q 3.23	Improve the internal auditor's ability to retrieve and backup data.	41	3.17	0.802	-1.380b	0.167
Q 3.24	Improve the internal auditors' abilities to comply with ISO 27000 for information security standards	41	3.56	0.743	-3.854b	0.000
Q 3.25	Improve the internal auditors abilities to prepare financial reports in accordance with IFRS requirements	41	4.66	0.575	-5.746b	0.000
Q 3.26	Develop the internal auditors' skills to use information technology in the audit profession	41	4.51	0.779	-5.350b	0.000
Q 3.27	Develop internal auditors skills in protection 'information technology from breakthrough	41	3.85	0.963	-4.223b	0.000
Q 3.28	Develop the internal auditors' skills to monitor any change in insertion data about the financial statements	41	3.93	0.721	-4.969b	0.000
Q 3.29	Improve internal auditors skills on how to use and operate computers	41	4.22	0.988	-4.756b	0.000

Table 10 illustrates that the significance levels of the most questions of the third axis are less than 5%, while it is greater than 0.05 for other questions. Therefore, in order to test the third hypothesis related to the technical skills, the overall mean has

been computed to test the significant median difference for all questions of the third axis and the Z-test has been also calculated and the results are shown in tables 11 and 12 respectively.

Table 11. One-Sample Statistics- degree of technical skills possess by internal auditors

	N	Mean	Std. Deviation	Std. Error Mean
MQ3 the availability of technical skills needed to implement the audit function effectively	41	3.6140	.23504	.03671

Table 12. One-Sample Test- degree of technical skills possess by internal auditors

	Test Value = 3					
	t	d.f	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
MQ3 the availability of technical skills needed to implement the audit function effectively	16.726	40	0.000	.61396	.5398	.6881

Table 11 shows that the overall mean for all answers of the third axis = 3.6140 bigger than the assumed value = 3. This proves that internal auditors operating on listed banks and insurance companies on the LSM suffer from lacking into their technical skills. The table 12 also proves that because the value of Sig (2-tailed) 0.000 is less than the significance level 0.05. This means that overall median of the technical skills is different from 3.

The table 13 in the appendices shows the frequency distribution and the percentage of all answers of the fourth axis related to the audit skills. The median of the fourth axis that consists of two choices, therefore the hypothetical median is = 1.5. Therefore, the next statistical hypotheses have been proposed to examine the significance level for each question related to the audit skills and also to investigate whether the overall median of the existing audit skills needed to perform the audit function efficiently is equal or different from 1.5.

H0: M = 1.5 H1: M ≠ 1.5

5.4. The fourth axis

Table 13. The frequency of audit skills needed to implement the audit function effectively

N	Statements	Frequency Percent %	Yes	No
1	Is there a shortage into the skills of internal auditors who operating in the listed companies in the Libyan Stock Market?	Frequency	37	4
		Percent %	90.2	9.8
2	Does your institution rely on some colleges or universities to fill in any skills gaps into its internal audit department?	Frequency	4	37
		Percent %	9.8	90.2
3	Does your institution train its current in-house internal auditors to fill in any skills gaps into its internal audit department?	Frequency	33	8
		Percent %	80.5	19.5
4	Does your institution rely on outsourcing people that have good experience in the audit knowledge to fill in any skills gaps into its internal audit department?	Frequency	17	24
		Percent %	41.5	58.5
5	Does your institution rely on external auditing bureaus that have good knowledge about auditing skills to fill in any skills gaps into its internal audit department?	Frequency	17	24
		Percent %	41.5	58.5
6	Do you think that organizations usually rely on outsourcing in order to benefit from their wide experiences?	Frequency	33	8
		Percent %	80.5	19.5
7	Do you think that organizations usually rely on outsourcing because the cost of hiring outsourcing is cheaper than train their current in-house audit members?	Frequency	5	36
		Percent %	12.2	87.8
8	Do you think that organizations usually rely on outsourcing because most in-house auditors are suffering from lacking their skills in the software audit knowledge?	Frequency	25	16
		Percent %	61	39
9	Do you think that organizations usually rely on outsourcing because outsourcing often associate with organizations by temporary contracts which do not cost the company any long-term obligations?	Frequency	16	25
		Percent %	39	61
10	Does your organization measure the skills of internal auditors by calculating the average number of working years in audit department?	Frequency	28	13
		Percent %	68.3	31.7
11	Does your organization measure the skills of internal auditors by calculating the number of working hours of annual training program on how to perform the internal audit profession effectively?	Frequency	11	30
		Percent %	26.8	73.2
12	Does your organization measure the skills of internal auditors by calculating the number and the type of certificates obtained by internal audit staff?	Frequency	7	34
		Percent %	17.1	82.9
13	Does your organization measure the skills of internal auditors by calculating the period of stay into the internal audit function in a company or industry alike?	Frequency	27	14
		Percent %	65.9	34.1
14	Do you usually take training program for less than a month in a year in your internal audit department?	Frequency	26	15
		Percent %	63.4	36.6
15	Do you usually take training program from a month to three months in a year in your internal audit department?	Frequency	13	28
		Percent %	31.7	68.3
16	Do you usually take training program for more than six months in yearly in your internal audit department?	Frequency	2	39
		Percent %	4.9	95.1

Source: Statistical Package for Social Science SPSS

Table 14. Wilcoxon Signed Ranks Test (Descriptive Statistics related to audit skills)

N	Questions	N	Mean	Std. Deviation	Test Z Statistics ^c	Asymp. Sig. (2-tailed)
Q 4.1	Is there a shortage into the skills of internal auditors who operating in the listed companies in the Libyan Stock Market?	41	1.9	0.3	-5.154 ^a	0.000
Q 4.2	Does your institution rely on some colleges or universities to fill in any skills gaps into its internal audit department?	41	1.1	0.3	-5.154 ^b	0.000
Q 4.3	Does your institution train its current in-house internal auditors to fill in any skills gaps into its internal audit department?	41	1.8	0.401	-3.904 ^a	0.000
Q 4.4	Does your institution rely on outsourcing people that have good experience in the audit knowledge to fill in any skills gaps into its internal audit department?	41	1.41	0.499	-1.093 ^b	0.274
Q 4.5	Does your institution rely on external auditing bureaus that have good knowledge about auditing skills to fill in any skills gaps into its internal audit department?	41	1.41	0.499	-1.093 ^b	0.274
Q 4.6	Do you think that organizations usually rely on outsourcing in order to benefit from their wide experiences?	41	1.8	0.401	-3.904 ^a	0.000
Q 4.7	Do you think that organizations usually rely on outsourcing because the cost of hiring outsourcing is cheaper than train their current in-house audit members?	41	1.12	0.331	-4.841 ^b	0.000
Q 4.8	Do you think that organizations usually rely on outsourcing because most in-house auditors are suffering from lacking their skills in the software audit knowledge?	41	1.81	0.494	-1.406 ^a	0.16
Q 4.9	Do you think that organizations usually rely on outsourcing because outsourcing often associate with organizations by temporary contracts which do not cost the company any long-term obligations?	41	1.39	0.494	-1.406 ^b	0.16
Q 4.10	Does your organization measure the skills of internal auditors by calculating the average number of working years in audit department?	41	1.68	0.471	-2.343 ^a	0.019
Q 4.11	Does your organization measure the skills of internal auditors by calculating the number of working hours of annual training program on how to perform the internal audit profession effectively?	41	1.27	0.449	-2.967 ^b	0.003
Q 4.12	Does your organization measure the skills of internal auditors by calculating the number and the type of certificates obtained by internal audit staff?	41	1.17	0.381	-4.217 ^b	0.000
Q 4.13	Does your organization measure the skills of internal auditors by calculating the period of staying into the internal audit function in a company or industry alike?	41	1.66	0.48	-2.030 ^a	0.042
Q 4.14	Do you usually take training program for less than a month per year in your internal audit department?	41	1.63	0.488	-1.718 ^a	0.086
Q 4.15	Do you usually take training program from a month to three months per year in your internal audit department?	41	1.32	0.471	-2.343 ^b	0.019
Q 4.16	Do you usually take training program for more than six months per year in your internal audit department?	41	1.05	0.218	-5.778 ^b	0.000

Table 15. One-Sample Statistics- degree of audit skills possess by internal auditors

	N	Mean	Std. Deviation	Std. Error Mean
MQ4 The availability of audit skills needed to perform the audit function effectively	41	1.4588	.15538	.02427

Table 16. One-Sample Test- degree of audit skills possess by internal auditors

	Test Value = 1.5					
	t	d.f	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
MQ4 The availability of audit skills needed to perform the audit function effectively.	-1.696	40	.098	-.04116	-.0902	.0079

Table 14 shows that the significance levels of the most questions of the fourth axis are less than 5%, while it is also greater than 0.05 for some questions in the fourth axis. Therefore, the overall mean has been computed to test the significant median difference for all questions. Moreover, the Z-test was also calculated and the results are shown in tables 15 and 16. The table 15 shows that the overall sample median of all answers of the fourth axis =

1.4588 is not significantly different from the hypothetical median 1.5. This indicates that internal auditors operating on listed firms in the LSM have sufficient level of audit skills required to perform the audit function properly. The table 16 presents that the value of Sig (2-tailed) = 0.098 is bigger than the significance level $\alpha = 0.05$, therefore, we accept the null hypothesis. This confirms that the degree of audit skills possess by internal auditors is equal 1.5.

6. SUMMARY AND CONCLUSION

This study has examined the effectiveness of internal governance controls with specific focus on skills and challenges facing internal auditors operating in 6 banks and 3 insurance listed companies on the Libyan Stock Market (LSM). By using a sample of 41 internal auditors, this study examines whether internal auditors have sufficient skills needed to implement the internal auditing function effectively. These skills include four key areas, namely professional, interpersonal, technical, and audit skills.

Firstly, the results of this study showed that internal auditors operating in companies listed on the LSM have limited skills in a number of key areas, namely professional, interpersonal and technical skills. The findings of this study were consistent with the results of some prior studies. The findings of this study are also consistent with the results of another study conducted by Carey et al. (2006) who stated that 45% of listed companies in the Australian Stock Exchange tend to outsource their internal audit function rather than use in-house service. The reason for this is because the cost of outsourcing is less than the cost of training their in-house internal auditors. Around 61% of respondents confirmed that the internal audit departments of listed firms on the LSM are relying on outsourcing to fill in any skills gaps in IT because most in-house internal auditors have shortage into IT skills.

Secondly, the findings of this study provide support for multi-theoretical frameworks. Firstly, for the Communication theory which indicates that all internal auditors need to improve their communication skills continuously even they are good communicators. Secondly, this study provides support for the Structuration theory because the technology is the core element of Structuration theory. However, most listed companies are still hiring junior auditors who do not have sufficient level of IT skills. This is consistent with the achieved results as about 63% of participants indicated that they needed more training in IT. Moreover, 59% of participants were junior auditors and nearly 51% of them have working experience in audit domain for less than 10 years. Additionally, this study provides support for institutional theory because most of internal audit departments of firms listed in the LSM are facing similar challenges and they also follow similar behaviour by hiring internal auditors with a view to meet the government rules without looking at the needed skills necessary to implement the internal auditing function effectively.

Finally, this study has some limitations. The number of listed companies and internal auditors who were surveyed is relatively limited and that this can be enhanced by future research. Additionally, we investigated only four key skills, whilst there are other needed skills that may be helpful when conducting internal audit. Future research can therefore address this limitation by expanding the focus of this study.

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CSR SERVES TO COMPETE IN THE SPORT INDUSTRY? AN EXPLORATORY RESEARCH IN THE FOOTBALL SECTOR IN PERU

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Abstract

Corporate social responsibility (CSR) is a concept used by firms to obtain competitiveness. Although the focus of academic research has been on identifying the link between financial and social performance, the causal evidence of this relationship remains unclear. Our research attempts to fill this gap by validating hypotheses indicating that the effect of CSR on business competitiveness requires integrating other variables. The literature review shows limited research conducted on CSR and professional sports in emerging countries. Our article fills these gaps by investigating the effect of CSR on competitiveness of football teams. Our results will expand the applicability of CSR to other organizations, while at the same time offering recommendations to a sector with economic and sociological global repercussions.

Keywords: Corporate Social Responsibility, Sport Industry, Team Brand Image, Team Brand Loyalty, Peru

1. INTRODUCTION

Corporate social responsibility is a concept that firms have used for decades in some form or another to obtain competitiveness (Mohtsham Saeed and Arshad, 2012). After being criticized and rejected by business leaders for decades, the notion of CSR has suddenly become a central focus of the modern corporation (Lee, 2008). Despite the growing interest in this topic, the literature review shows conceptual and empirical gaps.

At the conceptual level there are several gaps on three types of literature: corporate literature, sports literature and football industry literature. A review of the corporative literature shows two of them still unresolved. The first one relates to the fact that there has not been still established a causal relationship between CSR activities and the value of the company (Servaes and Tamayo, 2013; Soana, 2011). According to the authors, this gap is due to methodological problems and model misspecification (Margolis and Walsh 2001), but also because the pathways to how do CSR activities affects firm value are unknown (Servaes and Tamayo, 2013). The second gap is caused by the lack of clear definition of CSR. This term is presented with numerous different definitions, as each prioritize CSR's different dimensions (Dahlsrud, 2008). For example, some authors suggest that CSR is a strategic function that the CEO should be in charge of; others insist that the CSR is a Public relations function (Clark, 2000); while others say that CSR is a function of marketing and branding (Landreth Grau and Garretson Folse, 2007). This cause-related marketing perspective has been explored broadly in the business literature (Dean, 2003) and also in the sport literature (Irwin et al., 2003; Roy and Graeff, 2003).

In the sports literature the gap comes from the lack of knowledge about the role of CSR in this sector. The few relevant publications have only emerged in the last decade (Kott, 2005; Robinson, 2005). This growing interest is due to the fact that sports organizations are finally realizing that their image and reputation is important to succeed in their industry (Westerbeek and Smith, 2007).

In the literature from the football industry, the gap is also reflected by the scarcity of information on the subject. The interest in studying this gap has been recently awakened first of all because the managers of the football clubs face the challenge of knowing how to reconcile its economic and trade activities with their role as social institutions (Morrow, 2003). Secondly, professional football organizations have recognized that their transformation into strong business institutions have a high impact on the political and social areas (Kolyperas et al., 2015). Indeed, recognition of this impact on society has caused the Federation Internationale de Football Association (FIFA) to make significant investments regarding social activities responsibility (FIFA 2014). Also in England, football clubs have developed CSR actions to show their commitment to the societies in which these clubs operate (Brown et al., 2006).

Despite these actions, a study of CSR in European football found that most of the national associations do not yet have a formal CSR strategy, but they do have a code of conduct in relation to their followers, as these are considered their most important group of stakeholders (Walters and Tacon, 2011).

At the empirical level, there are still very few studies that examine the factors that motivate professional sport organizations to become involved in CSR activities (Babiak and Wolfe, 2009). Likewise,

also there are still few studies that assess the impact of the CSR actions towards sport organizations and their followers (Walker and Kent, 2009).

Our research attempts to fill these conceptual and empirical gaps. We will focus in testing hypotheses that prove that the effect of CSR on clubs competitiveness require integrating other variables little studied in the literature. Our focus on the consumer as the key stakeholder is based on Barnett's (2007) affirmation that the impact of CSR on a firm's value depends on its ability to influence their consumers.

We also suggest that CSR can contribute to increasing the competitiveness of clubs, if it can influence the follower loyalty to the brand of these clubs. In addition, we also seek to assess whether the influence of CSR is a Public relations type, or if it has an impact on the followers as a separate specific construct.

The study of the soccer industry is justified for several reasons. First, in recent decades soccer has become a multibillion dollar industry (Castellanos et al., 2007), impacting the communities in which stadiums are located (Shropshire, 1995). Second, soccer is considered the most popular sport in the world (Hoffmann et al., 2002), and it has also become a lifestyle (Foer, 2010). Third, the growing commercialization of professional football over the past two decades has increased the need to study its competitiveness drivers (Tacon 2007). We also see that even though it is important to study competitiveness in sports, we find that specialized literature in this topic is still in its infancy (Bauer et al., 2008). This study will take place in Peru, which has been chosen for several reasons. Peru, economically, is taking on a growing role in the region (Gestion, 2014). Besides, this country is still at 50% of their real potential of television rights revenue related to football (Portugal Prado, 2014).

2. LITERATURE REVIEW

We will here define the variables involved directly and indirectly in loyalty to the team brand. We then analyze the actions that can be used to influence clubs so they may increase their brand image, and the motivational variable of the fans that may influence the market competitiveness of these clubs.

2.1. Actions of the clubs

In this section we described the most important researches done on the subject of our theoretical framework. First we present the concepts of CSR and Public relations as actions that clubs can use to influence the perception of their brands.

2.1.1. Corporate Social Responsibility (CSR) in sport

The rapid growth of the sports entertainment industry has encouraged clubs to develop strategies to gain an advantage over their competitors. Some authors have presented strategies based on management of human resources, such as employees and volunteers (Fairley et al., 2007), but others suggest that sports clubs should also consider using CSR in all relationships with their stakeholders as a way to ensure organizational success (Bradish and Cronin, 2009; Smith and

Westerbeek, 2007). This is valid especially in the professional sports organizations, which have high impact on the communities where they work and faced an audience with a growing social consciousness (Wilner, 2008).

The organizational literature offers several reasons to grant such organizations vital importance to its image and social reputation. For example, it is known that there is a positive relationship between organizational success and reputation (Gibson et al., 2006). We also know that CSR impacting consumers (Ellen et al., 2000) and that this impact positively orients the preferences of the consumers for the company and its products (Creyer and Ross, 1997).

This latter view coincides with several researchers who suggest that CSR creates organizational and social benefits that are associated with high organizational performance and increased financial income (Aguilera et al., 2007; Barnett, 2007), in addition to its power to generate a strategic intangible resources, such as reputational capital (Lewis, 2003).

It is a global trend for companies to show their responsibility to the societies in which they operate (Halme et al., 2009), because there is a definite interdependence between the two (Porter and Kramer, 2006). As a result, organizations need to incorporate CSR in formulating their corporate strategies (Husted and Allen, 2000) and accept that this holds a universal concept that influences business decisions and actions (Pearce and Doh, 2005).

While the study of CSR has increased in importance in the literature of management and organizational behavior, this concept has only recently begun to be studied in the area of sports management (Brietbarth and Harris, 2008; Smith and Westerbeek, 2007; Walker et al., 2007; Kott, 2005).

According to some authors, sports clubs have different ways of using CSR and use it more effectively than traditional business: through donations, gifts, sponsorship, social marketing actions, financial contributions and volunteer activities to support community (Smith and Westerbeek, 2007).

The study of CSR in football is justified because this activity is more than a sport, it is also a business activity that moves a lot of money, attracting considerable investment and is therefore exposed to the media (Brietbarth and Harris, 2008). Football clubs, like any organization, also have a reputation to be managed and thus must develop CSR actions (Geoff and Tacon 2010).

2.1.2. The influence of Public relations (PR) in sport

PR have been defined as the strategic management of companies (Hutton, 1999), but has also been seen as a way to get free publicity through the media (Gregory, 2001). However, there is still some debate about its definition and its effectiveness. For some authors, PR is so important that it can substitute advertising (Ries and Ries, 2002). For others, PR should not be considered as a marketing function and therefore should not be integrated in the commercial communication (Lauzen 1991).

While this debate continues, one of the most accepted definitions indicates that PR is the

management function that establishes and maintains beneficial relationships between an organization and the public on whom it depends for its institutional operations (Cutlip et al., 2000). Therefore, sports clubs should use PR for institutional benefits and generate profits for their public (Ledingham and Bruning, 2001).

2.2. The team as a brand

Since the late 90s, several authors noted that an event or sports team could be considered as a brand (Ferrand and Pages, 1999; Gladden and Milne, 1999). There are two main reasons for managers of professional sports clubs to manage their organizations as if it were a brand. First, the game result is uncontrollable and unpredictable, so they must build a brand that generates a long-term relationship with his followers (Gladden et al., 1998). This way, a strong club's brand protects the potential financial damage caused by negative results in sport (Gladden and Funk, 2001). Secondly, the growing competition between the clubs for attention from the media and its followers is also demanding the creation of a strong brand (James et al., 2002). Having a strong brand will allow them to stand out from the other clubs and the other existing recreation alternatives (Mullin et al., 2007; Kaynak et al., 2008).

For our study we rely on the few precedents that exist for launching the brand in the sports sector. Thus, the brand image is defined as perceptions developed by the follower on a sports brand that can be evaluated by the associations held in consumer memory (Keller, 1993). This definition supports the model developed by Gladden and Funk (2001, 2002), which includes the categories proposed by Keller (1993) and the ones also used by Bauer et al., (2008) and Kaynak et al. (2008). The literature presents that the brand in the sports sector is form of attributes, benefits, and attitudes towards the brand. We also find extensive literature in psychology (Fishbein, 1963), that presents conceptual differences between the perception (attributes and benefits) and attitude (Pomerantz, 2003).

These conceptual differences are also recognized by authors who want to better understand the ways that brands impact consumer evaluations of branded offerings. So, Raggio et al. (2014), after confirming the existence of what they termed "differential brand effects", they recommend that future models should incorporate these differences.

In this study we differentiate between benefits and attributes of brands. Raggio et al. (2014) defines brand-benefit belief as "the consumer's belief about the degree to which (or whether) a brand provides a specific benefit". This perspective allows us then to evaluate differently the benefits and the attributes that the brand should incorporate (Hutchinson and Alba, 1991).

We believe it is important to clarify the relationship between these concepts, because there is some evidence that in other sectors the image of the brand can determine consumer loyalty (Murphy, 1996; Osman, 1993), which is a dependent variable in our model.

2.3. Motivational aspect

The literature indicates that sporting events are a predominant form of leisure behavior in today's society (James and Ridinger, 2002). Knowledge of the factors that motivate people to become sports spectators is a theoretical and practical challenge for researchers and sports professionals (Armstrong, 2002). Many studies have addressed the phenomenon of spectator and amateur sports. Some studies have focused on the psychological results of the viewer, to analyze the processes of socialization and patterns of motivation behind this way of enjoying their free time (Zillman et al., 1979). Other studies have focused on factors related to the identification of spectators with a particular team (Wann, 2000), such as pleasure and involvement (Sloan, 1985).

2.3.1. The involvement of the follower

The concept of involvement grew out of social judgment theory (Sherif and Hoveland, 1961) and has been used in research on consumer behavior to understand the behavior of purchasing goods (Kapferer and Laurent, 1985; Rothschild, 1984). Among the available definitions, involvement represents an internal variable that reflects the amount of enthusiasm or effort evoked by a stimulus or situation, which mediates consumer behavior (Mitchell, 1979). For Rothschild (1984), involvement is defined as a state of motivation, or interest with respect to a product, activity or object. For Zaichkowsky (1985), this concept indicates the perceived importance of the object for the consumer, which is based on its inherent needs, values and interests.

In the literature on sports, that involvement is one of the determinants of sports consumption (Koo and Hardin, 2008). Previous research has found that the level of involvement with the product positively influences the attitude towards it (Wakefield and Blodgett, 1994). Similarly, Wann and Branscombe (1993) found that if the fans have high levels of involvement with a team, it causes an increased assistance and less elasticity and variations of the ticket price.

This literature considers that the involvement of the follower is related to the perceived personal interest and personal importance given to a sport (Shank and Beasley, 1998). In this way the involved follower goes from an initial stage of consciousness until he/she reaches a connection to the team (Funk and James, 2001) and finally becomes part of a community around the sports' brand (Tsiotsou and Alexandris, 2009).

This type of literature has followed the perspective of Rothschild (1984) to define the sports' involvement as a state of enthusiasm or interest related to this recreational activity or product. This definition has been used to study attendance to sport events but it also seems appropriate when investigating other areas of sports such as consumer loyalty (Funk and James, 2001). Considering the consumption of a sport as driven by highly engaged customers, it is important to analyze how this concept relates to the motivations and loyalty that lead to the consumption in this sector (Martin, 2013).

2.4. Loyalty to the team's brand

It is important for teams to have the loyalty of supporters to their brand, because that loyalty gives them support, even in periods of sports losses (Rein, Kotler and Shields 2006). The high levels of connection from their followers can be used by the teams to increase their presence in the media, in order to extend their brand to other products/services (Gladden and Funk 2001), and to condition the will of the followers come and stay at sports stadiums (Lee et al., 2012).

The construct brand loyalty is so important that it has for decades generated various definitions (Jacoby, 1971). This term has been used synonymously with other concepts, such as repeat purchase, preferences, engagement, retention and loyalty (Rundle-Thiele and Mackay 2001). Because of this diversity, most research has focused on behavioral responses to measure loyalty, but fail to explain why this is generated and why certain brands are repurchased (Dwyer, 2011).

For decades it had been indicated that it is not enough to define brand loyalty, as just behavioral responses (Jacoby and Chestnut, 1978). According to Jacoby and Chestnut (1978) behavioral responses simply represent the static result of a dynamic decision-making process. That is why models are developed based on behavioral and attitudinal loyalty (Mahony et al., 1999 Fournier, 1998). The

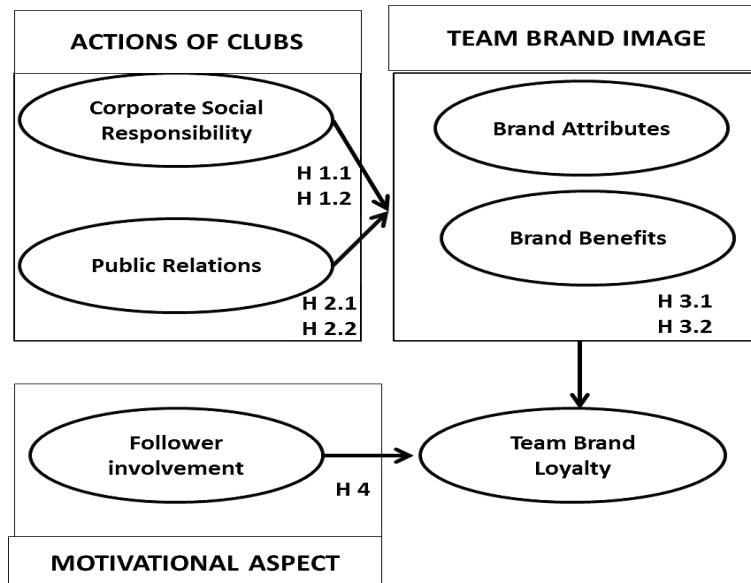
behavioral loyalty model has been defined in terms of repeat purchase behavior (Chaudhuri and Holbrook, 2001).

Within the attitudinal model, Aaker (1991) defines brand loyalty as the consumer's established connection with the brand, based on the value it attributes to the product's name (Couvelaere and Richelieu 2005). In the sports sector several authors are found to study loyalty also to adopt an attitudinal dimension. For this article, brand loyalty is the result of positive attitudinal association to a specific brand (Back and Parks, 2003). This definition includes psychological consumer loyalty to the brand (Quester and Lim, 2003). This perspective allows us to consider, as Funk and James (2004) do, team brand loyalty as the commitment that guides the follower's buying behavior (e.g. consumption of products with the team's brand, consumption sports and activities sponsored by the club). This topic is the dependent variable in our conceptual model.

3. PROPOSED MODEL AND HYPOTHESIS

Figure 1 shows the proposed model indicating the variables involved directly and indirectly in the formation of team brand loyalty. The assumptions between integrated variables in the model will be discussed below.

Figure 1. Proposed Model and Hypothesis



Source: Own elaboration

3.1. Influence of CSR in team brand image

CSR is a topic that is increasingly important in strategic business decisions, although their corporate development is still low (Stewart, 2006). The main problem to solve is the lack of understanding about the impact that CSR has on business competitiveness (Porter and Kramer, 2006; Mackey et al., 2007).

To help clarify this relationship we rely on the widespread view that the competitiveness of the company is defined by the market (Vilanova et al.,

2009). Like these cited authors, we believe that the key factors of competitiveness of the company are based on variables that can be influenced by CSR, such as reputation, image and brand value, among others.

As to brand value, it is assumed that the adoption of CSR has a positive impact on the identity and brand building of the company. This effect is important because strong brands are vital for the competitiveness of the firm in the long term (Santos-Vojande et al., 2013); therefore, we assume that the actions of CSR generate a positive

perception of corporate brand attributes (Fan, 2005). On the other hand, we also accept that CSR is a way to build a sense of confidence in the benefits brought by the brand (Brady, 2003; Willmott, 2003); therefore, we make the following assumptions:

H1.1: *The higher the level of CSR activities is, the higher the level of perceived team brand attributes will be.*

H1.2: *The higher the level of CSR activities is, the higher the level of perceived team brand benefits will be.*

3.2. The influence of PR in team brand image

Some of the benefits PR can bring to companies are: affect purchases because of their support of the actions of the other variables of commercial communication (Shimp, 1993), given that it spreads goodwill and the good image of the company's products (Plowman et al., 2001). It also helps the credibility of the product's benefits, at the same time that support the sales force (Kotler et al., 2005), besides helping to change attitudes and behaviors (Cutlip et al., 2000, Hendrix 2004). Therefore, to evaluate its effectiveness, it is recommended to analyze their impact on the understanding of the message, as well as the perceptual changes influencing the behavior of purchasing choice (Ledingham and Bruning, 2001).

The review of the literature shows that PR has been studied in different industries and applications. For example, brand positioning (Pullig et al., 2006), acceptance of public policies improving corporate image (Renkema and Hoeken, 1998), amongst others. In the field of sports consumption, research on PR is still scarce (Curtin and Gaither, 2005), although it is studied in management texts and sporting events (L'Etang, 2007). Based on the above information, it is reasonable to develop the following hypotheses:

H2.1: *The greater the level of the PR actions, the greater the level of perception of team brand attributes perceived.*

H2.2: *The greater the level of the PR actions, the greater the level of perception of team brand benefits is perceived.*

3.3. The influence of team brand image on team brand loyalty

Previous literature, based on consumer cognitive variables, indicates that for complex services, corporate image directly impacts customer loyalty (Kandampully and Suhartanto, 2000). This relationship has also been found in various sectors and cultures (Ogba and Tan, 2009) and suggests that if customers are loyal to a certain brand; they will recommend it to others and will be hardly influenced by competitors (Schultz, 2005).

Given that successful brands are those that have managed to identify with the needs of its consumers, this identification increases the probability of being acquired by them (Hsieh et al., 2004). This feature is important because the brand is formed by the image which the consumer associates

in their mind (Sondoh et al., 2007). This feature is most important in sports consumption, because clubs provide an opportunity for their followers to be connected with the ideology associated with the brand (Head et al., 2012). In this sector, the brand has a greater impact in creating mental and emotional ties with his followers (Babiak and Wolfe, 2009). For this reason, clubs must generate brand images in their followers, to create a sense of loyalty in them (Gladden and Funk, 2001).

In the sports literature there are also studies that have found a relationship between the images associated with the brand and loyalty towards it (Gladden and Funk, 2002. Bauer et al, 2008), but they recommend further investigate the issue (see Ross, 2006). Therefore, in our research we developed the following hypothesis:

H3.1: *The greater the level of the team brand attributes, the greater the team brand loyalty.*

H3.2: *The greater the level of the team brand benefits, the greater the team brand loyalty.*

3.4. The influence of follower involvement in team brand loyalty

Several previous studies in some sectors have shown that the involvement of followers and their favored team is related to brand loyalty (Celsi and Olson, 1988; Knox and Walkerb, 2003). The literature claims that consumers who are more involved with a brand will be more loyal to that brand (Traylor 1981). In this line of thought, Iwasaki and Havitz (1998) validated a sequential process that begins with the follower's involvement, continues with psychological loyalty and ends with their brand attitude.

Subsequently, other authors indicate that although involvement is not the only determinant of brand loyalty, they agree on its significant role as a precedent (Quester and Lim, 2003; Hanzae et al., 2011).

In the literature on sports, there is also found research to identify factors that influence brand loyalty (Lin et al., 2008) which indicate the relationship between the involvement of supporters and brand loyalty with the team (Murphy, 1996; Osman, 1993; Kunkel et al., 2013; Kontogianni et al., 2011; Heere and Dickson, 2008). Therefore, considering the previous literature, our research developed the following hypothesis:

H4: *The greater the level of follower involvement, the greater the team brand loyalty will be found.*

4. INVESTIGATION METHODOLOGY

4.1. Sample Description

To validate the hypothesis a convenience sample was used. According to Henry (1990), this type of sample is justified when it is not possible to identify the members of a population, and the basic need is to establish the existence of a problem, or as in our case, establish relationships at the exploratory level.

To justify the sample size, we calculate the minimum size using the maximum standard deviation of the questions and accepting a certain margin of error (Lambin, 1994). In our case, the variable with the larger standard deviation is "Players and managers are positive role models for their followers," with the following characteristics: Average (3.45); Standard deviation (1.89); Standard error (0.6). Applying the formula proposed by Lambin (1994), for all variables we are considering the same significance level (0.001) and an error of 0.5 (on a scale of 1 to 5). Therefore, applying the above formula, a sample of 128 followers would suffice.

For our research, the sample was made from 177 soccer fans from Lima, Peru. 72% of the samples were men and 28 % women. The subject's ages were distributed in the following way: 20 % between 18-20 years old; 32 % between 21-23 years, and 48 % over 24 years of age. As far as their educational level, 11 % of the individuals had a higher than Bachelor's degree, 19% had a Bachelor's degree while 48 % of the subjects had no college education.

4.2. Description of the questionnaire used

In this section we present the scales used to evaluate each of the variables of the model. Considering the originality of our research and the lack of similar research, all scales followed a similar procedure: literature review to prepare the items. Then they were discussed with teachers and supporters of professional football to debug and test the items scales.

4.2.1. The variable CSR

To operationalize CSR, proposals of various authors cited in our theoretical framework were investigated. Therefore twenty indicators, evaluating the actions that football clubs may use to influence their market were developed. An interval scale was used where: (1) Nothing (3) Something, and (5) A lot. This scale obtained an Alpha Cronbach of 0.9631.

4.2.2. The variable PR

This variable was operationalized from the proposals of the authors mentioned in our theoretical framework. Therefore, this variable was measured with fourteen items to evaluate PR actions. An interval scale was used, where: (1)

Nothing (3) Something, and (5) A lot. This scale obtained an Alpha Cronbach of 0.9521.

4.2.3. The variable "team brand image"

From the review of the various authors cited in our theoretical framework, eleven indicators were developed to collect (i) the attributes associated with the brand. This scale obtained an Alpha Cronbach of 0.9209. To assess (ii) the perceived benefits of the brand, thirteen indicators were developed. They obtain an Alpha Cronbach of 0.9505. To assess both variables interval scales were used, where (1) Nothing (3) Something, and (5) A lot.

4.2.4. The variable "team's brand loyalty"

To operationalize the team's brand loyalty, proposals of several of the authors cited in our theoretical framework were reviewed (authors like, Gladden and Funk 2001; Passikoff, 2000; Doyle et al., 2013). Eleven items were developed to evaluate the reasons that generate team brand loyalty in the followers. An interval scale was used where: (1) Nothing (3) Something, and (5) A lot. This scale obtained an Alpha Cronbach of 0.9559.

4.2.5. The variable "follower's involvement"

To measure this variable, the proposals of the authors of the theoretical framework were used. Items scales developed by other authors to measure the involvement with the sports team were also used (Zaichkowsky, 1994; Tsiotsou, 2013). Thirteen items were developed to evaluate the indicators of involvement in the followers. An interval scale was used, where: (1) Nothing (3) Something, and (5) A lot. This scale obtained an Alpha Cronbach of 0.9382.

5. RESULTS

Table 1 shows the means, standard deviations, and zero-order correlations among the variables included in the model. Assessment of the correlation matrix shown the correlations between variables had little variance and they are all statistically significant. Looking for signs of multicollinearity among the variables, we found all the correlations to be well below 0.80, suggesting no multicollinearity in the data (Grewal et al., 2004).

Table 1. Means, standard deviations and correlations

Variable	Mean	Std Dev	1	2	3	4	5
1. CSR	3.41	.78	1				
2. PR	3.22	.90	.7662**	1			
3. T. Brand Attributes	3.32	.80	.7906**	.6430**	1		
4. T. Brand Benefits	3.48	.88	.7952**	.6206**	.7857**	1	
5. F. Involvement	3.25	.89	.7503**	.6236**	.7140**	.7349**	1
6. Team Brand Loyalty	3.58	.88	.7269**	.5743**	.6439**	.7265**	.7579**

Note: $p < 0.05$; ** $p < 0.01$; *** $p < 0.000$

5.1. Validation of the hypothesis

To analyze the data, the regression technique was used. Although this is not the only method available, this technique allows us to estimate the relative

weights of the variables by the standardized regression coefficients obtained (Mark et al., 2011). Thus, in a first phase, linear regressions were estimated to analyze each of the expected relations. The results shown in Table 2 suggest a validation of

assumptions. That is, the dependent variables can be predicted by the independent, and that the relations are significant according to the directions given by our theoretical model. All these variables met the assumption of independence with respect to the dependent variable. Considering the value of the Durbin-Watson test, all ratios were greater than 1.5 and less than 2.5 values, which are the minimum and maximum limits allowed. Also, the R^2 values (i.e., values at or above .80) also confirmed that multicollinearity was not a problem (Hutcheson and Sofroniou, 1999).

Thus, the H1.1 hypothesis was validated, since the actions of CSR predicted 65% of the level of perceived attributes of the brand team, with a significance of $p < 0.000$. Also it validated the H1.2 hypothesis, since the actions of CSR predict 66% of variance in the level of awareness of the benefits of team brand, with a significance of $p < 0.000$.

Also, the H2.1 hypothesis was validated as the level of PR actions predicts 40% of the level of perceived attributes of the team's brand, with a significance of $p < 0.000$. H2.2 was also validated, as the level of PR actions predicts 37% of the level of awareness of the benefits of team brand, with a significance of $p < 0.000$.

The hypothesis that established the positive influence of perceived attributes of the brand in the team brand loyalty (H3.1) was also validated, since 40% of the explained variance of the dependent variable, with a significance of $p < 0.000$ was obtained. Also it validated the H3.2, as the level of awareness of the benefits of the brand predicts the 52% level of team brand loyalty (significance of $p < 0.000$). The H4 was also validated, as the level of involvement explains 54% of the team brand loyalty, with a significance of $p < 0.000$.

Table 2. Value of the estimated parameters for the predicted relationships

Hypotheses	Predicted Relationships		R^2 Adjusted	β	T	DW test
H 1.1	CSR	T. Brand Attributes	0.5639	0.8106	1.81***	1.81
H.1.2	CSR	T. Brand Benefits	0.5814	0.8151	14.6***	1.74
H 2.1	PR	T. Brand Attributes	0.4080	0.6430	8.72***	1.82
H 2.2	PR	T. Brand Benefits	0.3794	0.6205	8.22***	1.71
H 3.1	T. Brand Attributes	Team Brand Loyalty	0.4091	0.6438	8.74***	1.72
H 3.2	T. Brand Benefits	Team Brand Loyalty	0.5233	0.7264	10.9***	1.91
H 4	F. Involvement	Team Brand Loyalty	0.5430	0.7397	11.4***	1.98

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.000$

In the second phase a hierarchical multiple linear regression was used (see Table 3). The purpose was to clarify the conceptual doubts about the nature of CSR in relation to PR, as well as the effect of the attributes and benefits of the brand. Therefore, we sought to evaluate the joint effect of the independent variables on the dependent variable, and the effects of interaction between them.

In the first stage, the variables team brand attributes and team brand benefits were introduced as predictors of team brand loyalty. In the second stage, the variables follower involvement and PR were introduced. In the third stage the variable CSR

was added. We can see in the first stage that the variables team brand attributes and team brand benefits explain 53 % of the variance team brand loyalty (R^2 adjusted= 0.53317; $F = 63.244$; $p < 0.000$).

In the second stage we observe that the variables follower involvement y PR add a marginal but significant amount, to the variance ($\Delta R^2 = 0.06$; $F = 53.6397$; $p < 0.000$). In the third stage, when the variable CSR is introduced, team brand loyalty's prediction is increased by 2 % ($\Delta R^2 = 0.021$; $F = 57.49466$; $p < 0.000$). Thus, the final model explains 60 % of the variance in the dependent variable (R^2 adjusted= 0.6026).

Table 3. Hierarchical Multiple Regression Analysis Predicting Team Brand Loyalty

Steps	Variables	Adjusted R^2	ΔR^2	β	T
1	T. Brand Attributes T. Brand Benefits	0.53317		0.19103 0.57638	1.806 * 5.448***
2	T. Brand Attributes T. Brand Benefits Follower Involvement PR	0.59164	0.058	0.36387 0.42976	3.247 ** 4.040 ***
3	T. Brand Attributes T. Brand Benefits Follower Involvement PR CSR	0.60264	0.021	0.25464 0.34468 0.29315	2.259 * 3.233 ** 2.112 *

Note: only the significant t results are shown. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.000$

The model was clearly modified by the incorporation of variables related to the emotional component of the fan: benefits of the brand and follower involvement. For when these were included, there was a significant increase in predictive power of the model, but the influence of the attributes of

the brand, which until the previous stage itself explain the dependent variable, was cancelled.

The variable PR did not have a significant contribution to the model, while the variable CSR did influence the dependent variable. This result indicates that CSR is not perceived by the fans, as

similar to the PR function, therefore, this finding is a first contribution to clarify the debate on the conceptual identity of the CSR.

5. CONCLUSIONS

While CSR is a concept that firms have used for decades in some form or another to obtain competitiveness, its study in football clubs in emerging countries, it is still scarce. Therefore, this article helps to extend the conceptual and empirical applicability of the CSR, and the results may offer the first generalizable recommendations to a sector that has economic and sociological repercussions globally.

Also, while the issue of CSR within the professional sport industry is gaining increasing currency, there remains a lack of research focused in getting to know the variables that can generate competitiveness in the football clubs in emerging countries. Our research has filled this gap partly because it has validated the hypothesis that integrates the actions of the clubs could use to influence their fans' motivational variables.

The results reported above indicate significant links between all the variables proposed in the original model. All hypotheses are supported. The findings, as presented in the estimated model, show clearly that the stronger the supporters' emotional attachment to their club the stronger their perception of the club as a brand. These results contradict the argument made by Chadwick and Holt (2006) that many supporters, despite their strong emotional attachment to the club, disapprove of the idea of their club as a brand.

The results indicate that the fans are linked to the emotional assets generated by the clubs, at the same time; however, they are attentive to the actions of sporting clubs to raise their positioning. In this aspect the clubs must know that their competitiveness depends not only on the sporting success, but socially responsible actions developed to their fans and community.

The positive assessment of the benefits of the brand, by the fans, agrees with what some authors suggest about sports brands having a high emotional component, and thus can generate more loyalty than other trademarks (Chadwick and Beech, 2007). In this sector, the uncertainty of the results makes its consumption marked by a high emotional component (drama, excitement and euphoria). It also gives it different characteristics than other areas of brand consumption (Whannel, 1992). These findings are in line with the authors directives that suggest that the clubs are indeed and should be, seen as commercial brand (Abosag et al., 2012).

The results also confirm support the authors suggestion that the emotional benefits are weighted more heavily in the assessment of the brand and that they influence the evaluation of the cognitive attributes of the same (Thomson et al., 2005).

Given these results, we can confirm that the club use of branding as a business tool is very important in today's competitive business environment (Abosag et al., 2012). We also confirm that to obtain competitiveness clubs also have means other than just sports scores. We also found support for the authors that believe that a stable fan base as an imperative driver of a club brand

competitive advantage (Rein et al., 2006), since that loyalty will translate in a consumer's decision to re-purchase a sport product or service for the long-term (Cayolla and Loureiro, 2014).

While much of the research on professional soccer has been developed mainly in five major markets: England, France, Germany, Italy and Spain (Desbordes, 2006), our research contributes by extending the applicability of the theory to some contexts not yet analyzed.

A limitation in our study is its exploratory nature which results in the use of regression techniques and the use of a non-probability sample. However, the reliability indices obtained and the significance of relations allow it to take into account our results as a first contribution to the literature. In addition the use of convenience sample is justified when it is the only way to obtain the information necessary for our research, as it has in our case.

As a proposal for future research is suggested to incorporate more organizational and individual variables to the model, as market competitiveness seems to respond to complex dynamics. Therefore, one should use other statistical techniques such as structural equation modelling to identify the multiple relationships that can be established between them. Larger samples are also suggested to analyze whether there are significant differences between some socio-demographic variables and the variables included in our research.

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RISK MANAGEMENT WITH MANAGEMENT CONTROL SYSTEMS: A PRAGMATIC CONSTRUCTIVIST PERSPECTIVE

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Abstract

This paper addresses the issue that calculative practices build on socially constructed facts that have both subjective and objective components. Using risk management as an example, we take a pragmatic-constructivist stance to explore how such a tool might be integrated in actor-based Management Control Systems. We propose a conceptual framework and a research agenda that accounts for actorship (L. Nørreklit, 2013) beyond numerical facts.

This paper is conceptual and draws on secondary literature. Our framework highlights the non-linear, iterative nature of integrating calculative practices that specifically require complex reflection concerning the [1] validation if possibilities are factual (combining subjective and numerical data), [2] the elimination of illusions and sur-realities through constructive conflict/dialectical management, and [3] the co-construction of organization-wide topoi (causality and pertinent accounting practices). Our research furthers practice research on calculative practices through the development of a prescriptive rather than descriptive framework. It also offers propositions that future case study researchers can use.

Keywords: Management Control Systems, Risk Management, Pragmatic Constructivism, Calculative Practice, Practice Theory

1. INTRODUCTION

Practice theories have become established analytical frameworks in the area of management for understanding how practices vary in organizations (Feldman & Orlikowski, 2011; Vaara & Whittington, 2012). They offer behavioral, actor-based alternatives to dominant systems-based schools of thought, such as contingency theory (Jarzabkowski, 2005). Actor-based theories draw on a variety of concepts, e.g., habitus (Bourdieu & Passeron, 1977), language (Schatzki, 1996), governmentality (Foucault, 1977), networks (Latour, 1987), strategy-as-practice (Whittington, 2006), and pragmatic constructivism (H. Nørreklit et al., 2007). Recently, actor-based perspectives have surged in accounting research, where they help to better understand calculative practices for decision making, strategic performance management, new product development, outsourcing, customer accounting, and strategy development (e.g., Ahrens & Chapman, 2007; Cinquini et al., 2012; Cinquini et al., 2013; Jakobsen et al., 2011; Jakobsen & Lueg, 2012; Jørgensen & Messner, 2010; Laine, Cinquini, et al., 2013; Laine, Suomala, et al., 2013; Nielsen et al., 2015; Roslender & Hart, 2010; Seal & Mattimoe, 2014; Whittle & Mueller, 2010).

However, the practice turn in accounting research is far from completed. First, there are several open calls in the literature to investigate how actors construct causality based on calculative practices (Laine, Suomala, et al., 2013), e.g., in balancing strategic objectives (Nixon & Burns, 2012, p. 236), the interplay of organizational practices and

topoi with individual ones (Jarzabkowski & Spee, 2009, p. 83), or variations in the same practice among actors (Vaara & Whittington, 2012, p. 87). Second, many related studies are inductive or descriptive. The lack of prescriptive work disadvantages actor-based work against mainstream research. The development of practice frameworks would lend validity to existing findings. Our work addresses this research gap. We pick the topic of risk management because it is a popular calculative practice across industries and company sizes. Alhawari et al. (2012) note that risk management is a key success factor in many organizations. Mikes (2009) adds that there has been increased interest in enterprise risk management. According to Neef (2005), a company cannot manage risk without sharing information. Without sufficient knowledge to communicate risk, risk management is both ineffective and inefficient. The problem with managing risk appears to lay in the design of management control systems (MCS). MCS play an important role in facilitating and supporting communication and knowledge sharing to achieve organizational objectives (Boer, 2005; Davenport & Prusak, 1998; Hansen, 2002). Klinke and Renn (2002) refer to this concern and steer the debate to the interaction of actors and the calculative practices. Their key issue concerns the assessment of probabilities and the degree to which such assessments can be represented objectively/technically by analysis (*pragmatism*). Otherwise, appraisals reflect only the (subjective) conventions of risk assessors (*constructivism*). The dual nature of risk assessment suggests a pragmatic

constructivist view of reality - employing values, facts, logic/possibilities and communication - which influences how risk should be managed. To sum up, we ask: *How can actors use MCS to manage risk in the pragmatic constructivism paradigm?*

To address this question, we develop a framework that maps the role of MCS (e.g., input, process and output controls) for risk management according to the elements of reality in pragmatic constructivism (facts, logic/possibilities, values, communication). We highlight that the integration among the latter four elements is the key to creating a joint reality among actors, and to developing a functioning risk management (L. Nørreklit, 2011a). In particular, we emphasize the integrative elements of the framework that require complex reflection by the actors, i.e., the [1] validation if possibilities are factual (combining subjective and numerical data), [2] the elimination of illusions and sur-realities through constructive conflict/dialectical management, and [3] the co-construction of organization-wide topoi (causality and pertinent accounting practices). We contribute to the literature by offering a prescriptive actor-based framework and pertinent propositions for future research.

The remainder of the paper is organized as follows. Section 2 offers a theoretical background on risk management, MCS, and pragmatic constructivism. Section 3 develops the framework. Section 4 discusses the limitations of our work and contemplates the contribution to future research.

2. THEORETICAL BACKGROUND

2.1. Risk Management

Generally, risk describes various, quantifiable outcomes to which probabilities can be attached. In this basic form, risk depicts variance that can lead to losses, but also gains. The assessment of its magnitude must be based on facts, which are often deduced from small samples taken of a basic population (Preyssl, 1995; Ross & Westerfield, 2015). Accordingly, risk differs from uncertainty, for which it is not possible to obtain a quantifiable measurement of likelihood (Borisov & Lueg, 2012; Lueg & Borisov, 2014).

In risk management, risk is often seen more narrowly as a potential loss. Some managers may try to exploit opportunities of risk. Yet, most risk managers have the organizational topos to minimize, monitor, and control risk (Andersen, 2008; Klinke & Renn, 2002). The amount of risk depends on the strength of the *cause-and-effect* relationship between the underlying risk driver (e.g., the weather) and the consequence (e.g., agricultural harvest). Risk management responds by using *finality* relationships to manage the risk drivers (e.g., for the weather: choice of location and timing) or mitigating the consequences (e.g., alternative supply chains, or price adjustments) (for new product development, cf. Laine, Suomala, et al., 2013). Managing risk is complex as risk can have several causes and intertwined effects (Alhawari et al., 2012, p. 51). Smith and Merrit (2002) summarize the usual components of risk management in five procedural steps. First, the logical underlying sources and consequences of risk must be identified. They should be documented and communicated to all

involved actors. Second, the sources of risk have to be linked to a timeline of occurrences, the probability of each occurrence, and the impact on the organization. Third, the actors need to map and prioritize which risk factors have to be managed timely and thoroughly. Fourth, action plans have to be implemented. Risk can either be accepted or avoided. For the latter, actors may share their knowledge of the best alternatives to avoid risk-carrying activities, transfer risk, provide redundant emergency paths, or mitigate risk by developing prevention plans. Fifth, risk must be monitored to ensure that action plans can be initiated when needed.

Neef (2005) states that an organization cannot manage risk without sharing information and best practices among actors. MCS facilitate this communication (Boer, 2005; Davenport & Prusak, 1998; Hansen, 2002). According to Neef (2005), effective risk management is rooted in an organization's ability to mobilize its employees' expertise on sources of risk, and to provide decision makers with accurate and timely information (also: Laine, Suomala, et al., 2013). This corresponds to the pragmatic-constructivist view that an ongoing narration on accounting enables actors to create and integrate their topoi, while exerting control at the same time (L. Nørreklit, 2013, p. 59). Some of this communicated information may be quantifiable. Yet, research suggests that much of this information is qualitative, implicit, and rooted in the values of the involved actors (e.g., Baldvinsdottir et al., 2011; Jørgensen & Messner, 2010; Laine, Cinquini, et al., 2013; Mikes, 2009). This view makes the application of pragmatic constructivism particularly suitable, as facts and possibilities have to be integrated into a shared reality among actors.

2.2. Management Control Systems for risk management

This section introduces the concept of MCS to explore how these systems can inform risk management by mobilizing workers' knowledge and expertise (Ditillo, 2004, 2012; Hansen, 1999). MCS enable information processing and create incentives and boundaries for actors to behave in accordance with company objectives (Burkert & Lueg, 2013; IFAC, 2002; Turner & Makhija, 2006). The literature provides different approaches to MCS (Anthony, 1965; Chenhall, 2003; Malmi & Brown, 2008; Merchant & Van der Stede, 2011; Otley, 1999; Simons, 1990). According to Merchant and Van der Stede (2011) and Ferreira and Otley (2009), management control refers to managing behavior for achieving organizational objectives. Abernethy and Brownell (1997) follow the same line of thinking and define MCS as a combination of controls that increase the probability that actors behave coherently with organizational topoi (L. Nørreklit et al., 2006). MCS provide information that is used to support managers in performing their duties and that assists in developing and maintaining patterns of behavior (Otley, 1999). MCS provide decision-making support, allowing managers to scan the system not only to use up-to-date information, but also to monitor the organization's current situation by comparing that information against prior goals and expectations. We use the conceptualization of

Merchant and Van der Stede (2011) since it is both the most recent and comprehensive one, thereby incorporating many previous ideas. In the following, we elaborate on Merchant and Van der Stede's (2011) typology grouped by input controls (*personnel* and *cultural* controls), process controls (*action* controls) and output controls (*results* controls).

2.2.1. Input controls (*personnel and cultural*)

Input controls comprise personnel controls (e.g., personnel selection, training, job design, and resource provision) and cultural controls (e.g., tone from the top, codes of conduct, rewards, and mutual monitoring). Merchant and Van der Stede (2011) claim that personnel controls help organizations build on actors' inclination to manage themselves. Cultural controls refer to a set of values—such as trust, social norms and beliefs—which are shared, and guide actions (Ditillo, 2004, p. 409).

Values can be extrinsic and intrinsic motivators. Organizations can facilitate congruence between organizational and personal topoi by fostering commitment (L. Nørreklit, 2013). Turner and Makhija (2006) state that group culture introduces harmony to processes and provides a shared view of reality (Lueg et al., 2014; L. Nørreklit, 2011a). Trust supports controls in various ways: trust and control can be perceived as alternatives, control can build trust, a control system can be an expression of a trust, and trust is necessary to build control (Berry et al., 2009; Beusch, 2012; Lueg & Pedersen, 2014). According to Hansen (2002), knowledge transfer can be achieved not through formalization of the content, but instead through direct relationships among actors. As a result, personnel control in the form of careful selection and training can help develop common knowledge among actors and thus can trigger knowledge transfers (Hansen, 1999).

2.2.2. Process controls (*actions*)

Process controls - e.g., accountability - also enable knowledge transfers among actors (Ditillo, 2012; Merchant & Van der Stede, 2011). They help to determine who is accountable for which decisions, how decisions are made, how decisions affect other areas, and what the best practices are. According to Turner and Makhija (2006), process controls reveal operating procedures and rules, and clarify established manners of sharing information regarding related job descriptions, relationships, groupings and settings. Process-related rules and procedures motivate individuals both to interact with one another and to devote time and effort to knowledge sharing and personal development (Ditillo, 2012, p. 431).

To ensure that people's knowledge is credible and that everyone is committed to organizational objectives, interaction among individuals is necessary (Ditillo, 2012, p. 429; L. Nørreklit et al., 2006). Hansen (1999) emphasizes that discussions are necessary to clarify missing information when actors encounter complexity-related difficulties in transferring knowledge about risk. Furthermore, Ditillo (2012) claims that action controls define roles and activate connections, and when individuals

collaborate, controls stimulate the knowledge transfer of existing opportunities.

2.2.3. Output controls (*results*)

Results controls comprise target setting, rewards, and decision-making authorization. These facilitate the transfer of knowledge through vertical information flow, which can be accomplished through dialogue instead of through one-directional communication (Ditillo, 2012). According to the results-oriented approach, control can serve output-related behavior (Albertsen & Lueg, 2014; Turner & Makhija, 2006) by "*setting targets, reporting achievements, accountability, and reward structure that serve to foster output-directed behaviour*," (Ditillo, 2004, p. 409). The challenge is to obtain cost-efficient, precise, understandable, congruent (with personal topoi), and timely results.

"Outcome-related knowledge [...] can be transferred in a mediated way, without requiring a face-to-face and immediate contact [...]. Based on these properties, the results control in a form of goals setting [...] may provide useful information for benchmarking purposes and transfer information on the objectives and results achieved [...]." (Ditillo, 2012, p. 429)

2.3. The Pragmatic Constructivist perspective on calculative practices

To better understand the integration of risk management with MCS, we take a pragmatic-constructivist perspective (Cinquini et al., 2013; Laine, Cinquini, et al., 2013; L. Nørreklit, 2011a). Pragmatic constructivism is an actor-based approach that accounts for the subjective, value-laden nature of human perception. This approach causes a shift from deterministic management and control toward actor-based leadership, in which actors co-create their managerial reality (called "actorship"; L. Nørreklit, 2013). Such an approach aims to generate intrinsic motivation by empowering actors to influence their reality (L. Nørreklit, 2011b). Pragmatic constructivism thereby targets the issue why risk is assessed differently among actors, and how they can communicate to create a shared reality (L. Nørreklit, 2011a).

A positivist view might ignore human information processing in risk analysis and assessment. Conversely, a genuine constructivist perspective would only focus on subjective assessment, which under-values the existence of facts in risk assessment (Klinke & Renn, 2002). The pragmatic-constructivist view, however, allows for a dual risk management strategy in which values and possibilities create a fact-based reality. As Klinke and Renn (2002, p. 1073) put it:

"The constructivist camp claims that risk assessments constitute mental constructions that can be checked at best against standards of consistency, cohesion, and internal conventions of logical deduction. However, these estimates of risk constitute true representations of observable hazards that can and will affect people as predicted by the calculated results regardless of the beliefs or convictions of the analysts involved."

The dual nature of risk management is reflected in pragmatic constructivism, which

integrates facts, possibilities/logic, values, and communication to a shared reality (L. Nørreklit, 2011a). When these four dimensions are not integrated, assessments can be abstract and can lead to meaningless results (L. Nørreklit et al., 2006). Applying the four dimensions facilitates the assessment of practices in risk management:

Facts are phenomena that can be easily referenced, and that are known from experience or systematic observation. Facts can be socially constructed, so they are not automatically the same as 'things' we would encounter in the 'world'. This makes reality a construct, and thus different from 'the world' (L. Nørreklit, 2013). Still, facts are reliable and widely accepted (H. Nørreklit et al., 2010). Facts are also regarded as the cognitive relationships between the 'world' and an actor, i.e., they facilitate action (L. Nørreklit, 2011a). *Possibilities* (also called *logic*) can be found through the constructive use of logical operations, and they can modify actors' reality. Factual possibilities therefore arise from reflection through logical operations that offer possibilities.

"Facts themselves do not constitute reality, possibilities are also necessary [...]; if one cannot recognise possibilities, then one cannot plan for the future." (Nørreklit et al., 2006, p. 46)

Values guide actors' decisions and actions. To identify the existence of possibilities, facts must exist that one can reflect upon. Thus, it is important to define who the actors are, and which values motivate them (not) to act:

"[I]f the world does not appeal to the values of a person, that person becomes passive." (L. Nørreklit et al., 2006, p. 47)

Communication is the mechanism that integrates the other elements of reality (L. Nørreklit, 2011a). Communication is more than a simple exchange of information; rather, it involves coordination, social positioning and interaction (Seal, 2012). It enables values and possibilities to be combined so that people can act.

"Without communication, only individual reality exists: there is no intersubjective socially organised reality, and neither companies nor institutions to be managed [...]. Communication, including the fundamental tool of language, enables people to cooperate and management to access the subjective worlds of the values and reasoning of employees." (L. Nørreklit et al., 2006, p. 48)

Seal (2012, p. 236) suggests avenues for future research on pragmatic constructivism. He proposes an iterative structural model, in which communication creates reality through the integration of facts, possibilities and values. Each possibility represents a different option that could be decided upon, and it must be easily and clearly communicated in a manner that conforms to the actors' values and to their limits of accountability; otherwise, they will not perform. We follow Seal's (2012) basic ideas when drafting our framework. Risk management focuses on a reality in which elements such as facts, values, communication and possibilities must be integrated to create functional results. MCS should be implemented in risk management to promote an actor-based reality in complex environments requiring compromises between actors that will eventually lead to shared, organizational topoi (L. Nørreklit, 2011a, 2013; Seal

& Mattimoe, 2014). Hence, the first parameter of our framework will be the four elements of reality according to pragmatic constructivism (facts, possibilities, values, and communication). The second parameter is the range of general options of control in any given MCS (input, process, and output). Within the currently white spot of the framework, we will suggest how calculative practices (in our case risk management) can unfold.

Figure 1. Basic framework

	<i>Facts</i>	<i>Possibilities</i>	<i>Values</i>	<i>Communication</i>
<i>Input controls</i>	RISK MANAGEMENT			
<i>Process controls</i>				
<i>Output controls</i>				

3. FRAMEWORK DEVELOPMENT WITHIN MANAGEMENT ACCOUNTING

We will now suggest how essential elements of risk management can be integrated into MCS from a pragmatic constructivist perspective, i.e., according to facts, possibilities, values and communication. Thereby, input controls generally support identifying risks, process controls foster the evaluation of risks (planning, prioritizing, resolving), and output controls serve to monitor and manage risks.

3.1. Facts

Actors are confronted with facts. Facts are phenomena that can be easily referenced and that provide information. These can be brute facts (such as the weather), physical resources of which they can dispose, or socially constructed facts (such as the changing value of inventory). Accounting information can reveal issues that are overlooked during normal activities; moreover, it can provide independent control over operations to increase managerial awareness. Accounting information makes important aspects about the company available, allowing actors to determine the meaning and significance of all company operations (H. Nørreklit et al., 2010; L. Nørreklit et al., 2006). Accounting data might also supply assistance for risk assessment in an implicit, rather than an explicit, manner (Farrelly et al., 1985, p.279). These manifest in IT systems, accounting principles, notes, or manuals on risk management.

To ensure that facts are controlled for management purposes, output controls can be implemented. According to Dittillo (2012), outcome-related knowledge provides information for benchmarking purposes, and reporting achievements can emerge in the form of knowledge about risks. Results controls help define benchmarks that are important for identifying both risk and how to decentralize the source of accounting information to match local expertise.

3.2. Logic/possibilities

In terms of logistics, the managers might rely on their own idiosyncratic business and management ideas and values; however, they could also draw on a

body of expertise about management nurtured in university courses and communicated via specialist journals and conferences (Nielsen et al., 2015). In any case, it should be assumed that actors need to mindfully reflect on risks, because quantitative analysis of risks alone cannot make a business work. There are several types of controls that can motivate actors to exercise their qualitative judgements. These include personnel controls where knowledgeable, experienced actors are responsible for risk management, a specified catalogue which actions are prescribed and which request empowerment, as well as a shared set of rules and guidelines actors should follow (L. Nørreklit, 2011b). As pointed out by Jakobsen and Lueg (2014), superiors need to discuss in detail if they want to adhere to the controllability principle (i.e., individual accountability = individual discretion), or if for the sake of the bigger picture, such as group performance or inter-departmental collaboration, the controllability principle should be breached (individual accountability > individual discretion).

An analysis of the facts from the input enables the identification of risk factors to reduce risk through risk analysis, assessment and finally, the decisions made (e.g., L. Nørreklit, 2013, p. 61). At this point, the perspectives of facts and possibilities become integrated into reality (L. Nørreklit, 2011a). The discussions of risk in management-accounting texts have most commonly been linked to rational concepts and the use of probability analysis (decision trees, deviations, variance and portfolio analysis), primarily in the context of capital budgeting decisions to reflect the unpredictability element (Collier & Berry, 2002, p. 276). During the process of making outsourcing decisions, special simulation-driven analyses have also been conducted to estimate revenue impact and additional savings when assets are disposed of following outsourcing (e.g., factory and building closures) (Nielsen et al., 2015, p. 73). However, risk assessment also has subjective components. Besides numerical facts, actors also need to exercise judgment if the facts they encounter contain possibilities to manage risk (H. Nørreklit et al., 2010). Some of these possibilities will turn out to be *factual* and make the business work. Others will turn out to be *illusive* after mindful consideration (L. Nørreklit, 2013), e.g., historic prices of inventory that cannot be realized anymore given technological progress. The integration of facts and possibilities can happen as logical analyses with accounting data are performed, such as decision trees on outsourcing, variance analyses, or net-present-value analyses. At this point, it might be conducive to the risk management process to establish links to other accountable departments beyond the finance and accounting function in order to profit from their input (Seal & Mattimoe, 2014).

The joint planning of departments allows the creation of output controls, such as target setting, the drafting of budgets, and monitoring schemes for value drivers. Depending on how control is implemented in an organization, the budgeting process can reflect a compromise among topoi. Differences in topoi need to be shared, since risk analysis will prove difficult when actors keep their implicit expectations to themselves until the end of a budget period (Collier & Berry, 2002).

3.3. Values

As to input controls, values are reflected in risk assessments and management decisions (Pidgeon, 1998). If the facts and possibilities related to reducing risk are supposed to be valuable to actors, it is important to know who is involved in the process, what is required from such individuals, and what the motivation is for an actor to be involved in the system. There is a danger that corporate policies from top management create a non-functional relation between the underlying causes of risk (the 'world') and the actor who locally manages risk 'in reality' (L. Nørreklit, 2011a). An example could be that inventory re-valuations relating to technological obsolescence are made periodically only, or - alternatively - whenever a decision to invest into new technology is due. In this case, the corporate headquarters would perform very different risk assessments and inventory valuations than the local business units who are in daily contact with customers that might be unwilling to pay for outdated technology. Whether such a *surreality* (Jakobsen & Lueg, 2014) is created depends on the integration of the four pragmatic constructivist elements. If communication functions, top management and the accountable actors can agree on construct causality (Laine, Suomala, et al., 2013), and co-create MCS that truthfully represent a joint reality. The values/motives of actors are the basis for action. If the situation does not appeal to the person's values, the person will not be willing to contribute (H. Nørreklit et al., 2010). Joint values foster cultural controls, while disagreement would be - wrongly - understood as obstructive (Seal & Mattimoe, 2014).

Values can also be subject to process controls in risk management. According to Brunsson (1989, p. 105f), budgets are not neutral reflections of economic rationale:

"Because of its relatively loose links with action, budgeting provides a good instrument for conducting politics and producing hypocrisy."

Ryan and Wentzel (2000, p.134) suggest that actors' risk preferences impact resource-allocation decisions in participative budgeting processes. During situations of unfavorable variance and pressure, actors might engage in more risk-seeking behavior (Tversky & Kahneman, 1992). Under stable conditions, actors may prefer to play safe and underinvest in new, riskier technologies (Ko, 2004). Both reactions are likely to be unfavorable for the organization as a whole.

The output in the value dimension can then be linked to output controls (Collier & Berry, 2002, p. 276). The social construction perspective is represented in work such as that of Czarniawska-Joerges and Jacobsson (1989, p. 29), who depict calculative practices, such budgets as

"a symbolic performance rather than a decision-making process; a means of conversation rather than a means of control; and an expression of values rather than an instrument for action."

Such purely 'symbolic' use of calculative practices (Vandenbosch, 1999) can render support for any opportunistic motives an actor might have to shield herself against surrealities created by top managers. If - on the contrary - top managers and actors share values and co-create MCS and their

logical links, organizations may profit from adjusted cognition and behaviors. Actors tend to learn from their mistakes and eliminate some biases when using calculative practices (cf. section 3.2). Thereby, budgets are an expression of actors' values, and their attainment and variances can reflect how values changed in a time period.

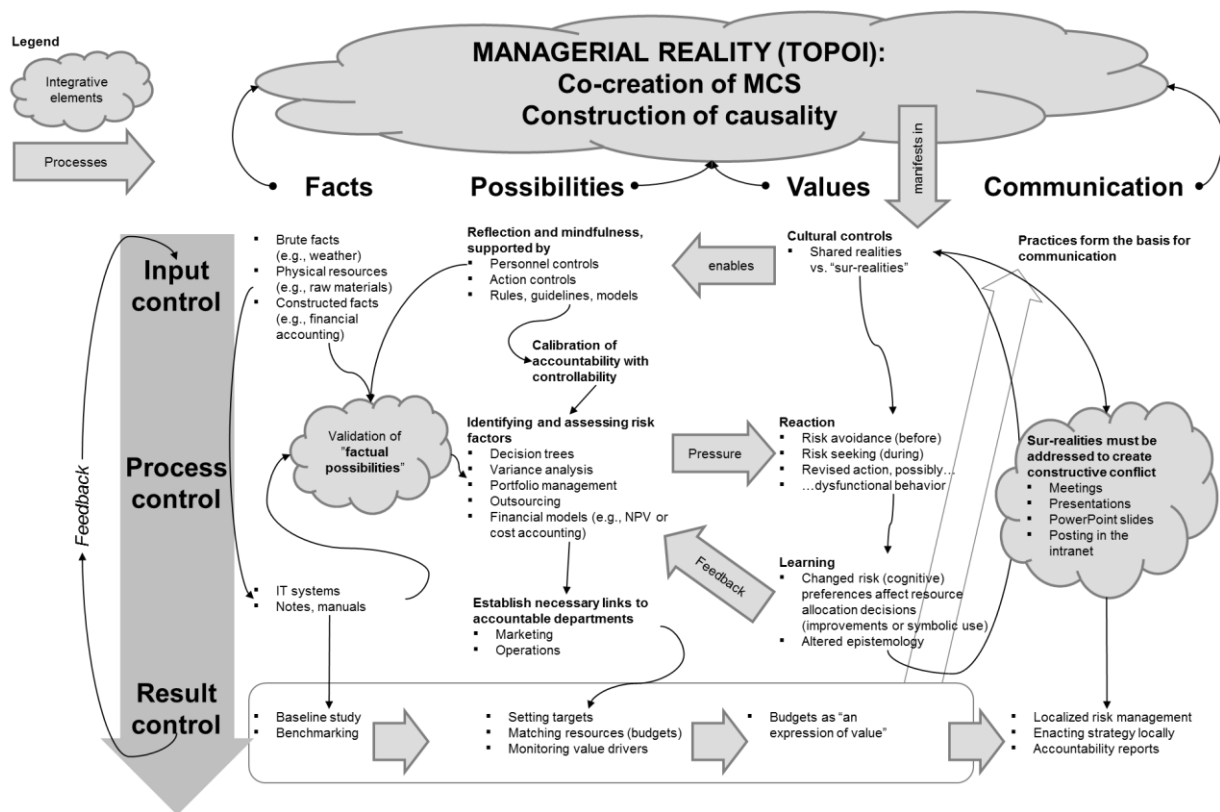
3.4. Communication

Communication should be organized in a manner that specifies who performs which roles in the system, which competencies one has, how information is communicated, and to whom. The calculative practices discussed above can be used as inputs to communication, e.g., in presentations and meetings. In addition, personnel control - in the form of competence training and job design - facilitates the sharing of feedback. Information feedback loops are developed to provide management with almost real-time risk data.

For the process controls in risk management - in which the identification of risk factors and planning actions is required (cf. section 3.2) -

communication plays a key role, especially in resolving discrepancies among risk perceptions, values and expertise (Miller et al., 2008). Participatory discourses are used to search for solutions, and they allow people with the necessary competencies to reflect on the facts, and to identify opportunities to reduce risk. Process controls need to ensure that actors are incentivized to engage in 'constructive conflict' (if it is across functions: "dialectical management": Seal & Mattimoe, 2014) that exposes illusions (Jack, 2014; L. Nørreklit, 2011a), surrealities (Jakobsen & Lueg, 2014), and realities that actually work for managing risks. To ensure that discussion occurs between the actors who provide the information for the system, and that the rules are clarified to share information, action control is advisable (Ditillo, 2012). Communication among involved actors can be initiated through mandatory meetings, presentations, or posting comments in the intranet how an actor has appraised a specific risk (e.g., how updates are done, assessing the effectiveness of risk treatment, and identify new sources of risk).

Figure 2. Framework consisting of selected MCS controls with pragmatic-constructivist elements and risk management processes



As to output controls, actors must have access to financial and operational reports which give them feedback on risk levels. Financial reports are a means for communication, for example, by providing evidence of the perceived riskiness of inventory (Farrelly et al., 1985, p. 278). This feedback is useful for verifying the effectiveness of decisions. In addition, calculating risk exposure provides a view of residual risk that is dynamically updated when changes in underlying factors occur. By discussing risk exposure, causality is being constructed, and the risk management system becomes a better reflection of reality (Grody et al., 2010, p. 11). With shared organizational topoi, trusting actors and handling risk becomes easier. Eventually, risk management and the accountability for it can be localized. This increases the effectiveness of risk management as actors can give local meaning to 'what works' in risk management. We summarize the relations of controls and reality construction for the specific case of risk management in Figure 2.

4. DISCUSSION

4.1. Contributions

Our work problematizes how actors can use MCS to manage risk in a pragmatic constructivism paradigm. We make several conceptual and practical contributions.

First, we address relevant research gaps between practice theory, calculative practices, and pragmatic constructivism (Mikes, 2009; Seal, 2012; Whittington, 2006). We highlight the importance of implementing controls while providing a constant discourse among the actors to verify both the causes and levels of risk (L. Nørreklit, 2013). Consequently, decisions to lower risk can be made. Control can also ensure that activities are performed and that relevant facts are considered in the risk management process (H. Nørreklit et al., 2010). If discourse is provided and information can be defined by experts, then the analysis can be trustworthy. Otherwise, there is no commonly shared risk reality, and risk is perceived differently by different actors (L. Nørreklit, 2011a). We specifically lay emphasis on the fact that the framework is not a matrix that invites for a 'box-ticking exercise'. Effective risk management is not in place when certain content or controls are simply 'present' as system-based theories suggest. Rather, actors a necessary that shape risk management practices (Jarzabkowski, 2005; Lueg & Nørreklit, 2012). Hence, our framework relies on several intertwined processes (arrows) and reality-integrating elements that require complex reflection by actors (clouds). We highlight that a pragmatic-constructivist approach is more of a management paradigm that needs reflection when executed, not a deterministic *how-to-if-then* list for quick fixes (Ancelin-Bourguignon, 2012). As Nørreklit (2013, p. 64) puts it:

"There is, however, no theoretically a priori correct way to integrate the four dimensions. In the end there is only a pragmatic answer. Therefore the integration, which is a construct, is a pragmatic construct."

Second, we strengthen the interpretative paradigm in research surrounding calculative practices (Lueg, 2009; Nielsen et al., 2015; Olsson, 2007; Seal & Mattimoe, 2014). Specifically, we substantiate that risk management has both calculable and qualitative elements. Thereby, we highlight that incalculable elements cannot be automatically seen as *uncertainty* (Klinke & Renn, 2002) and should hence not be categorically excluded from risk management.

Third, this paper contributes to pragmatic constructivism in an actor-based reality by examining facts, values, possibilities and communication (Jakobsen et al., 2011; H. Nørreklit et al., 2010; L. Nørreklit et al., 2006; Seal, 2012), which have been previously reported in an actor-based approach (Olsson, 2007; Pidgeon, 1998). We highlight that communication through MCS (Hansen, 2002) plays a pivotal role in integrating the four elements into a coherent reality (Ditillo, 2004, 2012; Turner & Makhija, 2006).

4.2. Propositions for future research

The framework should support future research on investigating calculative practices from a pragmatic-constructivist view. Case studies on single organizations would be particular suitable given the pragmatic-constructivist paradigm. Mixed methods would be the most appropriate (Mary A. Malina et al., 2011), because they would do justice to the objective/subjective nature of calculative practices. We encourage future researchers and practitioners to specifically focus on the three main integrative fields of the framework (indicated by the balloons). We make the following general propositions:

1. *Calculative practices must be reflections of factual possibilities.* To begin with: if managers use calculative practices such as risk management or budgets simply symbolically for political purposes (Vandenbosch, 1999), the practices are not reflection of values of all actors. A validation if possibilities are factual can be done by combining subjective and numerical data to see in how far the latent values are reflected in manifest constructs. Huelsbeck et al. (2011) use longitudinal data to verify if the intended business model of a company has worked over the past years. While they cannot show a statistical relationship of the MCS and performance, they find the qualitative narratives of managers why they pursue this business model compelling. Already Malina et al. (2007) have found qualitative evidence that MCS create an effective climate of control (*finality, intentionality*) even without statistically significant relationships (*cause-and-effect*). Another aspect of possibilities—or *logic* (L. Nørreklit, 2011a)—is how MCS can work. Future research on performance management should better define *how* MCS contribute to performance through practices, not which components they consist of. They should better differentiate between finality and cause-and-effect to come to more meaningful conclusions (Lueg & Nørreklit, 2012; Mary A. Malina et al., 2007; H. Nørreklit, 2000).

2. *Illusions and surrealities can be eliminated through communication and constructive conflict.* Control departments might have different topoi concerning risk management, which may lead to different assessment principles depending on

whether they are a corporate or a local unit. This may lead to surrealties (or even illusions) when the risk managers at headquarters value the technical inventory differently than the local risk managers to satisfy their topoi. Jakobsen and Lueg (2014) trace such surrealties back to unintended breaches of the controllability principle. They suggest resolving these conflicts through communication across hierarchies. Similar, Mattimoe and Seal (2014) see constructive conflict (dialectical management) as a strength that actors need to exploit rather than avoid.

3. *Actors need construct causality so that their values and topoi are reflected in the MCS* (H. Nørreklit et al., 2012). Mainstream researchers suggest a top-down implementation of centrally coordinated MCS (Kaplan & Norton, 2008). Yet, the paradigm of pragmatic constructivism requires that all relevant actors' facts, possibilities, values and communication are integrated across managerial levels. An example of this is practice is depicted by Baldvinsdottir et al. (2011) on the MCS of the British organization TESCO. Again, future research could delve into the issue which kind of causality the MCS depicts (H. Nørreklit, 2000). Our framework is a further step toward what Nørreklit (2013, p. 59) calls "actorship": the development of formal and informal communication among actors should shape their individual topoi into an organizational one, which can "guide the ongoing coordinating narration controlling the (inter-)action".

4.3. Limitations

Our conceptualization is subject to several limitations. First, a differentiation among facts, values and possibilities is not always conclusive. Values can be understood as motives, which are affected by the facts that can be obtained. Therefore, facts and values become one element, i.e., valuable facts. Similarly, logic/possibilities can be interpreted as the means to obtain facts, but when new facts are obtained, new possibilities emerge that can become facts, leading to factual possibilities. Another difficulty concerns whether the specialized, technical language of calculative practices should be treated as communication or as a factual terminology used (Schatzki, 1996). Expressions of facts and their interpretations could be analyzed as either facts or communication. A specific problem related to a possible future case study concerns whether technical language is an innate competency of an actor, or an expression (communication) thereof.

All of these dilemmas caused bias in the interpretation of these elements in the risk management process and in the choice of controls for the specific pragmatic-constructivist elements in risk management. Therefore, the compatibility of pragmatic constructivism and MCS was presented generally, which caused a problem to emerge with respect to how to adjust control methods to pragmatic-constructivist elements, requiring further conceptual and empirical research into control in a pragmatic-constructivist reality (L. Nørreklit, 2013; Seal, 2012).

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NEW EVIDENCES ON DETERMINANTS OF CAPITAL STRUCTURE FROM THE INDIAN MANUFACTURING INDUSTRY

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Abstract

In the backdrop of Make in India push by Indian government the purpose of this study is to examine the determinants of capital structure towards a better understanding of financing decisions to be undertaken by the Indian manufacturing firms. The data for the analysis is drawn from COSPI manufacturing index of Centre for Monitoring Indian Economy (CMIE). Our sample is an unbalanced panel of 1077 firms over the period 2000-01 to 2012-13. We apply system-GMM to study different factors that affect the leverage decision of firms in India. The findings of the study reveals that the choice of optimal capital structure can be influenced by factors such as profitability, size, growth, tangibility, non-debt tax shields, uniqueness and signal. We also find the existence of both pecking order theory and static trade-off theory in the case of Indian manufacturing firms. The results thus obtained are robust across the different proxies of leverage.

Keywords: Capital Structure, System-GMM, Manufacturing, India

1. INTRODUCTION

Capital structure decision is one of the most important and continual decision in the life cycle of any firm. Even after many decades since the much revered Modigliani and Miller (1958) theory, the burgeoning literature on capital structure is yet to solve the riddle for the firms and financial managers. Though the theoretical models identify a large number of potential determinants of capital structure, the empirical work so far has not, sorted out which of these are important in various contexts (Harris and Raviv, 1991). Moreover the empirical work lags behind the theoretical research perhaps because of the use of proxies that are fairly abstract and unobservable (Titman and Wessels, 1988). The empirical evidence is largely consistent with the theory, although there are few instances where the empirical evidence seems to contradict with the theoretical models. For example, the static trade-off theory postulates a positive relationship between profitability and leverage. However, empirical models by Kester (1986), Friend and Lang (1988), Baskin (1989), Rajan and Zingales (1995), Griner and Gordon (1995), Shyam-Sunder and Myers (1999), Michaelas *et al.* (1999), Booth *et al.* (2001) and Chen (2004) have shown negative relationship between profitability and leverage which is contrary to the static trade-off theory. Similarly the direction and magnitude of relationship between leverage and other determinants like size, growth, tangibility and signal as suggested by the theoretical literature seem to be in disagreement with the empirical findings. In view

of the countervailing perspective between theory and empirics, we propose to examine the determinants of capital structure in Indian manufacturing industry and the relevance of different capital structure theories in the Indian context. More specifically, we examine the factors and theories that play a vital role in deciding the capital structure for the manufacturing industry.

Majority of the empirical work on capital structure focused on understanding the heterogeneity in capital structure of large U.S firms and firms of other developed economies (e.g. Rajan and Zingales (1995), Titman and Wessels (1988) Wald (1999), Fama and French (2002), Frank and Goyal (2009) among others. Firms from the emerging economy have got trivial attention on this issue until the work of Booth *et al.* (2001). Later Abor (2005), Huang and Song (2004) and Delcours (2007) further extended the focus of the capital structure issue on developing economies. Lack of well-developed financial system in the emerging economies is attributed as one of the reasons for the limited attention. The corporate financing pattern changed from state-run development finance institutions to a more market-based model with the onset of liberalization during the early nineteenth century in almost all the emerging economies. India is one such emerging economy which has witnessed significant structural transformations and this has allowed Indian firms to explore different avenues for their source of finance and change their capital structure. Few empirical studies Singh and Hamid (1992), Singh (1994), Cobham and Subramaniam (1998) have attempted to shed light on the capital structure in

India. However, majority of these literatures highlight the pre-liberalization era when the industry was highly regulated and license-raj was prevalent in India. Hence, the empirical findings are less illuminating given the constraints faced by firms. In the post liberalization era Bhaduri (2002), Chakraborty (2010), Ganguli (2013), Handoo and Sharma (2014) provide empirical support on the capital structure issue in Indian context. Using factor analytic model Bhaduri (2002) examine the issue of capital structure across nine broad industry categories over the years 1990-95 and concluded that the optimal capital structure choice can be influenced by factors such as growth, cash flow, size, uniqueness and industry characteristics. However, Bhaduri (2002) has not accounted for the phenomenal growth of the stock market as a preferred source of finance for firms in India post 1995. Chakraborty (2010) used panel cointegration technique on a balanced panel of 1169 firms to capture the determinants of capital structure in India. Our study differs from Chakraborty (2010) as we exploit different periods of growth in the Indian economy i.e. high growth (2005-2007) and moderate growth (2009-2013) and subsequent finance requirements of our exhaustive sample of the manufacturing industry. This will help in better assessment of determinants of capital structure. Handoo and Sharma (2014) examine the determinants of capital structure of a cross section of 870 Indian companies listed on NSE from 2001-2010. They average 10 year data for each variable per company and apply multiple regression to derive conclusions. The underlying property of data is lost by taking average of the data. We differ from Handoo and Sharma (2014) on two counts. First, we take the sample from COSPI index of CMIE which includes listed companies not only from NSE but also from BSE, hence a better representative sample. Second, we apply dynamic panel data techniques to get robust inferences from the underlying data.

Rest of the paper is organised as follows. In Section 2, we discuss the theoretical underpinning of determinants of capital structure. Data and methodology are provided in Section 3. Section 4 deals with empirical analysis and we conclude in Section 5.

2. MEASURES OF LEVERAGE AND DETERMINANTS OF CAPITAL STRUCTURE

2.1. Leverage

This study uses three measures of leverage to examine the issue of capital structure. Total outside liabilities to total asset (**lev 1**) is used as our main measure of leverage. While long term borrowing to total assets (**lev 2**) and short term borrowing to total assets (**lev 3**) are used as robustness checks. We have used short term borrowing as one of our measures of leverage following Huang and Song (2006) who argue that “when a firm wants to obtain more debt, the creditor will consider not only how much a firm’s long term debt is, but also how much a firm’s current debt and total liability are”. Moreover, current debt is quite a steady part in Indian manufacturing companies; hence we use it as a robustness check. We would have liked to use market values of debt instead of book values, but

due to data limitations we are forced to use book value.

2.2. Profitability

Pecking order theory states that firms’ prefer internal sources of financing to debt, hence profitable firms with access to retained profits can rely on them, thus the relationship between profitability and leverage is negative. Whereas static trade-off theory postulates that profitable firms’ prefer debt to other sources of financing in order to avail the benefit of tax shield implying a positive relationship between profitability and leverage. Empirical studies on this issue have confirmed this ambiguity. Friend and Lang (1988), Titman and Wessels (1988), Barton *et al.* (1989), Rajan and Zingales (1995), Griner and Gordon (1995), Shyam-Sunder and Myers (1999), Michaelas *et al.* (1999), Booth *et al.* (2001), Chen (2004), and Murinde *et al.* (2004) have shown negative relationship between profitability and leverage in confirmation with the pecking order theory. On the other hand Bowen *et al.* (1982), Dammon and Senbet (1988), Givoly *et al.* (1992) and Petersen and Rajan (1994) have concluded that the relationship between profitability and leverage is positive confirming the static trade-off theory. This study considers two different proxies to measure profitability (**Prof**) (i) ratio of profit before interest, tax and depreciation to total assets and (ii) ratio of net operating cash flow to total assets.

2.3. Size

The relation between firm size and leverage is unclear. Kester (1986), Titman and Wessels (1988), Rajan and Zingales (1995) find a negative relationship between size and leverage by arguing that larger firms with less asymmetric information problems tend to have more equity than debt, hence have lower financial slack (following the pecking order theory). On the other hand, Marsh (1982), Chittenden *et al.* (1996), Kim *et al.* (1998), Al-Sakran (2001), Booth *et al.* (2001), Hovakimian *et al.* (2004) and Huang and Song (2004) show positive relationship between firm size and leverage. They argue, larger firms tend to be more diversified and thus less prone to bankruptcy (following the trade-off theory). While, Bevan and Danbolt (2002) observe that firm size is negatively related to short-term debt and positively related to long-term debt. This study considers two different proxies to measure of size: (i) natural logarithm of sales and (ii) natural logarithm of total assets.

2.4. Growth

Growth is quintessential activity of every economic agent. Hence it is imperative to understand the effect of growth on leverage. Empirical studies provide ambiguous results confirming the possibilities of both negative and positive relationship. Firms with high growth opportunities would require more funds. Therefore studies that advocate for pecking order, prefer debt financing. Hence, expect a positive relationship between growth and leverage. The counter argument is that firms with growth opportunities may invest sub-optimally, therefore creditors will avoid long term financing resulting in a negative relationship. But at

the same time the issue can be resolved by short term financing and we can expect positive relationship Myers (1977), Titman and Wessels (1988), Rajan and Zingales (1995) and Booth *et al.* (2001). On the other hand, studies that vouch for trade-off theory expect lower debt financing because growth opportunities are a form of intangible assets and cannot be collateralised (Long and Malitz (1985) among others). Hence, expect a negative relationship between growth and leverage. We have used percentage change in sales (**growth**) and **tobinQ** as our measures of growth.

2.5. Tangibility

The relationship between tangibility and leverage is positive both in case of trade-off theory (in terms of financial distress and bankruptcy costs) and pecking order theory (in terms of information asymmetry), see (Scott, 1977), Titman and Wessels (1988), Harris and Raviv (1990), Rajan and Zingales (1995), Ozkan (2001) among others. However, the findings from developing economies are mixed. Wiwattanakantang (1999) find positive relationship for Thailand but Booth *et al.* (2001) for ten developing countries and Huang and Song (2004) for China show negative relationship. Our measure for tangibility is the ratio between net fixed assets and total assets (**tangy**).

2.6. Non-debt tax shield

Theoretically firms are expected to have positive relationship between non-debt tax shield and leverage because of tax deductibility (Bradley *et al.*, 1984). However, DeAngelo and Masulis (1980) argue that non-debt tax shields are substitutes for the tax benefits of debt financing and firms with larger non-debt tax shields are expected to use lower debt that may result in negative relationship. The same has been corroborated by Wald (1999), Chaplinsky and Niehaus (1993) Huang and Song (2004). We use the ratio of depreciation and amortization to total assets as the measure of non-debt tax shields (**ndts**).

2.7. Uniqueness

Theoretically and empirically, firms with unique products and services are likely to be less leveraged

(Titman (1984), Bradley *et al.* (1984), Long and Malitz (1985), Williamson (1988) and Harris and Raviv (1991)). To cater unique product and services a firm has to make huge investments in research & development (R&D) activities and at the same time it has to prop up the selling & distributions (S&D) expenses. The intangible nature of these investments render them unsuitable as collaterals. This increases the chance of bankruptcy, hence we expect a negative relationship between firms' uniqueness and leverage. R&D and S&D scaled by sales is our measure for firms' uniqueness (**uniq**).

2.8. Signal

If a firm can efficiently signal its quality to the external world it can easily source external funds. We have used standard deviation of earnings before interest tax depreciation, and dividend payment by net income as a measure of **signal** Booth *et al.* (2001) and Bhaduri (2002). High standard deviation in firm's earnings may lead to financial distress that may cause inverse relationship with leverage because financial institutions will be reluctant to give away loans. On the other hand if dividend payment represents better financial health, it may enhance their debt taking capacity. On the contrary firms with good dividend payment reputation face less asymmetric information in accessing the stock markets. John and Williams (1985) and Miller and Rock (1985) envisage inverse relationship with leverage.

3. DATA AND METHODOLOGY

The data for the analysis is drawn from COSPI manufacturing index of Centre for Monitoring Indian Economy (CMIE). Balance sheet and cash flow statement data for the manufacturing industry is used in the study from 2000-01 to 2012-13. COSPI manufacturing index serves our purpose quite well as it constitutes of companies that are listed and whose trading frequency is greater than 90 percent in the last thirty trading days. Our sample is an unbalanced panel of 1077 firms over the sample period. In aggregate, we have 13378 observations.

Drawing from the discussions in Section 2, the functional form of our model is as follows:

$$leverage = f(prof_{it}, tangy_{it}, size_{it}, growth_{it}, ndts_{it}, unique_{it}, signal_{it}) + u_i \quad (1)$$

Our objective is to test the variation of leverage in the manufacturing industry over time, hence dynamic panel techniques serves our purpose quite well. It has been proved that OLS estimates are biased in the presence of firm-specific effects. Two-step system GMM provides better estimation with a relative long time period and large sample data. System GMM estimator of Arellano and Bover (1995) and Blundell and Bond (1998) combines the regression expressed in first differences (lagged

values of the variables in levels are used as instruments) with the original equation expressed in levels (this equation is instrumented with lagged differences of the variables) provides a better alternative. It corrects for the endogeneity of the lagged dependent variable, and also the potential endogeneity of the other regressors. Keeping this in view we apply the system GMM by modifying the equation 1 as follows:

$$leverage = f(lev_{it-1}, prof_{it}, tangy_{it}, size_{it}, growth_{it}, ndts_{it}, unique_{it}, signal_{it}) + \eta_i + \eta_t + \varepsilon_{it} \quad (2)$$

Where η_i captures the firm specific heterogeneity and η_t is for the time-specific dynamics of the series and ε_{it} is the error term.

4. EMPIRICAL ANALYSIS

Table 1 reports the summary statistics of the variables used in the base line model. As we can

observe from the table the average growth in the manufacturing firms is 0.140. The average size of

the firm is 7.604. There not much dispersion among the variables except for ndts.

Table 1. Summary Statistics

<i>Variables</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
lev1	13372	-0.722	0.581	-7.786	2.920
lev2	13329	-1.408	1.240	-14.340	2.874
lev3	13357	-1.889	0.791	-11.261	1.589
prof	12739	-2.108	0.717	-10.200	2.713
size	13225	7.604	1.796	-2.302	15.322
growth	12009	0.140	0.411	-7.400	8.089
tangy	13335	-1.224	0.722	-7.533	0
ndts	13263	-0.155	15.366	-1308	0.384
unique	6046	0.008	0.019	-0.070	0.471
signal	8170	0.363	7.030	-30.666	632

Table 2 presents the correlation coefficient between the variables. Among the explanatory variables profit is negatively correlated with leverage, which supplements the pecking order theory. Both ndts and tangy are positively correlated with leverage. The correlation between ndts and tangy is higher which may bias our results. Hence,

we test for the multicollinearity among variables using variance inflation factor (VIF). VIF test results in Table 3 indicate that the value corresponding to each explanatory variable is much less than 10, hence we conclude that multicollinearity is not a serious problem among the variables.

Table 2. VIF Table

<i>Variable</i>	<i>VIF</i>	<i>1/VIF</i>
prof	1.24	0.807
size	1.06	0.941
growth	1.03	0.973
tangy	1.57	0.636
ndts	1.60	0.625
unique	1.07	0.938
signal	1.00	0.999

Table 3. Correlation Matrix

	lev1	lev2	lev3	prof	size	growth	tangy	ndts	unique	signal
lev1	1									
lev2	0.758	1								
lev3	0.363	-0.333	1							
prof	-0.356	-0.371	0.016	1						
size	0.012	0.009	0.006	-0.011	1					
growth	0.139	0.077	0.092	0.104	0.012	1				
tangy	0.121	0.360	-0.339	-0.054	-0.032	0.017	1			
ndts	0.050	0.173	-0.175	0.166	-0.088	-0.015	0.533	1		
unique	-0.108	-0.100	-0.013	0.148	0.039	-0.042	0.005	0.027	1	
signal	-0.001	-0.021	0.028	0.096	-0.038	0.175	-0.054	-0.078	-0.030	1

In our baseline model we use total borrowings (lev1) as our primary dependent variable. The robustness of the base line model is checked using two different measures of leverage i.e. long term borrowings (lev2) and short term borrowings (lev3). For each independent variable we have two proxy measures e.g. for profitability we have prof1 & prof2, for size we have size1 & size2. Similar is the case for remaining other determinants. To derive our final set of independent variables, we adopt a general-to-specific framework. From the general-to-specific framework we derive profit before interest tax and depreciation to total assets (prof), natural logarithm of sales (size), change in sales (growth), tangy, ndts, selling & distribution to sales (unique), and standard deviation of profit before interest tax and depreciation (signal) as our independent variables. The results of our base line model as well as the robustness check using these independent variables is discussed in Table 4.

The empirical evidence suggests that the coefficients of all the determining factors of leverage are significant at 1% level in our base-line model. Profitability has negative relationship with total leverage and long term leverage which is in

conformity with pecking order theory. It suggests that firms prefer internal sources to external sources of finance when profits are high. On the other hand, low profit firms use more debt because their internal funds are not sufficient. Our result is in line with some earlier studies such as (Kester, 1986, Friend and Lang, 1988, Baskin, 1989, Griner and Gordon, 1995, Shyam-Sunder and Myers, 1999, Ozkan, 2001). But when we use short term leverage as our dependent variable we find a positive relation between profitability and short term leverage. The use of short term leverage supports the static trade-off theory. The ambiguous relationship between profitability and leverage is again highlighted in the Indian context.

Size has negative relationship with total leverage and short term leverage while no relationship with long term leverage; hence leverage decision is influenced by short term borrowings. Our finding is in line with the pecking order theory which suggests that larger firms with less asymmetric information problem tend to have more equity than debt. Our results are consistent with the findings of Kester (1986) and Titman and Wessels (1988).

Table 4. Determinants of capital structure

	<i>lev1</i>				<i>lev2</i>				<i>lev3</i>			
prof	-0.452***	-0.449***	-0.452***	-0.442***	-0.479***	-0.478***	-0.479***	-0.479***	0.026***	0.029***	0.027***	0.037***
	(27.47)	(27.23)	(27.23)	(34.44)	(30.96)	(30.82)	(30.65)	(39.84)	(5.33)	(5.75)	(5.47)	(7.01)
size	-0.033***	-0.016***	-0.015***	-0.01***	-0.019***	-0.002	-0.002	0.002	-0.015***	-0.013***	-0.013***	-0.012***
	(8.37)	(3.87)	(3.75)	(3.48)	(5.02)	(-0.59)	(-0.59)	(-0.86)	(12.43)	(10.88)	(10.66)	(10.52)
growth	0.007	0.02***	0.026***	0.042***	-0.008	0.004	0.006	0.02***	0.015***	0.016***	0.02***	0.022***
	(-0.99)	(2.84)	(3.42)	(6.31)	(-1.15)	(-0.63)	(-0.82)	(3.21)	(6.93)	(7.34)	(8.85)	(8.13)
tangy	0.28***	0.102***	0.096***	0.149***	0.363***	0.2***	0.19***	0.234***	-0.083***	-0.098***	-0.094***	-0.084***
	(9.31)	(3.26)	(3.01)	(6.52)	(12.85)	(6.79)	(6.33)	(10.89)	(9.25)	(10.25)	(9.86)	(9.04)
ndts		3.58***	3.36***	2.112***		3.296***	3.101***	2.214***		0***	0.259***	-0.102
		(17.30)	(15.66)	(12.36)		(16.94)	(15.35)	(13.84)		(4.45)	(4.03)	(-1.47)
uniqu			0.2*	0.286***			0.147	0.235***			0.053	0.051
			(-1.7)	(3.26)			(-1.32)	(2.86)			(-1.5)	(-1.43)
signal				0.013***				0.005				0.008***
				(3.00)				(-1.15)				(4.73)
cons	0.789***	0.594***	0.59***	0.533***	0.454***	0.272***	0.274***	0.227***	0.338***	0.322***	0.316***	0.306***
	(22.38)	(16.18)	(15.42)	(19.89)	(13.72)	(7.89)	(7.60)	(9.04)	(31.80)	(28.83)	(27.58)	(28.03)
R2	0.08	0.11	0.1	0.14	0.1	0.12	0.12	0.17	0.03	0.03	0.03	0.04
N	12,001	11,987	11,811	11,142	12,001	11,987	11,811	11,142	11,998	11,985	11,810	11,142

Note: t-statistics in parenthesis. *, **, *** denotes level of significance at 10%, 5% and 1% respectively.

Growth has a positive relationship with all the components of leverage i.e. total leverage, long term leverage and short term leverage. The positive relationship supports the view that there is stronger preference for external financing by high growth firms and the preference is for debt financing. The finding is not surprising given the fact that India being one of the fastest growing economies, the firms have a high growth potential, hence require more funds in accordance with the pecking order theory. The positive relationship between the two variables is consistent with the findings of Rajan and Zingales (1995), Booth *et al.* (2001), Pandey (2001) and Chen (2004).

The positive relationship between tangibility and leverage (total leverage and long term leverage) is in conformity with static trade-off theory which implies that the firms with more fixed assets have huge collateral to support their big loans, therefore, have a higher leverage ratio. Similar findings were reported by Rajan and Zingales (1995), Wiwattanakantang (1999), Frank and Goyal (2003), Chen (2004), Gaud *et al.* (2005). However, we find a negative relationship of tangibility with short term leverage that brings forth the theory of substitution of long term for short term debt which support the studies of Booth *et al.* (2001) and Huang and Song (2004).

We find a positive relationship of non-debt tax shield with total leverage and long term leverage. The findings are on the expected line because the firms can benefit from the tax shield due to interest deductibility. However, we don't find any relationship between non-debt tax shield and short term leverage most probably because of no tax benefit on short term borrowing.

The study finds a positive relationship between uniqueness and leverage. The positive relation is most probably because most of the firms are in their early phase of life cycle with huge investments in selling and distribution to become more competitive. Hence it will take some time before it has substantial impact on leverage decision of manufacturing firms. Our result is in contrast with Chakraborty (2010) who report no significant relationship of uniqueness with leverage. This is probably because Chakraborty (2010) used investments in research & development as measures of uniqueness, whereas we use selling & distribution expenses as a proxy of uniqueness. Indian companies invest minuscule amount in research & development hence inferences drawn from these sporadic data points cannot be generalized.

While measuring the impact of signal on leverage we notice an unconventional positive relationship. This is most probably because to enhance economic activities in the country financial institutions are mandated to provide support to firms. Secondly, earnings in emerging economies are high because of huge potential that comes at the cost of high dispersion. Our results contradicts the findings of Bradley *et al.* (1984), Friend and Lang (1988), Walsh and Ryan (1997).

5. CONCLUSION

In this study, we examine the determinants of capital structure for an exhaustive sample of Indian manufacturing industry for the period 2000-01 to 2012-13. In the backdrop of *Make in India* push by Indian government the findings of the study contribute towards a better understanding of financing decisions to be undertaken by the Indian

manufacturing firms. The study confirms the findings of previous studies that reveal that the determinants of capital structure largely remain the same for both developed and developing economies (Booth, 2001). We differ from earlier studies by using different measures for uniqueness and signal. R&D as a measure of uniqueness is not significant for our sample of manufacturing firms probably because of minuscule investments in research and development by Indian firms. Hence, we use selling and distribution as our measure of uniqueness while making capital structure decisions (significant at 1% level). The traditional measure of signal i.e. dividend payment is not significant for our sample hence; we use volatility of PBITD as a new measure of signal which has not been explored by previous capital structure studies in India (significant at 1% level).

The study finds that the choice of optimal capital structure can be influenced by factors such as profitability, size, growth, tangibility, non-debt tax shields, uniqueness and signal. We also find the existence of both pecking order theory and static trade-off theory in the case of Indian manufacturing firms. We conclude that decision on capital structure is complex and depends on several factors. Hence, firms need to give due consideration to these factors before deciding on their financing decision.

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STAKEHOLDER INFLUENCE ON EARNINGS MANAGEMENT: ETHICAL CONSIDERATIONS AND POTENTIAL AVENUES

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Abstract

Financial reports are a major bonding agent in (prospective) firm-stakeholder relationships. Therefore, earnings management might induce stakeholders to accept terms of trade which they would have not, knowing the true situation. The issue becomes even more complicated and potentially conflict-laden if some stakeholders would possess the ability to influence firms' earnings management behavior and exploit this at the expense of others. Four generalizable avenues of potential stakeholder influence are presented.

Keywords: Stakeholder Theory, Earnings Management, Ethical Implications

1. INTRODUCTION

Financial reporting serves two main purposes in modern business life. On the one hand, it determines tax liabilities as well as residual income which are distributable⁵ amongst owners. On the other hand, it ought to inform further stakeholders about the value of their explicit and implicit claims in the firm. Stakeholders are manifold and include, but are not limited to, auditors, creditors, customers, employees, labor unions, suppliers and other contractors.

Contemporary accounting principles view stakeholders as mere consumers of financial statements. As a consequence, research on earnings management (i.e., 'window dressing' or 'earnings manipulation') primarily focuses on the techniques and the degree to which firms deceive stakeholders through their earnings management activities.

The goal of this study is to determine whether this is necessarily the case. Might stakeholders even be able to influence the formation and reporting of earnings? If they actually influence the accounting process in this respect, their role becomes ambiguous. They would simultaneously constitute users as well as factors influencing financial accounting information. To render things even more complex, these stakeholders might exploit their position at the expense of others. Four theoretical explanations for the deviation from the classic dichotomy between users and preparers of financial statements are discussed.

First, the behavioristic approach states that stakeholder behavior towards the firm is reciprocally determined by individual expectations and valences. In this sense, financial statements are a means of interaction upon which stakeholders and firms develop terms of trade for their transactions.

Second, in a similar vein, organizational sociology exhibits means of influence for employees through collective voice. Third, derived from the catering approach, I argue that various stakeholder groups have different (and potentially time-varying) demand for earnings management. Fourth, the cultural approach formulates the theory that the (non-) acceptance of earnings management in a society depends strongly on social and legal institutions which, in turn, are determined by culture.

The paper is structured as follows. First, I will present fundamentals of earnings management and show that it is a profoundly ethical issue. Moreover, stakeholder theory and its connection to accounting are discussed. Financial reporting and, more specifically, corporate earnings serve as a bonding agent in contemporary economic transactions. Stakeholders adjust their terms of trade based on information which, to a non-negligible part, stems from financial reports. The traditional dichotomy in financial reporting is presented next. It results from a long line of traditional approaches to financial accounting theory dating back to the late 19th century. In the following, I try to consolidate both views and present possible avenues how stakeholders might overcome this classic dichotomy.

2. FUNDAMENTALS OF EARNINGS MANAGEMENT

In a seminal paper, Healy & Wahlen (1999) define earnings management as an act of managerial "judgment in financial reporting and in structuring transactions to alter financial reports to (...) mislead some stakeholders about the underlying economic performance of the company" (p. 368). Hence, this encompasses the whole range of earnings management activities from real cash flow choices to accounting earnings management. The continuum of earnings management activities presented in Figure (1) ranges from conservative (i.e., income-decreasing) to aggressive (i.e., income-increasing) accounting and

⁵ This paper is partly based on my dissertation at Bielefeld University. I thank Jürgen Ernstberger and Hermann Jahnke for valuable comments and suggestions. All errors remain my own.

even onto outright fraud (e.g., Goncharov (2005), p. 24). Conservative accounting earnings management consists of the overstatement of reserves, increases in provisions for bad debt, overstatement of write-offs, the use of the declining-balance (i.e., accelerated) depreciation method instead of straight-line depreciation, etc. These choices reduce earnings relative to the neutral state. Aggressive accounting, on the other hand, is based on reducing reserves, write-offs, provisions for bad debt and so forth. It inflates earnings relative to neutral, unmanaged earnings.

There are a couple of problematic issues in the distinction of aggressive earnings management and fraud. Intentional and deliberate misstatements do not encompass mere errors. For instance, Dechow & Dichev (2002) find that accruals are not only an earnings management tool, but also prone to estimation errors. From outside the organization, it is not trivial to appropriately assess managerial intent. Moreover, the misstatement or omission has to be material. Yet, defining 'materiality' in itself requires judgment and thus offers management considerable leeway (Johnson (1999)). Standard setters do not provide clear qualitative and/or quantitative guidance and criteria for appraising materiality. Hence, it depends largely on the auditor's professional judgment. Quantitatively small misstatements or omissions might still be material if they, for instance, turn small losses into profits, and increase the propensity to meet analyst consensus forecasts or loan covenants.

3. ARE MANAGED EARNINGS AN ETHICAL ISSUE?

The underlying premise of the whole strand of earnings management literature is that firms discretionarily deviate from 'true' economic earnings via financial reporting or real business transactions. Thus, earnings management research (implicitly) requires an assumption of 'true' earnings, a concept which in itself is non-trivial and highly debated. Macintosh (2009) posits that "income (...) cannot be defined, only described" and goes on saying that "income is only a socially constructed linguistic object" (p. 158) rather than a universal, "permanent and extra-linguistic" (p. 165) concept. As a result, it can never be universally true as it depends on a socially constructed, and ever changing, set of accounting regulation. Consequently, he suggests that researchers, auditors and standard-setters refrain from the use of the term 'true and fair view' and instead prefer the phrase that "statements have been prepared to conform to current promulgated GAAP and concepts" (p. 168). Lev (2003) establishes a more practical definition of truth as a "statement (...) that corresponds to (...) facts" (p. 30). Yet, his resulting conclusion of how the report of accounting earnings corresponds to the truth is equally bleak. Earnings, reported shortly after the corresponding fiscal year, contain numerous estimates and assumptions, rendering them inevitably imprecise. As such, they necessarily are "a far cry from facts" (p. 31). Hence, one may argue that a certain degree of earnings management is unavoidable (e.g., Heintges (1997), pp. 174f.).

Figure 1. Distinction between earnings management and fraud⁶

	Accounting choices	Cash flow choices
	Within-GAAP	
'Conservative' accounting	Overly aggressive recognition of provisions or reserves	Delaying sales
	Overvaluation of acquired in-process R&D in purchase acquisitions	Accelerating R&D or advertising expenditures
	Overstatement of restructuring charges and asset write-offs	
'Neutral' accounting	Earnings that result from a neutral operation of the process	
'Aggressive' accounting	Understatement of the provision for bad debts	Postponing R&D or advertising expenditures
	Drawing down provisions or reserves in an overly aggressive manner	Accelerating sales
	Out-of-GAAP	
'Fraudulent' accounting	Recording sales before they are 'realizable'	
	Recording fictitious sales	
	Backdating sales invoices	
	Overstating inventory by recording fictitious inventory	

⁶ Modified and implemented from Dechow & Skinner (2000), p. 239.

As postulated before, earnings management is 'within-GAAP'. Ample evidence shows that firms which are eventually found guilty of accounting fraud and forced to restate their earnings, previously engaged, and seemingly overextended themselves, in legal earnings management prior to the actual misstatement periods (e.g., Bell & Carcello (2000); Crutchley et al. (2007); Ettredge et al. (2010)). Thus, there seems to be a slippery slope from earnings management to fraud. Small, gradual instances of earnings management potentially erode ethical behavior of managers and their organizations and, in the long-term, result in aggregate fraud cases (Gino & Bazerman (2009); Johnson et al. (2012)). In this respect, Harris et al. (2010) provide evidence that small loss avoidance (i.e., benchmark beating), which is typically associated with rather small amounts of earnings discretion (Burgstahler & Chuk (2011)), is positively associated with accounting fraud. Evidence from an experimental setting show that managers tend to rationalize their behavior "when organizational consequences are favorable", "as if the ends justify the means" (Johnson et al. (2012), p. 922).

Nevertheless, there also are positive views on earnings management. These follow the notion that true economic earnings are rather volatile and convey only little information about future earnings and cash flows. Managerial accounting discretion, thus, merely conveys private information through making long-term sustainable earnings more visible (e.g., Sankar & Subramanyam (2001)). Additionally, even if earnings would be managed in the short-term, accrual reversals ensure that earnings are unbiased in the long-term, which "allows [a stakeholder] to detect persistently poor performance" (Arya et al. (1998), p. 9).

Therefore, to reconcile which view of earnings management is consistent, one has to consider whether stakeholders are able to see through the firm's earnings management activities. For it to be purely beneficial, by conveying private information about sustainable long-term prospects, they would have to fully see through earnings management. Otherwise, this would inevitably result in disequilibrium (Ronen & Yaari (2008), p. 117f.). On the other hand, if the market is able to fully comprehend earnings management, by definition, it can never be pernicious. As this assumption is rather hypothetical and far-fetched, it is at least highly unlikely that the notion of it being purely beneficial can hold (for comprehensive reviews on empirical evidence, c.f., Dechow et al. (2010); Healy & Wahlen (1999)). The situation might be described best in the spirit of Akerlof (1970). In a simplified model, there are three kinds of firms (Ronen & Yaari (2008), p. 118). Good news firms with truthful and bad news firms with truth- or untruthful earnings reports. Stakeholders know that the intrinsic value of an average good (bad) news firm is 220 (160), respectively. But they are uncertain about the underlying quality and truthfulness of each separate firm. Moreover, it is known that 60% (40%) of the firms have good (bad) news and that 20% of bad news firms portray themselves as good news firms by issuing untruthful reports. In effect, stakeholders discount the value of truthful good news-reports and in turn overestimate the value of untruthful bad

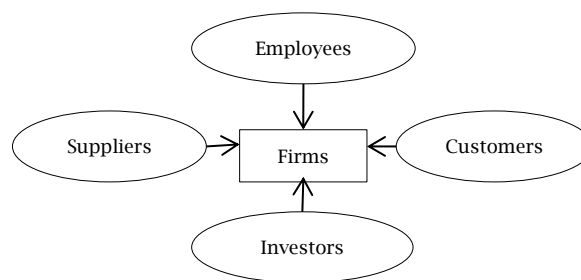
news firms.⁷ In summary, this brings me to the conclusion that earnings management has to be considered, at least somewhat, pernicious.

4. FUNDAMENTALS OF STAKEHOLDER THEORY

In the following, I will present how the stakeholder approach relates to financial reporting of the firm. Freeman & Reed (1983) define stakeholders as "those groups who have a stake in the actions of the corporation" (p. 89). Thus, stakeholders consist of a wide range of individuals and organizations with which the firm has explicit or implicit contractual relationships involving firm-specific assets. As a result of investment and asset specificity, firm-stakeholder relationships are characterized by a mutual dependency. According to Donaldson & Preston (1995) it is not based on a mere one-sided interest of a stakeholder in the firm but a corresponding functional interest of the firm in establishing and maintaining the stakeholder relationship. Although stakeholder theory is closely related with resource dependence theory (Pfeffer & Salancik (1978)), insofar as it also originates from the idea of (implicitly) contracting on firm-specific assets, it evolved into a normative theory of the organization. It addresses the issue of "who [besides owners and their agents] is allowed to take part in decision-making concerning organizational objectives and strategies" (Phillips et al. (2003), p. 487).

Following the traditional 'Input-output model', a company is regarded as a "black box" (Jensen & Meckling (1976)) which stands in contrast to transparent market transactions. Already Coase (1937) establishes the notion that, in this case, a market price mechanism allocating input factors is replaced by an "entrepreneur-coordinator, who directs production" (p. 388). Figure (2) presents this "Production View of the Firm" (Freeman (2010), p. 5). With - financing by debt and equity investors, it transforms input factors such as labor, capital goods and upstream products into finished goods and services.

Figure 2. Input-output model of the firm⁸



In his seminal paper "The Nature of the Firm", Coase (1937) explains the parallel occurrence of multiple firms and markets in our modern economy. More specifically, he brings forward the questions

⁷ According to Bayes' theorem, the value V of a good news firm, depending on the rate of expected earnings management by bad news firms amounts to $V = 220 \cdot 60\% \cdot ((1/((.60 \cdot 1) + (.40 \cdot 20))) + 160 \cdot 40\% \cdot ((.20/((.60 \cdot 1) + (.40 \cdot 20)) - 220 \cdot 80 + 160 \cdot 12 = 212.80$ which is below its intrinsic value of 220.

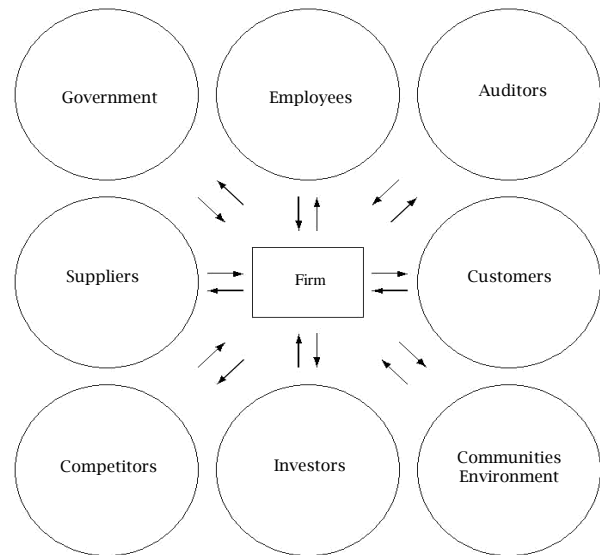
⁸ Modified and implemented from Donaldson & Preston (1995), p. 68.

"why, if by organising one can eliminate certain costs and in fact reduce the cost of production, are there any market transactions at all?" and "Why is not all production carried on by one big firm?" (p.394). Former market transactions will be internalized as long as internal transaction cost is lower than the cost of market transactions. Williamson (2002) formalizes this notion. For less specific and complex transactions, the manager chooses a market transaction which does not require maintaining a large, costly firm bureaucracy. As specificity increases, the cost of conducting market transactions increases comparatively more than internal transaction costs. Yet, as internal transactions require management time and co-ordination, the cost of an additional internal transaction increases, as well. This results in "diminishing returns to management" (Coase (1937), p. 395) or "diseconomies of large scale" (Williamson (2002), p. 176). Depending on the growth rate of the firm's bureaucracy, and the increase in the rate of mistakes made by management, the firm will eventually reach its size limit (Coase (1937)). Hence, stakeholder relationships might be a suitable middle ground between pure internal and pure market transactions. For instance, suppliers invest in, administer and maintain certain firm-specific assets, using their own management's time and bureaucracy. They can specialize and, therefore, reduce the rate of mistakes. This leads to comparatively cheaper input supply. Asset specificity limits the supplier's ability to sell its products on the market, and limits market sources for the firm, as well. Thus, both the supplier and the firm, enter into a mutual dependency. In summary, stakeholder relationships are a hybrid of market and internal transactions from a transaction cost perspective.

The processes of establishing and expanding a firm by (quasi-)incorporating former market transactions thus create a 'nexus of contracts' (Jensen & Meckling (1976)). This nexus is a vast combination of mutual explicit and implicit contracts, as well as legal statutes (Easterbrook & Fischel (1991)) between owners, managers and various other stakeholders which bargain "with the firm over a set of rights that will protect the firm-specific assets that it makes available for production" (Boatright (2002), p. 1837). Albeit implicit contracts are not enforceable in court, they tend to be self-enforcing as the contracting parties face the risk of reputation and relationship capital losses following a breach of contract (Bull (1987)). Moreover, as already mentioned, firm-specific assets and investment create a bilateral economic dependency between the firm and its stakeholders. They cannot be transferred to another "use or user (...) [without] a loss of productive value" (Williamson (2002), p. 176). Taking this a step further, one may even argue that the firm itself is constituted out of "a constellation of cooperative and competitive interests possessing intrinsic value" (Donaldson & Preston (1995), p. 66).⁹ Figure (3) summarizes the

nexus of mutual relations between the firm and its stakeholders in contrast to the traditional input-output model.

Figure 3. The stakeholder model of the firm¹⁰



Besides the existence of mutual contractual relations and dependencies, there is a second necessary condition for a stakeholder relationship. Not every contract necessarily constitutes a stakeholder relationship. Discrete, single transactions, which are unlikely to be repeated, do not qualify (Bowen et al. (1995)). As such, Macneil (1978) distinguishes discrete from relational, repeated transactions as being "entirely separate not only from all other present relations but from all past and future relations as well" (p. 856). Table (1) indicates the repeated, forward-looking nature of stakeholder relationships which is reflected in both implicit and explicit claims. For instance, employees possess claims which are forward-looking, and thus based on repeated transactions, such as job security and promotion prospects. Moreover, employees and capital providers are players which directly contribute to the production process. Auditors and tax authorities (as one branch of government) are just indirectly connected to production. Institutionally, they play an essential role through the enforcement of accounting practices which constitutes essentially a service to other stakeholders, such as suppliers and customers. As discussed earlier, the latter might adjust their terms of trade with the firm (partly) on the basis of financial reports which "act as a major social bonding agent in today's fragile global social, economic and financial capitalism" (Macintosh (2009), p. 142).

some influencers (e.g., the media) have no stakes" (p. 86). This is not to say that "influencers" are meaningless in this context. They, in the truest sense of the word, are influential on the firm through potentially influencing stakeholders (e.g., Joe et al. (2009)). Phillips (2003) applies a similar stakeholder framework and labels influential parties as 'derivative' stakeholders which potentially exert benefit or detriment on the firm.

¹⁰ Modified and implemented from Donaldson & Preston (1995), p. 69 and Freeman (2010), p. 55.

⁹ Donaldson & Preston (1995) distinguish between stakeholders, with whom the firm has a mutually dependent relationship, and influential parties: "It is essential to draw a clear distinction between influencers and stakeholders. some actors in the enterprise (e.g., large investors) may be both, but some recognizable stakeholders (e.g., the job applicants) have no influence, and

Stakeholder theory not only has roots in economics and contracting theory but also in organizational sciences which tend to consider the firm as a coalition of individuals (March & Simon (1958); Staehle (1969)). This coalition is based on decisions by each individual member. The decision to participate, and remain, in a coalition is determined by a balance between inducements and contributions. This 'theory of organizational equilibrium' goes back to Barnard (1938) and Simon (1945). Barnard (1938) further distinguishes between an external and internal balance. The internal balance develops between employees, investors, suppliers and customers, whereas the external balance covers an alignment in objectives of the coalition (i.e., the firm) and its social environment. Hence, stakeholders decide to take part in a joint venture as long as they determine that their contribution to the firm is matched by an appropriate inducement. Stakeholder-agency theory stipulates that their concrete behavior is determined by possible power differentials between stakeholders and the firm (Hill & Jones (1992)). For instance, if the firm depends less on the stakeholder than vice versa, the stakeholder is less likely to leave the coalition even if terms of trade eventually deteriorate. Expanding on this notion, Frooman (1999) categorizes stakeholder relationships as either low interdependence (i.e., neither the firm nor the stakeholder are particularly dependent on each other), firm power (i.e., the power differential is in

favor of the firm), stakeholder power or high interdependence. As such, stakeholder theory does not normatively imply equal treatment and influence of all stakeholders (Phillips et al. (2003)).

In summary, a stakeholder relationship in the context of organizational management and financial reporting is based on four crucial attributes. It requires (1) an explicit or implicit contract, involving (2) repeated transactions, regarding (3) firm-specific assets, investments or skill sets, resulting in a (4) mutual dependency.

It has to be made clear that the various stakeholder interests and claims constituting the firm are rarely aligned, except for the quite basic "stake in the continued existence of the firm" (Hill & Jones (1992), p. 145). From an organizational perspective, management's central purpose therefore is to balance these various interests (Donaldson & Preston (1995); Hill & Jones (1992)). If management, for whatever reason, fails to fully account for those conflicts, then stakeholders themselves will adjust their terms of trade to anticipate other stakeholders conflicting goals. On a related note, another pitfall of the stakeholder approach is opportunistic managerial actions, which are rationalized by pressure by some stakeholder groups. Therefore, stakeholders have to be aware not only of their peers' goals and actions but also of potentially opportunistic managerial behavior (Phillips et al. (2003)).

Table 1. Stakeholders' explicit and implicit claims¹¹

<i>Stakeholders</i>	<i>Explicit Claims</i>	<i>Implicit Claims</i>
Employees	Wages, benefits (e.g., workspace, vacation, pension, parking), work hours, severance agreements	Working conditions (e.g., safety, pleasant workspace), job security, future prospects (e.g., wage increases, benefits, promotions)
Auditors	Audit Fees	Reputation, continuing demand for audit services, avoidance of litigation, prospects of cross-selling opportunities for non-audit services
Customers	Price, payment terms (e.g., due date, discount, credit limit, interest rate), quantity of goods or services purchased, performance contracts (e.g., service agreements, warranties)	Specified quality of performance, continuing supply of goods or services, continuing availability of spare parts and maintenance service
Debt investors	Interest rate, payment terms (e.g., maturity, credit limit, collateral), quantity of funds supplied	Timely payment, continuing demands for funds, investment security
Equity investors	Residual claim on profits, involvement in strategy setting, fringe benefits	Future prospects (e.g., profit increases, firm growth), prestige
Suppliers	Price, payment terms (e.g., due date, discount, credit limit, interest rate), quantity of goods or services supplied, purchase commitments	Timely payment, continuing demand for goods or services, specified image for goods or services
Competitors	No explicit claims besides in special cases (e.g., joint ventures)	Information about revenues, profits, cost structures
Government	Tax payments, goods and services	Going concern, future prospects, continuing tax revenues

¹¹ Modified and implemented from Bowen et al. (1995), p. 259.

5. THE TRADITIONAL DICHOTOMY BETWEEN USERS AND PREPARERS OF FINANCIAL REPORTS

The topic of earnings management is undeniably connected with Schmalenbach's (1925) classic theory of dynamic accounting. Its prime goal is the correct report of corporate profits according to the accrual principle. He does not claim that the resulting annual profit is universally 'true' which, as discussed earlier, only profits cumulated over the firm's existence can be. Annualized earnings have to rely on estimates and accounting choices which create managerial discretion and thus opportunities to manage earnings. Being aware of these issues, he demands that these choices are executed in a similar manner across periods ("Grundsatz der Vergleichbarkeit" (Schmalenbach (1925), p. 80)) and, if in doubt, prudently (i.e., conservatively) to not be caught by surprise by adverse future developments ("Grundsatz der Vorsicht" (Schmalenbach (1925), p. 84)). Contrariwise, the main objective of the older static accounting theory, regularly attributed to Simon (1886), is a correct valuation and reporting of assets and liabilities which, in turn, would equally lead to a correct valuation of changes in equity, and thus Hicksian income which annuitizes intrinsic firm value. Contemporary accounting standards take a neutral point of view and contain elements of both theories. Notwithstanding the apparent differences of accounting theories, their common tacit assumption is a rather strict dichotomy between preparers and addressees of financial reports which, on the one hand, are used to determine tax liabilities and residual payments to owners (i.e., distributable income), and, on the other hand, provide information to stakeholders.

This results in a rather one-sided process in which the preparers decide which information to provide as long as it conforms to generally accepted accounting principles (GAAP) and other related legal statutes determining the publication and content of financial reports. Moreover, GAAP generally prioritizes some stakeholders over others. Decision usefulness for actual and potential equity investors and lenders is the focal point of accounting standards. As such, an accounting system structured in this fashion "has little utility for developing reporting requirements that might help enact the accountability relationships that exist between a corporate entity and [its diverse stakeholders]" (Young (2006), p. 597). Consequently, earnings management research has traditionally also focused on equity investors and other capital markets participants, such as financial analysts and debt holders as prime targets thereof. Based on these remarks, it seems necessary to develop a more generalizable framework for potential influence of a broader spectrum of stakeholders on one of the most important means of corporate communication - the financial report.

6. AVENUES FOR STAKEHOLDER INFLUENCE ON EARNINGS MANAGEMENT BEHAVIOR

As such, there are four, possibly interconnected, routes to explain the general influence of a variety of stakeholders on earnings management behavior. First, the behavioristic approach potentially helps to gain insights in the reciprocal nature of the firm's

and its stakeholders' behavior. In this setting, financial reporting thus is information on which the agents trade. The value of this information is either enhanced, if the earnings management activities work in favor of the respective stakeholder, or decreased. Second, a related approach is based on organizational sociology. Theories involving collective voice might also help in explaining stakeholder influence. Third, catering theory argues that investors have a time-varying demand for earnings management. As there is empirical evidence that the price differential attributable to differences in the extent of earnings management is not arbitrated, it is rational for managers to cater to investors' fluctuating demand for earnings management. While catering theory traditionally is based on the firm's equity being publicly traded, it may help explaining stakeholders' demand for earnings management in a broader setting, as well. Fourth, on an international level the acceptance and favorability of earnings management might even be attributable to cultural factors. A line of research builds on national cultural dimensions and shows their association with earnings management behavior.

6.1. Behavioristic approach

In the behavioristic approach, following motivational psychology, the firm is described as an instrument that is used by a wide range of individuals to reach their own, personal objectives. In a sense, this is connected to the concept of the firm as a coalition. Individuals enter into relations with a firm, intensify, reduce or cut-off the relations, attributable to their own motives (Kern (1986), p. 396). Each individual thus modifies her interaction with the firm based on her goals and expectations how the firm will probably reciprocate. Thus firm and stakeholder behavior is a function of expectations of future counterparty reactions and the weight (i.e., valence) each individual places on these expectations (Kern (1986), p. 397f.; Vroom (1964)). It has to be noted that valence, as "anticipated satisfaction", is a highly subjective construct which can differ substantially from a presumably objective value (i.e., "the actual satisfaction" (Vroom (1964), p. 15). Measuring valences of outcomes and actions is a non-trivial task which inevitably has to rely on noisy proxies such as "decision time" (Vroom (1964), pp. 20-23).¹² In summary, "similar to the notion in decision theory (...) [,] people choose in a way that maximizes subjective expected utility" (Vroom (1964), p. 19).

$$\text{Behavior} = f(\text{expectations; valences}) \quad (1)$$

How can financial reporting or, more specifically, earnings management factor in this view of the firm and its stakeholders? Kern (1986) states a simple example. A creditor puts a positive weight (i.e., a valence of +1) on interest payments, a negative weight (-1) on other firm payments reducing its liquidity and is indifferent, with a valence of 0, towards transactions not influencing liquidity (p. 398). Hence, financial reports and the items they contain are information signals on which

¹²For instance, a short decision time indicates that an outcome is preferred strongly over another. Thus, it incurs a significantly higher valence.

the interaction partners form their expectations and adjust their terms of trade. While valences determine how favorable an individual regards alternative actions, outcomes and states of the world, expectations about the probability of these outcomes are equally important (Vroom (1964), p. 17).

$$\text{Expectations} = f(\text{information}) \quad (2)$$

Earnings management potentially influences the value of this information (Figure 4)). On the one hand, if a stakeholder does not uncover earnings management attempts, neglects their existence, or underestimates their extent, she might put an unreasonably high value on the information signal which in turn influences expectations, and sometimes even valences if there is little or no prior experience given similar situations (Vroom (1964), p. 23). Hence, stakeholders are misled and their behavior is altered compared to a truthful report of earnings. On the other hand, a stakeholder may potentially welcome earnings management if it results in other stakeholders trading with the firm on more favorable terms, therefore increasing her expected utility resulting from the stakeholder relationship. Continuing aforementioned example, one might argue that the creditor may welcome the firm using accounting discretion to boost earnings as this might convey favorable signals to other important stakeholders, such as suppliers. If this results in more lenient supplier credit terms which are favorable for liquidity, the creditor's claim in the firm improves. Hence, it seems possible that a specific stakeholder group proactively suggests certain accounting treatments which work in its favor.

6.2. Organizational sociology approach

A similar approach can be found in organizational sociology. Hirschman (1970)'s theory of 'exit, voice and loyalty' suggests three potential routes how stakeholders might exert their influence. As this theory is mostly applied in connection with

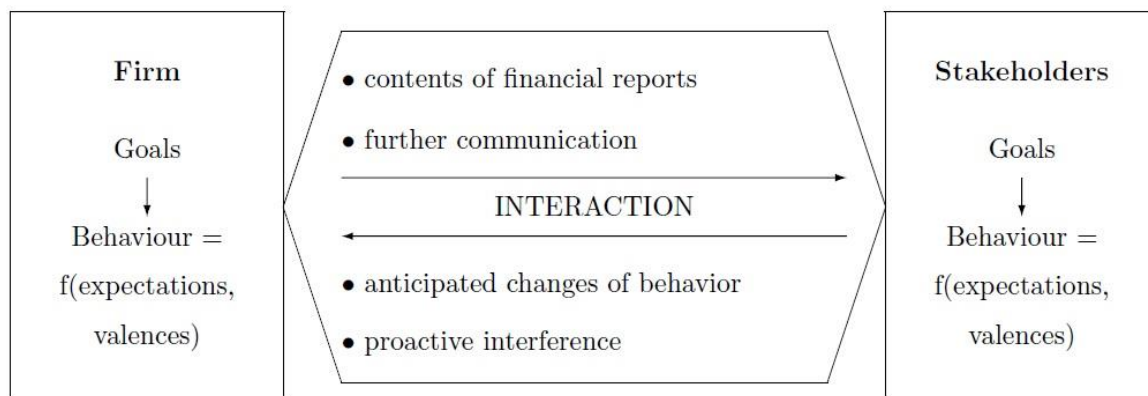
collective voice applied by labor unions, I will present the following paragraphs from the viewpoint of employees as a key stakeholder group.

Exit (Hirschman (1970), pp. 21-25): Employees can choose to voluntarily end their relation with their current employer if they are discontent with the way it conducts business. If only a few employees choose this measure, the actual threat to the firm might be minimal. Contrariwise, a general feeling of discontent resulting in substantial numbers of employees leaving employment or reducing, oftentimes largely unobservable, effort (i.e., inner resignation) may subsequently put the firm in peril. Moreover, as exits might result for a myriad of personal as well as organizational reasons, their signal is not overly precise.

Voice (Hirschman (1970), pp. 30-43): Discontent employees may also choose to speak up to influence management into changing its behavior. Alternatively employees can use other stakeholders, such as labor unions, as proxies to speak on their behalf (Portisch (1997), p. 51). Taking this notion a step further is the theory of the "stakeholder role set" (Freeman (2010), p. 58), in which employees themselves might belong to different stakeholder groups exponentially increasing their influence, and the "legitimacy theory" (Suchman (1995)), according to which employees are a major determinant of the firm's perceived public legitimacy. One may argue that 'voice' is the most informative employee behavior. On the downside, some employees openly exhibiting their discontent may point out weaknesses to previously unaware colleagues.

Loyalty: Hirschman (1970) largely attributes discontent employees not leaving the organization or speaking up to loyalty (pp. 76-98). Its foremost attribute is that it reduces the likelihood of 'exit'. Loyal employees just wait for the situation to improve. Generally, the dividing line between 'loyalty' and 'voice' does not seem to be clear cut (Portisch (1997), p. 51). Yet, although loyalists are less likely to exit the organization in the first place, the effect of them finally threatening the firm to quit is highest and, as a consequence, reinforces the 'voice' instrument (Hirschman (1970), pp. 82f.).

Figure 4. Behavioristic approach of stakeholder influence on earnings management¹³



¹³ Modified and implemented from Kern (1986), p. 415.

6.3. Catering approach

The economic theory of catering might also provide insight into stakeholder influence on firms' earnings management behavior. Originating from Baker & Wurgler (2004), the catering theory of dividends started a line of research which looks into new ways of explaining persistent and systematic differences in dividend payout ratios. It builds on two underlying assumptions. First, some investors, for whatever psychological, institutional, personal or tax reasons, demand dividend payouts while others prefer profits to be accrued, which ideally results in corresponding stock price increases. Exploiting this clientele effect is rational for managers. They cater to investors' demands for different and/or varying dividend payout levels to increase their firm's stock price. Second, market inefficiencies prevent stock price differences between these firms from being fully arbitrated.

Albeit catering, by definition, requires an active capital market for equity instruments which does not arbitrage existing price differences, there are potential conclusions to be drawn in a broader setting involving stake- instead of shareholders. First, a large subset of firms in the economy is not listed on a stock exchange (i.e., private firms). On the one hand, private firms are more opaque, attributable to a less well developed informational environment (Burgstahler et al. (2006)). On the other hand, agency conflicts between management and shareholders (i.e., owners) are far less pronounced than for publicly listed companies. Remaining cross-sectional differences in the earnings management behavior therefore should be less attributable to agency conflicts but to systematic differences in stakeholder claims in the firm.¹⁴ Second, while, according to financial theory, arbitrage is relatively easy and nearly instantaneous for shareholders, it has to be noted that stakeholder relations with firms cannot be altered that easily and nearly cost-free.

A small line of research looks at the catering use of earnings management, also from an equity capital market perspective. As such, Aghion & Stein (2008) show that if the market overprices growing firms, it is a rational strategy for managers to foster growing sales at the expense of profitability. Undoubtedly, this affects real cash flow choices, as presented in Figure (1). Additionally, there is evidence for benchmark beating behavior. Employing the difference between abnormal returns for firms beating and missing analyst forecasts in the previous quarter as a proxy for the price premium investors assign to beating analyst earnings forecasts, Chen et al. (2013) show that managers seem to cater to the marginal investor's demand for earnings management. Rajgopal et al. (2007) find evidence that there is time-varying stock market demand for accrual earnings management depending on overall market sentiment. During phases when markets overprice stocks following positive earnings surprises, the propensity and magnitude of income-increasing discretionary

accruals is greater. Cross-sectionally the effects seem to be greatest for comparatively more opaque companies, i.e. small, distressed, non-dividend paying, and high-tech firms, as well as firms exhibiting extreme growth or reporting losses (Rajgopal et al. (2007); Zhao (2010)).

6.4. Cultural approach

In an analysis whether cultural differences between countries influence and determine earnings management behavior, a line of research builds on seminal work by Hofstede (1980). In this respect, Lo (2008) posits that "earnings management could be an equilibrium outcome whereby managers' report inflated earnings because inflated earnings are [culturally] expected of them" (p. 354). Leuz et al. (2003) find that legal enforcement and outside investors' rights are negatively, insider ownership positively associated with earnings management. Low ownership dispersion is indicative of an insider, stakeholder-oriented corporate governance model which can usually be encountered in code-law economies in contrast with presumably more market-based economies which typically developed common-law traditions (e.g., Ball et al. (2000)). Furthermore, legal frameworks, including investor protection, are inseparably connected with the respective country's culture (e.g., Hope (2003); Mautner (2011)). Law is not only shaped by culture, but influences culture itself (Mautner (2011)). Luhmann (1989) postulates that "the legal system is a differentiated functional system within society. Thus in its own operations, the legal system is continually engaged in carrying out the self-reproduction (...) of the overall social system as well as its own. (...) This means not only that the legal system fulfils a function for society (...) but also that the legal system participates in society's construction of reality" (p. 138). I briefly present the cultural dimensions based on Hofstede (1980) and Hofstede (2001) in the following paragraphs.

Uncertainty Avoidance: Members of societies with high uncertainty avoidance tend to worry about the future. They seldom, and rather reluctantly, change jobs. They expect management to consist of specialists in their respective field and prefer rules and guidelines to ad-hoc solutions (Hofstede (1980), pp. 176-187).

Individualism: Individualistic societies are characterized through less tightly knit groups of individuals with the effect that every individual is responsible for its own and its immediate family's well-being. Collectivist societies see individuals as parts of larger groups. An example are 'collectivist' employees who "expect [their employers] to look after them like a family and defend their interests" (Doupnik (2008), p. 323).

Power Distance: Societies exhibiting high power distance are more accepting of inequalities in terms of wealth, social status, prestige, privileges and power. Power in organizations, such as political parties or companies, is highly concentrated in the hands of little elite (Hofstede (1980), pp. 93-98). Low power distance societies foster a more co-operative system of corporate governance in which managers consult with employees before decisions, employees are less afraid of disagreeing with management and there are signs of formal and informal employee

¹⁴As such, the important remark by Phillips et al. (2003) that research on stakeholder theory has unnecessarily constrained itself by focusing almost exclusively on (large) publicly listed firms would also be addressed. "However, for stakeholder theory to truly come into its own as a theory of strategic management and organizational ethics, it will need to be applied to more than just the large, publicly held corporations" (p. 495).

participation in corporate decision-making (Hofstede (1980), p. 119).

Masculinity: Masculine societies exhibit a "preference (...) for achievement, assertiveness and material success" (Doupnik (2008), p. 323). Work plays an essential role in life and defines the status and role of individuals in society. Men and women typically follow different educational and career paths as "some occupations are considered typically male, others female" (Hofstede (1980), p. 296).

Long-term Orientation: Long-term oriented societies favor high savings rates and investment in real estate. They tend to observe traditions and preserve traditional values. Short-term success and profits are far less important than building long-term relationships and networks (Hofstede (2001), pp. 351-372).

Numerous studies employ these cultural dimensions in earnings management contexts. On a country-level, Desender et al. (2011) find that more individualist and egalitarian (i.e., low power distance) societies are associated with less loss avoidance as well as overall earnings discretion. In a similar study, Callen et al. (2011) find that the role of legal enforcement, reported in Leuz et al. (2003), is mediated by controlling for culture, but not by controlling for religion. Though, as religion is an important determinant of culture (Hofstede (1980), pp. 295-298), both constructs might partly proxy for the same effect. Indicative of this, most religion indicators seem to be highly correlated with cultural dimensions (Callen et al. (2011)). The influence of culture on the choice of auditors is examined by Hope et al. (2008). They combine three of Hofstede's cultural dimensions into an aggregate "secrecy" score. Societies which dislike uncertainty comparatively more, and, at the same time, are more accepting of class and power differentials and less individualistic, seem more culturally secretive. Following the notion that large audit firms provide higher audit quality, they show that firms in secretive societies are less likely to hire Big 4 auditors. Employing the same secrecy score, Geiger & van der Laan Smith (2010) provide evidence that individuals in secretive societies perceive real and accounting earnings management as generally more acceptable.

Critics of these approaches not only claim that Hofstede's cultural dimensions which are largely based upon a survey of IBM employees in the years from 1967 to 1969 might be too outdated to draw valid conclusions (e.g., Baskerville (2003); Desender et al. (2011)), not generalizable to the full population (e.g., McSweeney (2002)), but also that he in effect measures socio-economic factors rather than culture itself (Baskerville (2003)).

7. DISCUSSION

Stakeholder theory is widely discussed in both organizational and economics research. So far, stakeholders' influence on accounting practices, especially on earnings management, is a largely unexplored area. Earnings management is a profoundly ethical issue. It might induce transactions which would not have taken place if the true economic state of the company would have been known. But not only the firm may profit from earnings management. It is possible, and even likely,

that some stakeholders exert pressure onto the firm to manage earnings to improve the value of their explicit and implicit claims in the firm, at the expense of others.

Contemporary accounting textbooks still view financial reporting as a rather one-sided endeavor with clearly distinct preparers (i.e., managers) and recipients (i.e., stakeholders). As such, it is not surprising that earnings management research focuses on techniques, and contributing factors, how firms (respectively, their management) try to deceive capital providers. Further stakeholders are willfully, maybe for reasons of data availability, largely disregarded. This paper presents four generalizable approaches by which stakeholders might overcome this classic dichotomy. These approaches are taken from psychological (i.e., the behavioristic approach), management (i.e., the organizational sociology approach), economics (i.e., the catering theory approach), and sociological (i.e., the cultural approach) research. The list is by no means complete and leaves ample room for future contributions.

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SECTION 2

THE IMPACT OF MERGER ON WORKING CAPITAL MANAGEMENT EFFICIENCY OF AMERICAN PRODUCTION FIRMS

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Abstract

The purpose of this study is to examine the impact of merger on the efficiency of working capital management of American production firms. This study applied a co-relational research design. A sample of 497 listed American production firms for a period of 4 years (from 2010-2014) was analyzed. The findings of this study indicate that mergers may contribute to an improvement of the efficiency of working capital management. This is a co-relational study that investigated the association between merger and working capital management efficiency. There is not necessarily a causal relationship between the two, although the paper provides some conjectures to such relationship. The findings of this study may only be generalized to firms similar to those that were included in this research. This study contributes to the literature on the factors that improve the efficiency of working capital management, and in particular on the association between merger and the efficiency of working capital management. The findings may be useful for financial managers, investors, financial management consultants, and other stakeholders.

Keywords: Merger, Working Capital Management, Corporate Governance, United States of America

1. INTRODUCTION

Studies show that merger and acquisitions are an efficient way for corporations pursuing a growth strategy to obtain external financial resources and to expand their operational domain (for example, Bradley et al., 1988). Analysts estimated that at least 30% of the world's top organizations were considering mergers and acquisitions (Bailey, 2001; Lin and Wei, 2006). According to Sagner (2007), the perceived opportunities to improve working capital management are among the most important goals of mergers by better utilization of current assets and current liabilities. This study relied on the research question, "Does merger improve the efficiency of working capital management of American production firms?"

Stock-for-stock merger between two companies usually leads to changes in the membership of the board, which may have an impact on board

decisions. Because the board members make important decisions, merger can improve the effectiveness of board decisions. Hence, optimization of working capital balances, in turn, helps minimize working capital requirements (Gill and Biger, 2013). The optimization of working capital balances increases firms' free cash flow (Ganesan, 2007) and consequently, positively affect shareholders' wealth. The components of working capital include receivables, inventory, payables, and using cash efficiently for day-to-day operations (Gill and Biger, 2013).

Among the components of working capital, cash is one of the most vulnerable to wanton behavior by management (Isshaq et al., 2009). In the spirit of Keynesian postulations of the demand for money, firms hold cash for precautionary, speculative, and transactional motives. Transaction motive refers to holding cash for everyday transactions to pay for goods or services. Precautionary motive refers to cash held for safety

reasons to protect the firm from for unforeseen fluctuations. The speculation motive reflects firms' desire to hold a cash balance in order to take advantages of any bargain purchases that may arise (Besley and Brigham, 2005; Gill and Biger, 2013, p. 117). Kim et al. (2011) described that both precautionary and transaction motives play important roles in explaining the determinants of cash holdings. Ferreira and Vilela (2004) asserted that cash holding reduces financial distress, allows the pursuance of investment policy when financial constraints are met, and minimizes the costs of raising external funds or liquidating existing assets (Ferreira and Vilela, 2004). The pecking order theory of Myers (1984) suggested that when it comes to financing investments firms prefer to first refer retained earnings or internal equity (i.e., cash available), then to safe debt and risky debt, and finally to external equity in order to minimize asymmetric information costs and other financing costs.

Managerial changes following mergers can improve the effectiveness of the new firm in its management of accounts receivables, inventory, and accounts payables. This, in turn, can improve the cash conversion cycle and cash conversion efficiency. In addition, merger can improve cash management and corporate liquidity (Sagner, 2007). In light of these considerations, the purpose of this study is to document empirically the impact of mergers on the efficiency of working capital management.

Several researchers have developed new theory in the area of working capital management by using Nadiri's (1969)¹⁵ model about optimal level of cash balances. Because a very few studies have investigated the impact of mergers on working capital management efficiency, this study focused on the relationship between merger and working capital management efficiency. This study contributes to the literature on the factors that improve the efficiency of working capital management, and in particular on the association between merger and the efficiency of working capital management. The findings of this study indicate that mergers may contribute to an improvement of the efficiency of working capital management.

The organization of the remainder of the paper is as follows. Section two reviews the previous literature and develops hypothesis. Section three describes the data and methodology used to test hypothesis. Section four analyzes and discusses the empirical results. Section five concludes and considers implications of the findings.

2. LITERATURE REVIEW

According to Sagner (2007), one goal of merger is to improve the efficiency of working capital management and improve the utilization of current assets and liabilities. Many companies hoard cash hoping to discover or develop capital projects with superior returns, while those opportunities may never appear. Merger plays an important role in the improvement of the efficiency of working capital

management because of new the mixture of board members which may include directors from different companies and countries. Such boards and top management teams can make sound working capital management decisions. Indeed studies have found that foreign directors play an important advisory role in making sound strategic decisions (Masulis, Wang, and Xie, 2012). Mooney and Shim (2015) found that conglomerate mergers improve corporate liquidity.

Usually the board size increases with merger. In addition, mergers may recruit experienced board members from different industries and countries. They can play a stewardship role¹⁶ to minimize an agency problem¹⁷ in the merged firms and consequently improve the efficiency of working capital management. The new leadership may make sound working capital management decisions; improve the cash conversion cycle, cash conversion efficiency, and liquidity of the merged firm. Gill and Biger (2013) also found that strong corporate governance play a role in enhancing working capital management efficiency. Fama and Jensen (1983) also argue that concentration of decision management and decision control in one individual hinders boards' effectiveness in monitoring top management.

Previous studies have also found that strong corporate governance plays an important role in controlling the management of working capital by formulating sound policies. For example, board size helps in maintaining an appropriate level of working capital in the organization (Gill and Shah, 2012). Merger may also lead to a higher number of independent directors who can be helpful in monitoring and controlling insiders to reduce agency problems. Arosa, Iturralde, and Maseda (2010) suggested that under agency theory, independent directors monitor and control insiders, and under stewardship theory, independent directors provide valuable outside advice and counsel to the firm.

Lau and Block (2012) found that founder firms hold a significantly higher level of cash than other firms do. In addition, they found a positive interaction effect between founder management and cash holdings on firm value, suggesting the presence of founders as managers helps to mitigate the agency costs of cash holdings. The findings of Saddour (2006) on French firms suggested that growth companies hold higher cash levels than mature companies. The company growth level tends to rise with merger and acquisition. Valipour et al. (2012) analyzed a sample of 83 Iranian firms listed on the Tehran Stock Exchange for the period of 2001-2010 and found a negative relationship between sales growth and cash conversion cycle. Gill and Biger (2013) also found a positive relationship between firm size and accounts payables; firm size and cash management; firm performance and cash management; firm performance and current ratio; firm performance and cash conversion efficiency; and a negative relationship between firm size and current ratio in the American production industry. Drobetz and Gruninger (2007) found a positive relationship between CEO duality and corporate cash

¹⁵Nadiri (1969) is believed to be first author who pioneered a study on working capital management.

¹⁶Steward theory was developed by Donaldson and Davis (1991).

¹⁷Agency theory was pioneered by Jensen and Meckling (1976).

holdings. If cash is sitting idle on account, it will not earn anything and will not maximize shareholders' wealth; therefore, an optimal cash balance is required. According to Harford (1999), managers can increase firm value by managing their cash balances.

In summary, a very limited availability of literature suggests that merger improves the efficiency of working capital management. Hence, the following hypothesis:

Hypothesis: *The improvement in working capital management efficiency is associated with merger.*

3. METHODS

The study applied co-relational and non-experimental research design. This process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships.

As there is no single measure that fully expresses the efficiency of working capital eight different component measures of working capital similar to those used by Gill and Biger (2013) and by Bhandari and Iyer (2013) are used. These eight dependent variables are: accounts payable, inventory, accounts receivable, cash conversion cycle, cash conversion efficiency, current ratio (Gill and Biger, 2013), cash ratio, and quick ratio (Bhandari and Iyer, 2013). We also used measures related to CEO duality, CEO tenure, board size, audit committee, firm size, net profit margin, and return on sales that were used by Gill and Biger (2013).

3.1. Empirical model and the measurements of variables

Merger ($MRGR$) impacts the components of working capital management -- accounts payables (AP), inventory (INV), accounts receivables (AR), cash conversion cycle (CCC), cash conversion cycle (CCE), current ratio (CR), cash ratio ($CASH$), and quick ratio (QR) because two or more companies combine assets, liabilities, and sales. Because the impact of decisions related to the working capital management made by the merged firms and put all the assets together take some time, regression equation predicts the impact of current year merger on the following year working capital management efficiency ($WCME$).

The merger is the main explanatory variable in the components of $WCME$ regression. CEO duality (CD), CEO tenure (CT), board size (BS), audit committee (AC), firm size (FS), net profit margin (NPM), and return on sales (ROS) are used as control variables because these have an impact on the working capital management efficiency. For example, higher return on sales will cause a cushion in the inventory so that sales are not lost and production continues. The regressions are described in Equation 1:

$$WCME_{i,t} = \alpha_0 + \alpha_1 MRGR_{i,t} + \sum X_{ij} + \varepsilon_{i,t} \quad (1)$$

In the model, $WCME$ refers to different indicators of working capital management efficiency -- AP , INV , AR , CCC , CCE , CR , $CASH$, and QR ; i refers

to an individual manufacturing firm; and X_{ij} represents individual control variables (j) corresponding to manufacturing firm i during time period t . $\varepsilon_{i,t}$ is a normally distributed disturbance term. In the estimated model, α_j measure the magnitude at which merger affects $WCME$. The model is extended by considering different set of control variables one at a time. Controls include CD , TN , BS , AC , FS , NPM , and ROS .

The measurements of the independent (merger), dependent (AP , INV , AR , CCC , CCE , CR , $CASH$, and QR), and control variables (CEO duality, CEO tenure, board size, audit committee, firm size, net profit margin, and return on sales) are as follows:

Merger: Merger ($MRGR_{i,t}$) is a dummy variable with assigned value of 1 if a company merged in a certain year, 0 otherwise.

CEO Duality: CEO duality ($CD_{i,t}$) is a dummy variable with assigned value of 1 if same person occupied the post of the chairperson and the CEO and 0 for otherwise.

CEO Tenure: CEO tenure ($TN_{i,t}$) is measured as number of years serving as a CEO. Natural logarithm of CEO tenure was calculated.

Board Size: Board size ($BS_{i,t}$) is measured as number of directors serving on board. Natural logarithm of board size was calculated.

Audit Committee: Audit committee ($AC_{i,t}$) is measured as number of audit committee members. Natural logarithm of number of audit committee members was calculated.

Firm Size: Firm size ($FS_{i,t}$) is measured as logarithm of total assets in the year following the merger.

Net Profit Margin: Net profit margin ($NPM_{i,t}$) is measured as net income after tax/revenue in the year following the merger.

Return on Sales: Return on sales ($ROS_{i,t}$) is measured as net income before tax/total sales in the year following the merger.

Accounts Payables: Accounts payables (in days) ($AP_{i,t}$) is measured as (Accounts payables/cost of goods sold) x 365 days in the year following the merger.

Inventory: Inventory holding (in days) ($INV_{i,t}$) is measured as (Inventory/cost of goods sold) x 365 days in the year following the merger.

Accounts Receivables: Accounts receivables (in days) ($AR_{i,t}$) is measured as (Accounts receivables/sales) x 365 days in the year following the merger.

Cash Conversion Cycle: Cash conversion cycle (in days) ($CCC_{i,t}$) is measured as number of days AR + number of days inventory - number of days AP in the year following the merger.

Cash Conversion Efficiency: Cash conversion efficiency ($CCE_{i,t}$) is measured as cash flow from operations/sales in the year following the merger.

Current Ratio: Current ratio ($CR_{i,t}$) is measured as current assets/current liabilities in the year following the merger.

Cash Ratio: Cash ratio ($CASH_{i,t}$) is measured as total cash holdings/current liabilities in the year following the merger.

Quick Ratio: Quick ratio ($QR_{i,t}$) is measured as (current assets - inventory)/current liabilities in the year following the merger.

3.2. Data collection

A database was built from a selection of approximately 1,100 annual financial reports of publicly traded companies between January 1, 2011 and December 31, 2014. The selection was drawn from COMPUSTAT to collect a sample of manufacturing firms. Out of approximately 1,100 financial reports of public companies between January 1, 2011 and December 31, 2014, only 497 financial reports were usable. Cross sectional yearly data was used in this study. Thus, 497 financial reports resulted in 1988 total observations. Data related to CEO tenure, CEO duality, board size, and audit committee was collected from Mergent Online (www.mergentonline.com/compsearch.asp). The sample included manufacturing firms that manufactured and processed products for the following sectors:

- mining (42 firms);
- food processing (71 firms);
- textile mills (6 firms);
- clothes and shoes production (19 firms); and
- manufacturing (359 firms).

Of all companies in our sample, 23 percent are companies that were merged and 77 percent were not.

4. ANALYSIS AND DISCUSSION

4.1. Descriptive statistics

Table 1 shows a series of descriptive statistics. The explanation on descriptive statistics is as follows:

- Total observations = $497 \times 4 = 1,988$;

Working Capital components:

- $AP = 3.83$ (62.54 days);
- $INV = 4.28$ (107.08 days);
- $AR = 3.82$ (57.15 days);
- $CCC = 4.12$ (101.58 days);
- $CCE = 0.13$;
- $CR = 2.63$;
- $CASH = 0.87$;
- $QR = 1.92$;

Explanatory variables:

- $MRGR = 0.23$;
- $CD = 0.38$;
- $TN = 0.95$;
- $BS = 0.94$;
- $AC = 0.35$;
- $FS = 7.39$;
- $NPM = 0.10$; and
- $ROS = 0.05$.

Table 1. Descriptive statistics

	Mean	Standard Deviation	Minimum	Median	Maximum
AP	3.83	0.74	0.00	3.81	7.80
INV	4.28	1.01	0.00	4.36	7.03
AR	3.82	0.75	0.00	3.90	6.29
CCC	4.12	1.36	0.00	4.42	6.86
CCE	0.13	0.15	-0.96	0.10	0.99
CR	2.63	1.87	0.00	2.13	17.79
CASH	0.87	1.33	0.00	0.49	18.68
QR	1.92	1.65	0.00	1.45	16.31
MRGR	0.23	0.42	0	0	1
CD	0.38	0.48	0	0	1
TN	0.95	0.40	0.00	1	1.74
BS	0.94	0.15	0.48	0.95	1.30
AC	0.35	0.28	0.00	0.48	0.95
FS	7.39	2.31	1.58	7.46	12.92
NPM	0.10	0.19	-2.46	0.10	0.77
ROS	0.05	0.16	-0.87	0.05	0.75

Notes: Variables include accounts payables (AP), inventory (INV), accounts receivables (AR), cash conversion cycle (CCC), cash conversion efficiency (CCE), current ratio (CR), cash ratio (CASH), quick ratio (QR), merger (MRGR), CEO duality (CD), CEO tenure (TN), board size (BS), audit committee (AC), firm size (FS), net profit margin (NPM), and return on sales (ROS).

4.2. Pearson correlation analysis

Table 2 presents the Pearson correlation matrix. Focusing on the relationships between mergers in the previous year the working capital management indicators we found positive and significant correlation with AP (days accounts payable), INV (days inventory holding), CCC (cash conversion cycle) and CCE (cash conversion efficiency). No bivariate significant correlation was found between mergers in the previous year and quick ratio (QR), cash as a percentage of current liabilities (CASH), current ratio (CR), and days of accounts receivable (AR) in the year following the mergers.

The univariate results also show that:

- AP is significantly positively correlated with MRGR, BS, FS, NPM, and ROS ($\rho_{MRGR, AP} = 0.069$; $\rho_{BS, AP} = 0.125$; $\rho_{FS, AP} = 0.112$; $\rho_{NPM, AP} = 0.100$; and $\rho_{ROS, AP} = 0.058$, all significant at the one percent level), and

significantly negatively correlated with TN ($\rho_{TN, AP} = 0.057$, significant at the five percent level). Thus, merger, firm size, net profit margin, and return on sales increase accounts payables days and CEO tenure decreases accounts payable days in the American production firms;

- INV is significantly positively correlated with MRGR, TN, BS, AC, NPM, and ROS ($\rho_{MRGR, INV} = 0.080$; $\rho_{TN, INV} = 0.059$; $\rho_{BS, INV} = 0.090$; $\rho_{AC, INV} = 0.077$; $\rho_{NPM, INV} = 0.075$; and $\rho_{ROS, INV} = 0.058$, all significant at the one percent level), indicating that merger, CEO tenure, board size, audit committee, net profit margin, and return on sales increase inventory holding days in the American production firms;

- AR is significantly negatively correlated with TN, FS, and NPM ($\rho_{TN, AR} = -0.051$; $\rho_{FS, AR} = -0.061$; and $\rho_{NPM, AR} = -0.066$, all significant at the one percent level), suggesting that CEO tenure, firm size, and net

profit margin decrease accounts receivables days in the American production firms;

- CCC is significantly positively correlated with MRGR and CD ($\rho_{MRGR, CCC} = 0.049$; $\rho_{MRGR, CCC} = 0.055$, both significant at the five percent level), and significantly negatively correlated with FS ($\rho_{FS, CCC} = -0.107$, significant at the one percent level), implying that merger and CEO duality increase cash conversion cycle days, and firm size decreases cash conversion cycle days in the American production firms;

- CCE is significantly positively correlated with MRGR, TN, BS, FS, NPM, and ROS ($\rho_{MRGR, CCE} = 0.097$; $\rho_{TN, CCE} = 0.068$; $\rho_{BS, CCE} = 0.121$; $\rho_{FS, CCE} = 0.321$, $\rho_{NPM, CCE} = 0.593$, and $\rho_{ROS, CCE} = 0.503$, all significant at the one percent level), suggesting that merger, CEO tenure, board size, firm size, net profit margin, and return on sales increase cash conversion efficiency of the American production firms.

- CR is significantly positively correlated with TN, AC, NPM, and ROS ($\rho_{TN, CR} = 0.103$; $\rho_{AC, CR} = 0.051$; $\rho_{NPM, CR} = 0.073$; and $\rho_{ROS, CR} = 0.094$, all significant at the one percent level), and significantly negatively correlated with BS and FS ($\rho_{BS, CR} = -0.158$ and $\rho_{FS, CR} = -$

0.377, both significant at the one percent level). Hence CEO tenure, audit committee, net profit margin, and return on sales increase current ratio, and board size and firm size decrease current ratio in the American production firms;

- CASH is significantly positively correlated with NPM and ROS ($\rho_{NPM, CASH} = 0.102$; and $\rho_{ROS, CASH} = 0.129$, both significant at the one percent level), and significantly negatively correlated with BS and FS ($\rho_{BS, CASH} = -0.138$ and $\rho_{FS, CASH} = -0.263$, both significant at the one percent level). It follows that net profit margin and return on sales increase cash ratio, and board size and firm size decrease cash ratio in the American production firms; and

- QR is significantly positively correlated with TN, NPM, and ROS ($\rho_{TN, QR} = 0.066$; $\rho_{NPM, QR} = 0.109$; and $\rho_{ROS, QR} = 0.121$, all significant at the one percent level), and significantly negatively correlated with BS and FS ($\rho_{BS, QR} = -0.138$; and $\rho_{FS, QR} = -0.325$, both significant at the one percent level), suggesting that net profit margin and return on sales increase quick ratio, and board size and firm size decrease quick ratio in the American production firms.

Table 2. Correlation coefficient

	AP	INV	AR	CCC	CCE	CR	CASH	QR	MRGR
AP	1								
INV	0.362***	1							
AR	0.356***	0.248***	1						
CCC	-0.131***	0.628***	0.398***	1					
CCE	0.073***	-0.057**	-0.172***	-0.148***	1				
CR	-0.125***	0.247***	0.071***	0.281***	0.022	1			
CASH	-0.043	0.052**	-0.008	0.092***	0.104***	0.583***	1		
QR	-0.053**	0.132***	0.100***	0.168***	0.074***	0.943***	0.619***	1	
MRGR	0.069***	0.080***	0.033	0.049**	0.097***	-0.009	-0.003	-0.005	1
CD	-0.027	-0.014	0.029	0.055**	-0.020	-0.007	-0.039	-0.028	0.030
TN	-0.057**	0.059***	-0.051***	0.021	0.068***	0.103***	0.031	0.066***	0.015
BS	0.125***	0.090***	0.024	0.009	0.121***	-0.158***	-0.136***	-0.138***	0.141***
AC	-0.034	0.077***	-0.021	0.052**	-0.008	0.051***	-0.003	0.023	0.057**
FS	0.112***	-0.013	-0.061***	-0.107***	0.321***	-0.377***	-0.263***	-0.325***	0.180***
NPM	0.100***	0.075***	-0.066***	0.011	0.593***	0.073***	0.102***	0.109***	0.056**
ROS	0.058***	0.058***	-0.041	0.027	0.503***	0.094***	0.129***	0.121***	0.031
	CD	TN	BS	AC	FS	NPM	ROS		
CD	1								
TN	0.221***	1							
BS	-0.056**	0.110***	1						
AC	0.122***	0.215***	0.221***	1					
FS	0.034	-0.012	0.478***	0.105***	1				
NPM	0.012	0.095***	0.117***	0.071***	0.269***	1			
ROS	-0.002	0.111***	0.098***	0.090***	0.206***	0.732***	1		

Notes: * = 10%, ** = 5%, and *** = 1%; Variables include accounts payables (AP), inventory (INV), accounts receivables (AR), cash conversion cycle (CCC), cash conversion efficiency (CCE), current ratio (CR), cash ratio (CASH), quick ratio (QR), merger (MRGR), CEO duality (CD), CEO tenure (TN), board size (BS), audit committee (AC), firm size (FS), net profit margin (NPM), and return on sales (ROS).

4.3. Regression results and discussion

Next we applied multiple regression analysis. To overcome potential of heteroskedasticity (changing variation after short period of time) (Raheman and Nasr, 2007) because we used panel data, general least square regression with cross section weights was used. The common intercept was also calculated for all variables and assigned a weight.

There was possibility of endogeneity issues. The issues of endogeneity also take place if certain variables are omitted and there are measurement errors (Gill and Biger, 2013). To minimize endogeneity issues, the most important variables

that impact the working capital management efficiency were used and the measurements were based on previous empirical studies. For example, sales variable was changed to return on sales because of the high Variance Inflation Factor (VIF) between firm size and sales (VIF>10).

As the sample of companies only included companies that “survived” during the study period, there might have been a survival bias in the study. This bias problem is considered a minor issue as the purpose of the study was to focus on the effects of merger on the efficiency of the management of working capital by firms.

Tables 3 through 6 report the estimated coefficients of Equation 1. For each working capital component three versions of the model are presented. Version I only regresses the dependent variable against the dummy variable *MRGR* in order to find out whether merger explains any of the working capital components. Versions II and III included the control variables as additional explanatory variables. Since we found the two control variables *ROS* (Returns on sales) and *NPM* (net profit margin) to highly correlated, the variable *NPM* was omitted from the regression. Version III included all explanatory variables.

In the regression analysis, findings show that *MRGR* (main explanatory variable) positively affects all the working capital measures *AP*, *INV*, *AR*, *CCC*, *CCE*, *CR*, *CASH*, and *QR*.

Tables 3 reports the relationships among *MRGR*, *CD*, *TN*, *BS*, *AC*, *FS*, and *ROS* on account payable (*AP*) and on Inventory (*INV*). As shown in model specification I of *AP*, the coefficient of *MRGR* is 0.129, significant at the five percent level, implying that merger positively impacts accounts payable days. In model specification II where the two control variables are also included, the coefficient of *MRGR* is 0.098, significant at the five percent level; and the coefficient of *FS* is 0.031, significant at the one percent level, indicating that merger and firm size positively impact accounts payable days. In model III where all the control variables are included, the coefficient of *MRGR* is 0.091, significant at the five percent level; the coefficient of *TN* is -0.120 and the coefficient of *FS* is 0.017, both significant at the five percent level; and the coefficient of *BS* is 0.482, significant at the one percent level, suggesting that merger, firm size, and

board size positively, and CEO tenure negatively impact accounts payable days.

Similarly, in model specification I of *INV*, the coefficient of *MRGR* is 0.218, significant at the one percent level, indicating that merger positively affects inventory holdings. In model specification II where two control variables are included, the coefficient of *MRGR* is 0.234 and the coefficient of *ROS* is 0.589, both significant at the one percent level; and the coefficient of *FS* is 0.026, significant at the five percent level, suggesting that mergers, firm size, and return on sales positively impact inventory holdings. In model specification III where all the control variables are included, the coefficient of *MRGR* is 0.213, the coefficient of *BS* is 0.862, the coefficient of *FS* is -0.052, and the coefficient of *ROS* is 0.526, all significant at the one percent level, implying that merger, board size, and return on sales positively, and firm size negatively impact inventory holdings.

Tables 4 reports the relationships among *MRGR*, *CD*, *TN*, *BS*, *AC*, *FS*, and *ROS* on account receivables (*AR*) and on cash conversion cycle (*CCC*). As shown in model specification II of *AR*, the coefficient of *MRGR* is 0.070, significant at the ten percent level; and the coefficient of *FS* is -0.015, significant at the five percent level, implying that merger positively and firm size negatively impact accounts receivable days. In model III where all the control variables are included, the coefficient of *MRGR* is 0.066, significant at the ten percent level; the coefficient of *TN* is -0.127, the coefficient of *BS* is 0.343, and the coefficient of *FS* is -0.026, all significant at the five percent level, suggesting that merger and board size positively, and CEO tenure and firm size negatively impact accounts receivable days.

Table 3. Merger, accounts payables, and inventory⁽¹⁸⁾
Dependent variables = *AP* and *INV*

Variables	<i>AP</i>			<i>INV</i>		
	<i>I</i>	<i>II</i>	<i>III</i>	<i>I</i>	<i>II</i>	<i>III</i>
<i>MRGR</i>	0.129** (3.38)	0.098** (2.55)	0.091** (2.37)	0.218*** (4.02)	0.234*** (4.27)	0.213*** (3.90)
<i>CD</i>	-	-	-0.001 (-0.02)	-	-	-0.057 (-1.18)
<i>TN</i>	-	-	-0.120** (-2.89)	-	-	0.068 (1.15)
<i>BS</i>	-	-	0.482*** (3.87)	-	-	0.862*** (4.69)
<i>AC</i>	-	-	-0.064 (-1.06)	-	-	0.131 (1.54)
<i>FS</i>	-	0.031*** (4.42)	0.017** (2.16)	-	0.026** (2.59)	-0.052*** (-4.56)
<i>ROS</i>	-	0.005 (0.04)	-0.050 (-0.44)	-	0.589*** (3.63)	0.526*** (3.23)
Constant	3.833*** (207.19)	3.610*** (68.61)	3.397*** (32.12)	4.242*** (161.14)	4.398*** (58.68)	3.698*** (24.63)
<i>N</i>	497	497	497	497	497	497
<i>F-test statistic</i>	11.40**	10.78***	7.96***	16.14	10.85***	9.85***
<i>R</i> ²	0.006	0.015	0.027	0.008	0.016	0.034
Adjusted <i>R</i> ²	0.005	0.015	0.024	0.008	0.015	0.030

Notes: * = 10%, ** = 5%, and *** = 1%; Dependent variables includes include accounts payables (*AP*) and inventory (*INV*). Independent variables include merger (*MRGR*), CEO duality (*CD*), CEO tenure (*TN*), board size (*BS*), audit committee (*AC*), firm size (*FS*), and return on sales (*ROS*).

(18) The lowest tolerance is 0.717 and the highest VIF is 1.394 indicating that multicollinearity is not a serious issue. Sales variable was changed to return on sales (*ROS*) because of the high Variance Inflation Factor (*VIF*) between firm size and sales (*VIF*>10).

Similarly, in model specification I of *CCC*, the coefficient of *MRGR* is 0.169, significant at the five percent level, indicating that merger positively affects cash conversion cycle of the American production firms. In model specification II where two control variables are included, the coefficient of *MRGR* is 0.234, significant at the five percent level; and the coefficient of *FS* is -0.079 and the coefficient of *ROS* is 0.753, both significant at the one percent level, suggesting that mergers and return on sales positively, and firm size negatively impact cash conversion cycle of the American production firms. In model specification III where all the control variables are included, the coefficient of *MRGR* is 0.218, the coefficient of *BS* is 0.662, and the coefficient of *ROS* is 0.764, all significant at the five percent level; the coefficient of *CD* is 0.118, significant at the ten percent level; and the coefficient of *FS* is -0.100, significant at the one percent level, implying that merger, board size, return on sales, and CEO duality positively, and firm size negatively impact cash conversion cycle of the American production firms.

Tables 5 reports the relationships among *MRGR*, *CD*, *TN*, *BS*, *AC*, *FS*, and *ROS* on cash conversion efficiency (*CCE*) and on current ratio (*CR*). As shown in model specification I of *CCE*, the coefficient of *MRGR* is 0.063, significant at the one percent level, implying that merger positively impacts cash conversion efficiency of American production firms. In model specification II where the two control variables are also included, the coefficient of *MRGR* is 0.016, significant at the five percent level; and the coefficient of *FS* is 0.012 and the coefficient of *ROS* is 0.554, both significant at the one percent level, indicating that merger, firm size, and return on sales positively impact cash conversion efficiency of American production firms. In model specification III where all the control variables are included, the coefficient of *MRGR* is 0.017, the coefficient of *BS* is -0.047, and the coefficient of *AC* is -0.021, all significant at the five percent level; and the coefficient of *FS* is 0.013 and the coefficient of *ROS* is 0.555, both significant at the one percent level, suggesting that merger, firm size, and return on sales positively, and board size and audit committee negatively impact cash conversion efficiency of American production firms.

Similarly, in model specification II of *CR* where two control variables are included, the coefficient of *MRGR* is 0.265, significant at the five percent level; and the coefficient of *FS* is -0.366 and the coefficient of *ROS* is 2.807, both significant at the one percent level, suggesting that mergers and return on sales positively, and firm size negatively impact current ratio of American production firms. In model specification III where all the control variables are included, the coefficient of *MRGR* is 0.251; the coefficient of *TN* is 0.302, and the coefficient of *AC* is 0.458, all significant at the five percent level; and the coefficient of *FS* is -0.370 and the coefficient of *ROS* is 2.619, both significant at the one percent level, implying that merger, CEO tenure, audit committee, and return on sales positively, and firm size negatively impact current ratio of American production firms.

Tables 6 reports the relationships among *MRGR*, *CD*, *TN*, *BS*, *AC*, *FS*, and *ROS* on cash ratio (*CASH*) and on quick ratio (*QR*). As shown in model specification II of *CASH* where the two control variables are included, the coefficient of *MRGR* is 0.170, significant at the five percent level; and the coefficient of *FS* is -0.197 and the coefficient of *ROS* is 2.042, both significant at the one percent level, indicating that merger and return on sales positively, and firm size negatively impact cash ratio of American production firms. In model III where all the control variables are included, the coefficient of *MRGR* is 0.172, significant at the one percent level; and the coefficient of *FS* is -0.192 and the coefficient of *ROS* is 2.006, both significant at the one percent level, suggesting that merger and return on sales positively, and firm size negatively impact cash ratio of American production firms.

Similarly, in model specification II of *QR* where two control variables are included, the coefficient of *MRGR* is 0.216, significant at the five percent level; and the coefficient of *FS* is -0.285 and the coefficient of *ROS* is 2.560, both significant at the one percent level, suggesting that mergers and return on sales positively, and firm size negatively impact quick ratio of American production firms. In model specification III where all the control variables are included, the coefficient of *MRGR* is 0.207 and the coefficient of *TN* is 0.282, both significant at the five percent level; and the coefficient of *FS* is -0.291 and the coefficient of *ROS* is 0.976, both significant at the one percent level, implying that merger, CEO tenure, and return on sales positively, and firm size negatively impact quick ratio of American production firms.

In summary, merger in the previous year positively affects the following year's accounts payable days, inventory holding days, accounts receivable days, cash conversion cycle days, cash conversion efficiency, current ratio, cash ratio, and quick ratio. The positive impact of merger on accounts payables days, inventory holding days, and accounts receivable days may be due to the increase in operations leading to increase in sales which requires inventory cushion and leads to increase in accounts receivables and accounts payables days. In addition, the increase in accounts receivable days and accounts payable days may be because of the integration issues of collection system and accounts payable days system. The increase in sales also causes higher levels of accounts payables, higher levels of inventory, and accounts receivables.

Merger in the previous year also improves next year's cash conversion efficiency, current ratio, cash ratio, and quick ratio which improves the liquidity in the firms to make liability payments and consequently reduces chances of bankruptcy. Thus, merger plays some role in the improvement of working capital management efficiency. The findings of this study lend some support to the argument of Sagner (2007) in that merger improves cash conversion efficiency, current ratio, cash ratio, and quick ratio. The findings of this study also lend some support to the findings of Mooney and Shim (2015) who found that conglomerate mergers improves corporate liquidity.

Table 4. Merger, accounts receivables, and cash conversion cycle⁽¹⁹⁾
Dependent variables = AR and CCC

Variables	AR			CCC		
	I	II	III	I	II	III
MRGR	0.054 (1.45)	0.070* (1.87)	0.066* (1.75)	0.169** (2.38)	0.234** (3.28)	0.218** (3.06)
CD	-	-	0.029 (0.86)	-	-	0.118* (1.87)
TN	-	-	-0.127** (-3.13)	-	-	-0.028 (-0.37)
BS	-	-	0.343** (2.82)	-	-	0.662** (2.86)
AC	-	-	-0.072 (-1.23)	-	-	-0.012 (-0.11)
FS	-	-0.015** (-2.37)	-0.026** (-3.33)	-	-0.079*** (-6.02)	-0.100*** (-6.73)
ROS	-	-0.104 (-0.94)	-0.051 (-0.45)	-	0.753*** (3.57)	0.764** (3.59)
Constant	3.891*** (216.61)	4.006*** (78.14)	3.892*** (37.72)	4.138*** (120.27)	4.661*** (47.87)	4.179*** (21.29)
N	497	497	497	497	497	497
F-test statistic	2.09	3.13**	3.88***	5.68**	15.62***	8.28***
R ²	0.001	0.005	0.014	0.003	0.023	0.028
Adjusted R ²	0.001	0.003	0.010	0.002	0.022	0.025

Notes: * = 10%, ** = 5%, and *** = 1%; Dependent variables include accounts receivables (AR) and cash conversion cycle (CCC). Independent variables include merger (MRGR), CEO duality (CD), CEO tenure (TN), board size (BS), audit committee (AC), firm size (FS), and return on sales (ROS).

Table 5. Merger, cash conversion efficiency, and current ratio⁽²⁰⁾
Dependent variables = CCE and CR

Variables	CCE			CR		
	I	II	III	I	II	III
MRGR	0.063*** (4.53)	0.016** (2.53)	0.017** (2.73)	-0.044 (-0.43)	0.265** (2.82)	0.251** (2.67)
CD	-	-	0.002 (0.38)	-	-	-0.085 (-1.02)
TN	-	-	0.011 (1.56)	-	-	0.302** (2.97)
BS	-	-	-0.047** (-2.29)	-	-	0.086 (0.28)
AC	-	-	-0.021** (-2.08)	-	-	0.458** (3.13)
FS	-	0.012*** (10.06)	0.013*** (10.18)	-	-0.366*** (-21.07)	-0.370*** (-18.99)
ROS	-	0.554*** (29.41)	0.555*** (29.19)	-	2.807*** (10.10)	2.619*** (9.37)
Constant	0.108*** (28.03)	-0.004 (-0.41)	0.025 (1.40)	2.695*** (53.97)	5.143*** (40.07)	4.698*** (18.22)
N	497	497	497	497	497	497
F-test statistic	20.51***	402.33***	174.99***	0.18	157.16***	71.54***
R ²	0.010	0.378	0.382	0.000	0.192	0.202
Adjusted R ²	0.010	0.377	0.380	0.000	0.191	0.199

Notes: * = 10%, ** = 5%, and *** = 1%; Dependent variables include cash conversion efficiency (CCE) and current ratio (CR). Independent variables include merger (MRGR), CEO duality (CD), CEO tenure (TN), board size (BS), audit committee (AC), firm size (FS), and return on sales (ROS).

¹⁹ The lowest tolerance is 0.717 and the highest VIF is 1.394 indicating that multicollinearity is not a serious issue. Sales variable was changed to return on sales (ROS) because of the high Variance Inflation Factor (VIF) between firm size and sales (VIF>10).

²⁰ The lowest tolerance is 0.717 and the highest VIF is 1.394 indicating that multicollinearity is not a serious issue. Sales variable was changed to return on sales (ROS) because of the high Variance Inflation Factor (VIF) between firm size and sales (VIF>10).

Table 6. Merger, cash ratio and quick ratio

(The lowest tolerance is 0.717 and the highest VIF is 1.394 indicating that multicollinearity is not a serious issue. Sales variable was changed to return on sales (ROS) because of the high Variance Inflation Factor (VIF) between firm size and sales (VIF>10))

Dependent variables = CASH and QR

Variables	CASH			QR		
	I	II	III	I	II	III
MRGR	0.012 (0.16)	0.170** (2.44)	0.172** (2.46)	-0.020 (-0.22)	0.216** (2.56)	0.207** (2.44)
CD	-	-	-0.076 (-1.23)	-	-	-0.120 (-1.60)
TN	-	-	0.030 (0.39)	-	-	0.149 (1.62)
BS	-	-	-0.190 (-0.84)	-	-	0.162 (0.59)
AC	-	-	0.142 (1.30)	-	-	0.282** (2.13)
FS	-	-0.197*** (-15.29)	-0.192*** (-13.19)	-	-0.285*** (-18.27)	-0.291*** (-16.52)
ROS	-	2.042*** (9.90)	2.006*** (9.62)	-	2.560*** (10.23)	0.976*** (2.54)
Constant	0.893*** (25.13)	2.185*** (22.94)	2.280*** (11.85)	1.992*** (45.26)	3.884*** (33.62)	2.450*** (9.71)
N	497	497	497	497	497	497
F-test statistic	0.03	91.75***	39.78***	0.05	123.42***	54.73***
R ²	0.000	0.122	0.123	0.000	0.157	0.162
Adjusted R ²	0.000	0.121	0.120	0.000	0.156	0.159

Notes: * = 10%, ** = 5%, and *** = 1%; Dependent variables include cash ratio (CASH) and quick ratio (QR). Independent variables include merger (MRGR), CEO duality (CD), CEO tenure (TN), board size (BS), audit committee (AC), firm size (FS), and return on sales (ROS).

The CEO duality increases cash conversion cycle days. The CEO tenure increases current ratio and reduces accounts payable and accounts receivable days which may be considered in the favor of the firm. The board size has a positive impact on accounts payable, inventory holding, accounts receivable, and cash conversion cycle days, and a negative impact on the cash conversion efficiency which may not be in the favor of the firm; therefore, an optimal board size should be designed because a small board of directors is more effective in the decision-making process than a larger board of directors (Yermack, 1996; Lipton and Lorsch, 1992). Audit committee positively impacts current and quick ratios but negatively impacts cash conversion efficiency.

While firm size increases accounts payables and cash conversion efficiency, it decreases inventory holding days, accounts receivable days, cash conversion cycle days, current ratio, cash ratio, and quick ratio. The improvement in cash conversion efficiency and decrease in inventory holding days, accounts receivable days, cash conversion cycle days, current ratio, cash ratio, and quick ratio are in the favor of the firm because they improve the efficiency of the working capital management. The findings lend some support to the finding of Gill and Biger (2013) in that firm size increases accounts payables and decreases current ratio.

Return on sales positively affects inventory days, cash conversion cycle, cash conversion efficiency, current ratio, cash ratio, and quick ratio. The positive impact of return on sales on inventory days and cash conversion cycle days may be due to the increase in sales and merged firm tend to build inventory cushion. As described before, average

inventory holding period for production firms is 107.08 days. Firms, however, do not prefer long cash conversion cycle and high inventory holdings because they negative impact on the firm.

One-Way ANNOVA was used to examine whether the efficiency of working capital management differs between industries and between years. The results show that the efficiency of working capital management (AP, INV, AR, CCC, CCE, CR, CASH, and QR) do differ from industry to industry but they are not different between years.

5. CONCLUSION

The present study found that merger plays some role in the improvement of the efficiency of working capital management of American production firms. The results of this study generally support the tradeoff theory of cash holdings. Precautionary and transaction motives play important roles in explaining the determinants of cash holdings for American firms (Gill and Biger, 2013).

One should note that this study is limited to the sample of American manufacturing firms. This is a co-relational study that investigated the association between merger and working capital management efficiency. There is not necessarily a causal relationship between the two. The findings of this study may only be generalized to firms similar to those that were included in this research.

In practice, there may be implementation challenges of the findings. For example, merger may improve cash conversion efficiency in one company, but not in another company. In similar manners, other findings may not be applicable to other companies.

Since merger has a positive impact on the accounts receivable days, accounts payable days, and inventory holding days, it is strongly recommended that the merged companies minimize issues related to integration of accounts payable, accounts receivable, and inventory systems by making sound working capital management decisions. For example, average accounts receivables for the sampled production firms are \$1,603.91 million and the average delay in the merged firms is 4.40 days ($\beta = 0.044$). If a merged firm pays prime + 1% (e.g., $3.25 + 1 = 4.25\%$), merged company will have to pay \$0.82173 million [$\{1,603.91 \text{ million} \times .0425\} / 365 \text{ days}\} \times 4.40 \text{ days} = \0.82173 per year] additional interest per year. Similarly, average inventory for the sampled companies is \$1,219.82 million and the average increase in inventory holding days in the merged firms is 9.60 days ($\beta = 0.096$). If a merged company pays prime + 1% (e.g., $3.25 + 1 = 4.25\%$), merged company will have pay \$1.36352 million [$\{1,219.82 \text{ million} \times .0425\} / 365 \text{ days}\} \times 9.60 \text{ days} = \1.36352 per year] additional interest per year. Likewise, average 5.70 days ($\beta = 0.057$) delay in the accounts payables is detrimental to the firm (unless merged firm has been granted an extension for accounts payable) because it will increase the costs of borrowings and might adversely affect the reputation of the firm. Suppliers will tend to charge penalty and interest for late payments. Thus the delays in accounts receivables and longer holding time periods of inventory have a negative impact on the cash conversion cycle. It follows that a strong accounts receivables control, inventory ordering management, and proper accounts payable systems are recommended in order to improve the efficiency of working capital management.

As described before, merger tend to increase board size which is not in the favor of the firm because it increases accounts payable, accounts receivable, and cash conversion cycle days and has a negative impact on the cash conversion efficiency; therefore, an optimal board size is strongly recommended.

Future research should investigate possible generalizations of the findings beyond the American firms. Important control variables such as industry sectors from different countries, board composition, etc., should also be used.

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DO FIRMS' LEVERAGE DEVIATIONS AFFECT OVERCONFIDENT CEOS' ACQUISITION DECISIONS?

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Abstract

In this paper, we examine how an overconfident manager makes an acquisition decision based on whether or not her/his firm is excessively deviated from the target capital structure. In specially, we find that when her firm is overleveraged, overconfident CEO's are likely to merge relatively smaller firms. Conditional on making acquisitions, overconfident CEOs are less likely to use stock to finance the acquisition, contrary to previous capital structure literature. Furthermore, when her firm is overleveraged, the overconfident CEO is likely to make value enhancing acquisition, since the market reaction, the average 3-day as well as 5-day cumulative abnormal return of the deal announcement, is significantly positive. Overall, our study improves the understanding of the interdependence between capital structure and investment decisions in the present of a managerial behavioural bias. And our study also shows that over-leverage may mitigate the unfavorable effects of managerial overconfidence traits.

Keywords: Leverage, Overconfidence, CEO, Acquisition

JEL Codes: G34, G32, M12

1. INTRODUCTION

Previous literatures such as Hartford, Klasa and Walcott (2009) and Uysal (2011) find that the degree of the deviation from the target capital structure will affect firms' ability to raise capital, particularly debt, so that it influences the managers to make merger and acquisitions decisions. But little attention is drawn on whether or not the leverage deviation influence behavioural biased managers, e.g. overconfident managers, to make the same decisions.

Overconfident CEOs perceive that cost of external financing, especially equity financing, is unduly high, and conditional on external financing, they incline to financing their investment projects with debt rather than stock (Heaton, 2002, and Malmendier, Tate and Yan, 2011). Based on this behavioural characteristic, overconfident CEOs should be likely to conduct more acquisitions when the degree of leverage deviation does not restrict their firms to issue debt. On the other hand, their reluctance of issuing stocks determines that overconfident CEOs are less likely to issue equity when they foresee a high likelihood of acquisitions, and also they are less likely to pay for their deals with stock, even though their firms are overleveraged.

Next, we are also interested in how the degree of leverage deviation affects the acquisition performance of firm with overconfident managers, since the leverage deviation would affect the acquisition frequency. Malmendier and Tate (2008) conclude that 'if the overconfident managers

increase the merger frequency, it also lower the average deal quality.....'; however, Sunder, Sunder and Tan (2010) find that firms managed by overconfident CEOs face tighter debt restrictions, which are partially mitigated when such firms have greater information transparency, better performance records, and investment opportunities. Based on the previous works, we predict that if the leverage deviation put off the overconfident CEOs' acquisitiveness, the deal quality will be not value-destroying or even value increasing.

To test those above predictions, we study 1432 acquisitions²¹ announced and complete between 1993 and 2011. Our (primary) measure of overconfidence is based on the timing of CEO option exercise following Malmendier and Tate (2005 and 2008), Campbell et al. (2011), Malmendier, Tate and Yan (2011), Ahmed and Duellman (2012), and Hirshleifer, Low, and Teoh (2012). Generally, A CEO should exercise her options and sell shares obtained from exercising options to minimize her exposure to idiosyncratic risk. However, an overconfident CEO believes that firm value will continue to increase and thus chooses to delay exercise and hold options that are deep in-the-money. We create a dummy variable 'Over67' as the proxy of CEO overconfidence. Over67 equals one when a CEO as being overconfident if the average intrinsic value of her exercisable unexercised options exceeds 67% of the average exercise price twice over our sample period.

²¹ We require the relative size of the target to the bidder is at least 5% as Malmendier and Tate (2008)

Over67 equals zero when a CEO does not meet this criterion.

On the other hand, to examine the role of leverage deviation, we use the same regression as Uysal (2011) to estimate the target leverage ratio on a yearly basis, and we calculate the leverage deviation for each firm every year as the difference between its actual leverage ratio and its predicted leverage ratio. Following Uysal (2011), firms whose leverage deviations fall in the largest leverage deviation quartile are label as 'overleveraged' firms and firms whose leverage deviations fall in the smallest leverage deviation quartile are label as 'underleveraged' firms.

The results indicate that the degree of leverage deviation shows effect on overconfident CEOs' acquisition decisions. Firstly, we find that the degree of leverage deviation shows effect on overconfident CEOs' acquisition activities. If the firm is overleveraged, overconfident CEOs are likely to bid smaller firm, although, as it in the previous literatures, they are more acquisitive and bid larger size than their peers. Secondly, Conditional on making acquisitions, we find that overconfident CEOs are unlikely to finance the deal with stock when their firms are overleveraged. Finally, we also find that the market reacts positively to overconfident CEOs' announcement of merger and acquisition when their firm is overleveraged. This implies high leverage deviation can restrict overconfident CEOs making value-destroying deals.

This study relates to the research on the interdependence of financing and investment decisions. For example, Harford, Klasa, and Walcott (2009) find that deviations from a firm's target capital structure affect financing decisions around acquisition. Uysal (2011) also find overleveraged firms bid less and smaller target, and are likely to use stock to as the payment method. Our study goes beyond the previous studies by investigating the combined effect of both CEO overconfidence and the degree of leverage deviation on firm's ability to bid. Especially, the lower likelihood of making acquisitions for overconfident CEO managed firms which are overleveraged, suggests that high and positive leverage deviation is a solution to reduce the acquisitiveness of overconfident managers. Furthermore, overleveraged firms with overconfident CEOs do not likely to make value-destroying acquisitions. Overall, these findings suggest that reducing firms' debt capacity is a method to restrict overconfident CEOs' investment distortion including bad acquisitions.

Our findings also improve our understanding of how overconfident CEOs choose their capital structures. For example, Harford, Klasa, and Walcott (2009) find that the capital structure cash acquirers adjust to their target leverages. Uysal (2011) find that overleveraged firms are more likely to issue equity and to reduce leverage deviation when they have a high likelihood of undertaking an acquisition, and overleveraged firms are more likely to finance the deal with stock. Our results show that overconfident CEOs are unlikely to involving the capital structure rebalancing activity. Overconfident CEOs still likely to issue debt rather stock when have high

likelihood of acquisitions and they are less likely to pay for the deal with cash. Thus, this study consistent with Malmendier, Tate and Yan (2011) that overconfident CEOs are likely to issue debt to finance for their investment projects. On the other hand, our study provides evidence that managerial overconfidence is a factor which delays the capital structure adjusting towards target.

Finally, this study is related to studies on CEO overconfidence literatures. Previous studies report that overconfident CEOs overbid, and are likely to make low quality acquisitions e.g. Roll (1986) and Malmendier and Tate (2008). Our study provides a solution to mitigate the acquisitiveness and value-destroying cause by CEO overconfidence. And we also provide the consequence of debt contract restriction, reported by Sunder, Sunder and Tan (2010), on overconfident CEOs' investment activity.

The remaining of the paper is organized as follows. Section 2 provides details of sample selection and descriptive statistics of the data. Section 3 explains the determinants and estimation procedure of the target leverage ratio. Section 4 examines the empirical findings of the second-stage regressions. Section 5 draws conclusions based on the findings.

2. SAMPLE AND METHODOLOGY

In this part, we report our sample and variable construction, including the predicted market leverage and leverage deviation, the definition of CEO overconfidence.

2.1. Data and full sample construction

The construction of the full sample is from the Security Data Corporation (SDC) database and we match the sample to Center for Research in Security Prices (CRSP) and Compustat. The procedure of sample selection is detailed in the following five steps.

First, we require the acquisitions are announced and complete between the beginning of 1993 and the end of 2011. We also require no missing data in Value of Transaction (SDC: VAL) which is defined as 'the total value of consideration paid by the acquirer, excluding fees and expenses'. Following Fuller, Netter and Stegemoller (2002) and Uysal (2011), we exclude financial firms (6000-6999) and utilities firms (4900-4999).

Second, we require the relative size of target to bidder is at least 5%, which is following Malmendier and Tate (2008), since CEO may not involve the acquisition of 'small units of another company'. The Relative Size is calculated as Value of transaction divided by the market capitalization, calculated as share price (CRSP: PRC) multiplies the number of shares outstanding (CRSP: SHROUT), of the bidder one fiscal year prior to the announcement date. Third, in order to study the proportion of bids paid in cash or stock, we exclude deals whose payment are coded in 'cash only' and 'stock only' but their corresponding percentage of cash or stock are missing or unequal to 100. And we also exclude those coded in 'cash and stock combination' but the sum of percentage of cash and stock is unequal to 100.

Fourth, we require that, during the year prior

to the acquisition, bidders have necessary Compustat and Center for Research in Security Prices (CRSP) data. Finally, all the deals can match to ExecuComp database using GVKEY. The full sample of our study is 1432 deals.

2.2. Identification of overconfident CEOs

In the previous literature, Malmendier and Tate (2005) define an overconfident CEO as the one that left unexercised exercisable options at least twice. They selected options that are at least 67% in the money using detailed data on the CEO's options holdings and exercise prices for each option grant. Also, Malmendier and Tate (2008) revise their definition of an overconfident CEO as she exhibit the late exercise behavior once only. Campbell et al. (2011), Ahmed and Duellman (2012) and Hirshleifer, Low, and Teoh (2012) use CEO option holding information in ExecuComp database to determine overconfident or optimist CEOs.

Because of no detailed data on the CEO's personal option portfolios, it is defined whether or not a CEO is overconfident according to the high or

low moneyness of each CEO personal options holding data recorded in ExecuComp database. We use exactly the same method as Campbell et al. (2011) and Hirshleifer, Low, and Teoh (2012) to calculate average moneyness of each CEO's option portfolio for each year. For each CEO year, I calculate the average realizable value per option by (ExecuComp: OPT_UNEX_EXER_EST_VAL) divided by the number of exercisable options (ExecuComp: OPT_UNEX_EXER_NUM). The estimated strike price is calculated as the fiscal year end stock price (Compustat: PRCCF) minus the average realizable value. The average moneyness of the options is then calculated as the stock price divided by the estimated strike price minus 1.

Following Ahmed and Duellman (2012), an overconfident CEO is defined as a CEO that does not exercise exercisable options that are at least 67% in the money twice. And if a CEO is identified as overconfident by this measure, she/he remains so for the rest of the sample period, consistent with the notion that overconfidence is a persistent trait. We design a dummy variable labelled as Over67 that takes 1 meaning overconfidence, and 0 otherwise.

Table 1. The number of overconfident CEOs

The table gives the yearly number of CEOs, the number of overconfident CEOs, and percentage of overconfident CEOs as well in our sample. The sample of CEOs is from Execucomp for the 1992–2010 periods. Following Uysal (2011), financial and utility firms are deleted and all firms in our sample have relevant data from Compstat and CRSP.

<i>Year</i>	<i>Number of CEOs</i>	<i>Number of Overconfident CEOs</i>	<i>Percentage of Overconfident CEOs</i>
1992	633	132	20.9%
1993	750	217	28.9%
1994	834	250	30.0%
1995	888	312	35.1%
1996	955	372	39.0%
1997	960	426	44.4%
1998	978	450	46.0%
1999	966	442	45.8%
2000	922	443	48.0%
2001	936	458	48.9%
2002	1016	461	45.4%
2003	1079	519	48.1%
2004	1080	546	50.6%
2005	1048	530	50.6%
2006	1086	542	49.9%
2007	1099	519	47.2%
2008	1084	486	44.8%
2009	1081	449	41.5%
2010	1085	425	39.2%
Total	18480	7979	43.2%

Table 1 shows the frequency of overconfident CEOs in our sample from 1992 to 2010. The table gives the yearly number of CEOs, the number of overconfident CEOs, and percentage of overconfident CEOs as well in our sample. Following Uysal (2011), financial and utility firms are deleted. We also require that firms have accounting data from Compustat, CEO overconfidence from Executive Compensation data from Compustat

We find nearly 43% CEOs in our sample are classified as overconfidence. For robustness purposes, the same method as the options-based measure in Hirshleifer, Low, and Toh (2012) is used. The frequency of overconfident CEOs in our sample also shows the similar pattern of Hirshleifer, Low, and Teoh (2012). Once a CEO is identified as

overconfidence in any year remains so throughout the sample period. This mechanically tends to induce an increase in the fraction of overconfident managers over the sample period and owing to increased CEO turnover activity after the acquisition, the fraction of overconfident CEOs decreases in the post acquisition years.

2.3. Estimation of Target market leverage

We follow the method of previous literatures such as Fama and French (2002), Flannery and Rangan (2006) and Uysal (2011) to estimate the firms' target market leverages, excluding financial firms (6000–6999) and regulated utilities (4900–4999), and calculate the market leverage deviations as the

actual market leverage minus the predicted market leverage. We use firms covered in Compustat and the Center for Research in Security Prices (CRSP) from 1992 to 2010 to estimate the target debt ratio. Following previous studies, I drop firms with sales less than \$10 million in 1992 dollars. To eliminate the effect of outliers, all variables are winsorized at 1% and 99%. The target leverage ratio is estimated for 52,379 firm-years over the sample period by running annual regressions of leverage ratios on the main determinants of capital structure considered in prior studies. For the purpose of concise, we have not reported the results of the regressions.

3. METHODOLOGY

3.1. Estimation target market leverage and identification of over- and underleveraged firms

We follow previous studies (e.g., Fama and French, 2002, and Uysal, 2011) to utilize a two-step estimation procedure. The target capital structure is estimated by using the exact method and variables as in Uysal (2011). We running yearly regressions of market leverage on the determinants of capital structure and all variables are winsorized at 1% and 99%. The fitted value of this regression is defined as the target leverage ratio. Based this variable, we construct a leverage deviation defined as the actual leverage ratio minus the estimated target leverage ratio. We also follow Uysal (2011) to define underleveraged (overleveraged) firm whose market leverage deviation falls in the lowest (highest) quartile. An underleveraged (overleveraged) dummy takes a value of one if the firm meets the definition of 'Underleveraged' ('Overleveraged').

3.2. Research predictions

In the second step, we link the leverage deviation dummies (the Overleveraged dummy or Underleveraged dummy) to the CEO overconfidence and its joint effect to merger and acquisition decisions. Overconfident CEOs overestimate their firms' value, comparing to equity, they prefer to use debt to finance their investment, since they perceive

the cost of equity is high (Heaton 2002, and Malmendier, Tate and Yan, 2011). Thus, the degree of positive leverage deviation would show effect to prevent overconfident CEOs from overinvesting. So, I predict that, firstly, overconfident CEOs they would either reduce the enthusiasm of making acquisitions and/or acquire smaller firms when their firm is overleveraged, and, secondly, overconfident CEOs would be less likely to pay for the deal with stock or large fraction of stock if their firm is overleveraged. Based on the findings of Sunder and Tan (2010), overconfident CEOs face more strict debt contract, except for those has better performance, better information transparency and good investment opportunities, thus, we hypothesize that in the case of over-leverage, overconfident CEOs are likely to make value-enhancing acquisitions.

4. RESULTS

4.1. Summary statistics

Table 2 reports the summary of firm characteristics of both overconfident CEO managed firms and rational CEO managed firms. The major differences between overconfident CEO managed firms and rational CEO managed firms are market leverage, leverage deviation, market to book ratio, acquisition activity and target size. The market leverage and leverage deviation in the subsample of overconfidence are lower than the other sample. Overconfident CEOs are debt conservatism measured by 'kink', Malmendier, Tate and Yan (2011). Also, overconfident CEO managed firms has higher market to book ratio. Finally, overconfident CEOs are likely to make deals for which the deal size is averagely larger than their peers. Table 3 reports the summary of deal characteristics of both overconfident CEO managed firms and rational CEO managed firms. The most obvious difference is the payment method. Comparing to their peers, overconfident CEOs are less like to finance the deal with all stock and they are likely to use cash to pay for the deal.

Table 2. Summary Statistics of Firm characteristics

Variables	N	Mean	Stdev	Min	Max
Over67=0					
Market leverage	10501	0.373	0.221	0.005	1.196
Market leverage deviation	10501	-0.004	0.092	-0.644	0.618
Market to Book ratio	10501	1.834	1.189	0.369	16.993
Profitability	10501	0.138	0.103	-0.881	0.949
R&D ratio	10501	0.030	0.055	0.000	0.870
Tangibility	10501	0.301	0.214	0.001	0.970
Deal value/ Acquirer market value	10501	0.022	0.175	0.000	7.651
Acquirer	10501	0.052	0.223	0.000	1.000
over67=1					
Market leverage	7979	0.294	0.202	0.002	1.117
Market leverage deviation	7979	-0.015	0.092	-0.661	0.525
Market to Book ratio	7979	2.307	1.710	0.401	39.119
Profitability	7979	0.159	0.100	-0.641	0.902
R&D ratio	7979	0.035	0.056	0.000	0.601
Tangibility	7979	0.283	0.222	0.002	0.958
Deal value/ Acquirer market value	7979	0.033	0.337	0.000	22.538
Acquirer	7979	0.068	0.252	0.000	1.000

Table 3. Summary Statistics of Firm characteristics

<i>Variables</i>	<i>N</i>	<i>Mean</i>	<i>Stdev</i>	<i>Min</i>	<i>Max</i>
Over67=0					
Target is a public firm	733	0.372	0.484	0	1
Target is a Private firm	733	0.314	0.465	0	1
All cash offer	733	0.599	0.491	0	1
All stock offer	733	0.238	0.426	0	1
over67=1					
Target is a public firm	699	0.351	0.478	0	1
Target is a Private firm	699	0.33	0.471	0	1
All cash offer	699	0.611	0.488	0	1
All stock offer	699	0.218	0.413	0	1

4.2. Does leverage deviation affect the overconfident CEOs' acquisitiveness?

Figure 1 reports the frequency of completing an acquisition for both overconfident CEOs (green) and the remaining CEOs (red). Overconfident CEOs are likely to make deals and they seem to be regardless

of the degree of leverage deviation, but the remaining CEOs are likely to follow the leverage deviation to make more or less acquisitions. From Figure 1, the pattern of the remaining CEOs' acquisition activity is similar to that of Uysal (2011); that is, acquirer prediction based leverage deviation works only in rational CEO managed firms.

Figure 1. The frequency of completing an acquisition

The frequency is calculated as the number of CEOs who complete at least one deal divided by the total number of CEOs in that subgroup in a given year. This

calculation is exactly the same as Malmendier and Tate (2008). Following Uysal (2011), 1 (or 4) is the lowest (or highest) quartile of leverage deviation

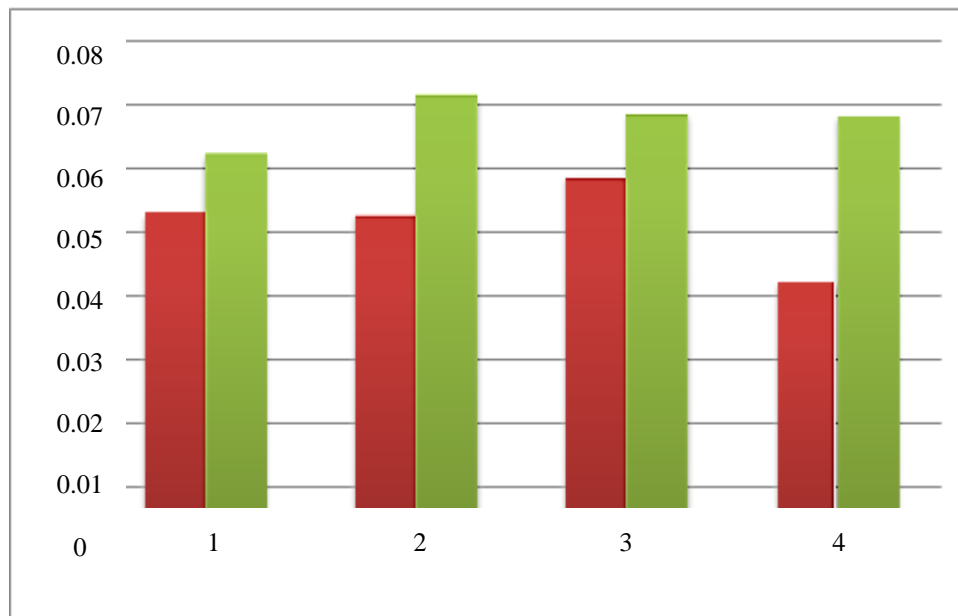
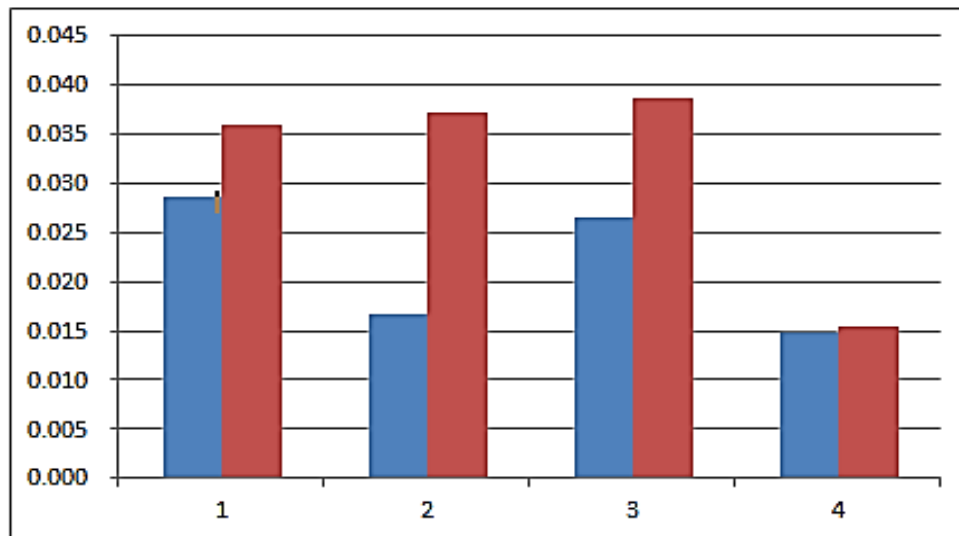


Figure 2 reports the per-year value of a firm's acquisition to its market value. The overconfidence CEOs (red) make deal with the same per-year value of a firm's acquisition to its market value as the

remaining CEOs (blue). Figure 2 suggests that when their firm is overleveraged, overconfident CEOs are likely to make smaller deals.

Figure 2. The per-year value of a firm's acquisition to its market value 1 (or 4) is the lowest (or highest) quartile of leverage deviation**Table 4.** CEO overconfidence, leverage and acquisition activity

Variables	Model 1	Model 2	Model 3	Model 4
Over67	0.129 (0.000)***	0.084 (0.051)*	-0.011 (0.857)	0.082 (0.300)
CEO stock ownership	0.000 (0.241)	-0.001 (0.078)*	0.000 (0.863)	0.000 (0.739)
CEO vested options	0.000 (0.572)	0.000 (0.408)	0.000 (0.190)	0.000 (0.206)
CEO tenure in month	0.000 (0.012)**	0.000 (0.113)	-0.001 (0.002)***	-0.001 (0.002)***
Over67* Overleveraged Dummy		0.162 (0.055)*		-0.389 (0.031)**
Over67* Overleveraged Dummy		-0.039 (0.604)		-0.158 (0.261)
Overleveraged Dummy	-0.178 (0.000)***	-0.155 (0.009)***	-0.077 (0.409)	0.121 (0.364)
Underleveraged Dummy	0.039 (0.267)	-0.009 (0.870)	0.192 (0.010)*	0.276 (0.008)***
Average Market Leverage	-0.434 (0.000)***	-0.002 (0.986)	-0.168 (0.421)	-0.176 (0.399)
Insales87	-0.048 (0.000)***	-0.056 (0.000)***	-0.112 (0.000)***	-0.112 (0.000)***
Market to Book ratio	0.029 (0.004)***	-0.002 (0.902)	0.110 (0.000)***	0.108 (0.000)***
Profitability	-0.032 (0.839)	0.074 (0.671)	0.373 (0.245)	0.361 (0.265)
Stock return	0.051 (0.004)***	0.017 (0.426)	-0.013 (0.715)	-0.010 (0.795)
Industry M&A Liquidity	0.000 (0.179)	0.000 (0.171)	0.000 (0.132)	0.000 (0.208)
Herfindahl Index	-0.314 (0.007)***	-0.273 (0.023)**	-0.452 (0.085)*	-0.448 (0.089)*
Observation	18480	18480	18480	18480

*, **, *** are significant at 10%, 5% and 1% level.

The figures do not account for important explanatory and control variables. In Table 4, following Usual (2011), we implement probit regressions analysis (Model 1 and 2) to estimate the likelihood of making an acquisition, as well as tobit regressions analysis (Model 3 and 4) to estimate relative size (at least 5%) of transaction value to acquirer firm's market value of assets at the fiscal year prior to the acquisition announcement. The dependent variable of the probit regressions is set 1 if the firm makes a deal with a relative size being at least 5% and 0 otherwise. The dependent variable of tobit regressions analysis are censored at zero, since firms that either make no acquisition or the relative size is less than 5% are set at 0. All the models include year dummies.

Model 1 shows significant effects of CEO overconfidence on acquisition activity, the coefficient of variable Over67 is 0.129 (significant at 1%), this result is consistent to Malmendier and Tate (2008), and overconfident CEOs like to make deals. Like Usual (2011), Model 1 also shows the over-leverage decreases the likelihood of making acquisitions, represented by the coefficient of -0.178 of Overleveraged dummy (significant at 1%). In Model 2, the coefficient of the interaction variable of overconfidence and Overleveraged dummy is positive and significant at 10%. And the coefficient of interaction variable of overconfidence and Underleveraged dummy is negative; but, insignificant. This partially explains that the degree of leverage deviation does not give or reduce the

enthusiasm of overconfident CEOs to make mergers and acquisitions.

On the other hand, from Model 3, no significant result shows overconfident CEOs care about the relative size of the firm they bid. However, we find underleveraged firms are likely to bid larger target. In Model 4, the interaction variable of Over67 and Overleveraged dummy shows that overconfident CEOs are likely to merge smaller firms when their firms are overleveraged, shown by the coefficient -0.389 (significant at 5%).

Other explanatory variables, lagged one year, in the probit and tobit regressions are following previous studies such as Harford (2005), Malmendier and Tate (2008), Uysal (2011). Including Sales as a measure of acquirer firm size, Harford (1999) concludes that large firms are more likely to make M&A decisions. Apart from Uysal (2011) variables, i.e. Average Market Leverage, Market-to-Book, EBITDA/TA, Industry M&A Liquidity and Herfindahl Index, we also include stock return as the control variable for Over67 (Hirshleifer, Low, and Teoh, 2012). Findings are similar to the previous literature. The three-year Average Market Leverage level is negatively associated with the likelihood of acquisition activity, and also profitable firms are likely to conduct acquisitions. Firms with higher Market to Book ratio are likely to involve in merger and acquisitions and it is also likely to merge with larger firms.

In sum, the results of this section show that overconfident CEOs are likely to make deals; but if

their companies are overleveraged, they incline to acquire smaller firms.

4.3. Does leverage deviation affect the overconfident CEOs' method payment?

This section presents results of the relationship between deal financing method and overconfidence and its interaction to leverage deviation. In the sample of acquisitions, Table 5 reports the probit analysis of the likelihood of an all-stock offer in odd-numbered columns, and even-numbered columns display the tobit analysis on the percentage of cash used in the offer. Following Malmendier and Tate (2005 and 2008) and Malmendier, Tate and Yan (2011), CEO Stock Ownership and CEO Vested Options are included as the control variables. Since Malmendier, Tate, and Yan (2011) and Hirshleifer, Low and Teoh (2012) show that the CEO overconfidence proxy 'works well after controlling for past stock return performance', we also include Stock Return in the multivariate analyses. Furthermore, following Hartford, Klasa and Walcott (2009) and Uysal (2011) which show a number of factors influence the method of payment in acquisitions, including acquirer firm size, profitability, market-to-book ratio, relative size of the target to the acquirer, target firm public status, and dummy variables for cross-industry acquisitions and competent bidders. Besides, Following Uysal (2011), Industry M&A Liquidity and Herfindahl indexes are also included in the multivariate analyses. In all regressions, dummies account for the macroeconomic changes.

Table 5. CEO overconfidence, leverage and acquisition payment

Variable	Model 1	Model 2	Model 3	Model 4
Over67	0.132 (0.181)	0.217 (0.095)*	-0.178 (0.169)	-0.383 (0.024)**
CEO stock ownership	0.001 (0.271)	0.001 (0.292)	-0.001 (0.536)	-0.001 (0.527)
CEO vested options	0.000 (0.252)	0.000 (0.229)	0.001 (0.087)*	0.001 (0.075)*
CEO tenure in month	-0.001 (0.175)	-0.001 (0.184)	0.001 (0.076)*	0.001 (0.097)*
Over67* Overleveraged Dummy		-0.448 (0.069)*		0.640 (0.050)**
Over67* Overleveraged Dummy		0.009 (0.969)		0.332 (0.258)
Overleveraged Dummy	0.354 (0.007)***	0.570 (0.002)***	-0.446 (0.011)**	-0.750 (0.002)***
Underleveraged Dummy	0.012 (0.916)	0.005 (0.978)	0.060 (0.692)	-0.109 (0.610)
Average Market Leverage	-0.089 (0.791)	-0.139 (0.682)	0.111 (0.796)	0.052 (0.903)
Sales	-0.100 (0.013)**	-0.096 (0.017)**	0.199 (0.000)***	0.198 (0.000)***
Market to Book ratio	0.144 (0.000)***	0.141 (0.000)***	-0.249 (0.000)***	-0.257 (0.000)***
Profitability	-1.832 (0.000)***	-1.847 (0.000)***	3.514 (0.000)***	3.668 (0.000)***
Stock return	-0.053 (0.409)	-0.055 (0.387)	0.100 (0.259)	0.101 (0.254)
Target is a public firm	1.513 (0.000)***	1.515 (0.000)***	-2.224 (0.000)***	-2.240 (0.000)***
Target is a Private firm	0.973 (0.000)***	0.986 (0.000)***	-1.323 (0.000)***	-1.337 (0.000)***
More than one bidder	-0.802 (0.016)**	-0.808 (0.015)**	1.055 (0.017)**	1.174 (0.008)***
Industry M&A Liquidity	0.000 (0.523)	0.000 (0.494)	0.000 (0.696)	0.000 (0.650)
Herfindahl Index	-0.425 (0.360)	-0.411 (0.375)	0.389 (0.485)	0.533 (0.340)
Observation	1432	1432	1432	1432

*, **, *** are significant at 10%, 5% and 1% level.

The results in Table 5 indicate that the Overleveraged dummy and its interaction with CEO overconfidence significantly affect the payment method. In Model 2, overleveraged firms are 57% (significant at 1%) likely to offer an all-stock deal. In Model 4, the tobit regression explains the fraction of the deal paid for with cash. The coefficient of -0.75 (significant at 1%) for Overleveraged dummy shows when a firm is overleveraged, it has a lower propensity to pay for an acquisition with cash or a mix of cash. However, the coefficients of 45.7% (Model 1) and 63.9% (Model 2) for the interaction of Overleveraged dummy and Over67, both coefficients are significant at 10% but just slightly higher than 5%. These results show that when a overleveraged firms is managed by an overconfident CEO, it is less likely to offer an all-stock deal and it is likely to pay for the deal with higher proportion of cash. Neither Model 1 nor Model 2 shows that Underleveraged dummy and its interaction to Over67 do not have statistically significant estimates in this regression. Although in Model 2 and 4, Over67 dummy alone represents overconfident CEOs are likely to finance the acquisition by stock, it shows insignificant results in Model 1 and 3.

Collectively, these findings indicate that the joint effect of CEO overconfidence and the degree of leverage deviation influence the method of acquisition financing. In general, overleveraged firms incline to pay for the deal with all stock or increase the stock component in their acquisition deals, supporting Hartford, Klasa and Walcott (2009) and Uysal (2011). If an overleveraged firm is managed by an overconfident CEO, it would unlikely to pay for the investment by stock or increase the cash component in their acquisition deals, however. This finding supports Heaton (2002) and Malmendier, Tate and Yan (2011) reporting that overconfident managers are less likely to use stock as the financing method. Furthermore, like Uysal (2011), we do not find that underleveraged firms necessarily offer a higher fraction of cash in their deals. Therefore, these findings suggest that the target leverage concept is not considered by overconfident CEOs, for whom it seem less difficult to raise cash or debt for acquisitions. Therefore, CEO overconfidence plays an important role in how acquirers structure their deals.

As to other variables, firms character variables such as Market to Book ratio, profitability, acquirer firm size show significant effect on the a merger financing method. Large firms and profitable firms are less likely to finance deals with stock and they are likely to pay for the deal with larger fraction of cash. However, firms with higher Market to Book ratio are likely to finance the acquisition with stock and they are likely to pay for the deal with larger fraction of stock. For those firms, deal character variables, target public status and the number of bidders also have significant effect on merger payment. Consistent with Uysal (2011), we also find that firm pay for the deals by including a larger fraction of cash when there are multiple bidders for the target. These findings support cash acquisition strategy to deter bidders (Berkovitch and Narayanan, 1990). Also, these findings are consistent with positive effects of growth opportunities on stock acquisitions (as reported in Martin, 1996) and stock overvaluation (Shleife and

Vishny, 2003), that firms are likely to use stock to finance their acquisition projects once their Market to Book ratios are high.

4.4. Does leverage deviation affect the overconfident CEOs' acquisition performance?

This section studies whether the degree of leverage deviation has a significant effect on the quality of the acquisition made by overconfident CEOs. We use three-day-window and five-day-window Cumulative Abnormal Return (CAR) to exam market reactions to acquisition announcements. Table 6 presents mean CAR values for the whole sample and various subsamples.

To demonstrate the influence of CEO overconfidence and leverage deviation, multivariate regressions are used to show the relation between interaction with CEO overconfidence and CAR. Following Hartford, Klasa and Walcott (2009) and Uysal (2011), we include Stock Return and Market-to-Book variables and variables that control for acquirer, target, deal, and industry characteristics. Table 6 reports the coefficient estimates of regressions of CAR on leverage deviation, annual dummies, and control variables. The models have an R^2 of 5.3% for all acquisitions, 7.8% for firm acquisitions, and 4.8% for asset acquisitions. These are comparable to CAR regressions in previous studies.

The interaction of Over67 and Overleveraged dummy is positively associated with 3-day-window CAR. The coefficient of the interaction variables of Over67 and Overleveraged dummy is 0.021 (significant at 10%) (for Model 1), 0.024 (significant at 5%) (Model 3) and 0.012 (significant at 5%) (Model 4). The coefficients of the interaction variables of Over67 and Overleveraged dummy are insignificant. The findings show that if the overleveraged firms are managed by overconfident CEOs, they are not likely to make value-destroying acquisitions.

A 5-day-window CAR is also used as the dependant variable in Model 5. The coefficient of the interaction variable of Over67 and Overleveraged dummy is 0.023 (significant at 5%). Also, the coefficient of the interaction variables of Over67 and Overleveraged dummy is -0.004, but it is insignificant. This result enhances that if the overleveraged firm is managed by an overconfident CEOs, it is not likely to make value-destroying an acquisition.

This result also provides another explanation to Uysal (2011), which find overleveraged firms are seeking value-adding acquisitions. Furthermore, as Malmendier and Tate (2008) find that overconfident managers do bad jobs in mergers and acquisitions, the current research provides a method to mitigate this problem by using firm's capital structure design and also to make overconfident CEOs facing tighter debt restrictions, which in their turn may 'force' CEOs to seek better investment opportunities. Besides, both 3-day-window and 5-day-window CARs are negatively related to the Market-to-Book ratio, which is consistent with Masulis, Wang, and Xie (2007). Also, according to our findings, if the target is a public firm, the acquirer firm's value is destroyed, supporting the findings of Fuller, Netter, and Stegemoller (2002).

Table 6. CEO overconfidence, leverage, acquisitions and market reaction

<i>Parameter</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Over67	-0.002	0.001	-0.005	-0.002	-0.004
	(0.674)	(0.836)	(0.416)	(0.721)	(0.571)
CEO stock ownership				0.000	0.000
				(0.516)	(0.377)
CEO vested options				0.000	0.000
				(0.585)	(0.686)
CEO tenure in month				0.000	0.000
				(0.870)	(0.512)
Over67* Overleveraged Dummy	0.021		0.024	0.026	0.028
	(0.066)*		(0.046)**	(0.035)**	(0.033)**
Over67* Overleveraged Dummy		0.002	0.008	0.001	-0.004
		(0.819)	(0.433)	(0.897)	(0.739)
Overleveraged Dummy	-0.010		-0.010	-0.008	-0.012
	(0.212)		(0.231)	(0.370)	(0.221)
Underleveraged Dummy		0.003	0.000	0.000	0.002
		(0.724)	(0.990)	(0.963)	(0.814)
Average Market Leverage				-0.002	-0.012
				(0.903)	(0.490)
Sales				-0.002	-0.003
				(0.336)	(0.203)
Market to Book ratio				-0.008	-0.008
				(0.000)***	(0.000)***
Profitability				0.059	0.071
				(0.021)**	(0.010)***
Stock return				0.005	0.009
				(0.124)	(0.011)**
Target is a public firm				-0.035	-0.041
				(0.000)***	(0.000)***
Target is a Private firm				-0.004	-0.009
				(0.516)	(0.153)
More than one bidder				0.002	0.003
				(0.891)	(0.893)
Hostile				0.008	0.002
				(0.721)	(0.934)
All cash offer				-0.001	-0.004
				(0.792)	(0.449)
Industry M&A Liquidity				0.000	0.000
				(0.032)**	(0.008)***
Herfindahl Index				0.024	0.019
				(0.237)	(0.393)
Observation	1377	1377	1377	1377	1289

*, **, *** are significant at 10%, 5% and 1% level.

4.6. Robustness

This subsection examines alternative variables that could explain the findings reported in the paper. We follow Hirshleifer, Low, and Teoh (2012) to identify Overconfident CEOs as a CEO exercises exercisable options which are at least 67% in the money once only.

In the robustness test of probit and tobit regressions for acquisition activities, the coefficient of the interaction variable of CEO overconfidence and overleveraged dummy is 0.170 and is marginal insignificant, meaning although overconfident CEO is acquisitive, but no evidence they are pose the same when their firms are overleveraged, the results is similar to that in section 4.2. The coefficient of the interaction variable is 0.3894, significant at 5%, indicating that if the firm is overleveraged, overconfident CEOs are less likely to make large deals. This result is also the same as in section 4.2.

In the robustness test of probit and tobit regressions for acquisition payment, the coefficients of the interaction variable of CEO overconfidence and overleveraged dummy for probit and tobit regression is, respectively, -0.735, significant at 5%, but very close to 1% and 0.715, significant at 5%. The robustness check of merger

and acquisition payment highlights the results in section 4.3 and represent overconfident CEOs are less likely to pay for their investment project with all stock or larger proportion of stock.

The market reaction is measured by 3-day event window and 3-day event window CAR. The coefficients of the interaction of overconfidence and overleveraged dummy are 0.0172 significant at 10% for the 3-day event window CAR, and 0.009, marginal insignificant, for the 5-day event window CAR. The reason for the marginal significant is that the lower of requirement to the define CEO overconfidence, the consequence of which is nearly 60% of CEOs in our sample are identified as overconfidence, Thus the results is relatively noisy.

On the other hand, following Campbell et al. (2011) and Ahmed and Duellman (2012), the 'firm level of investment' overconfidence to run the same regressions, as Campbell et al. (2011) state that 'firm investment may also contain information about CEO optimism. We classify CEOs as having low (high) optimism if their firm is in the bottom (top) quintile of firms sorted on industry-adjusted investment rates for two consecutive years'. This overconfidence proxy works well in the probit regression on acquisitiveness and payment, but the results tobit regression of merger size and fraction of cash in the payment are statically insignificant.

And the result of market reaction using this proxy is also getting the insignificant. This proxy is an indirect measurement of CEO overconfidence and it also increase the number of 'overconfident CEOs' in my sample and make more noise in the results.

5. CONCLUSION

This paper goes beyond the previous studies on the interdependence of financing and investment decisions, such as Harford, Klsas, and Walcott (2009) and Uysal (2011). Therefore, this research contributes to studies on the role of CEO overconfidence and capital structure and their joint effect on firms' investment decisions. Although no solid evidence shows that high positive leverage deviation reduces likelihood of making acquisitions for overconfident CEOs, it does restrict overconfident CEOs to make larger targets. On the other hand, unlike the previous studies, overconfident CEOs are less likely to use stock to finance the deal, because of their biased underestimation on their firm's value.

This study also contributes to the merger and acquisitions studies by comparing overleveraged and underleveraged firms. Overleveraged firms managed by overconfident CEOs are not likely to make value-destroying acquisitions. This finding suggests that to restrict overconfident CEOs' investment distortion, the capital structure design can be a method, since high positive leverage deviation can reduce the capacity of raise debt so that reduce the chance that overconfident CEOs making bad acquisitions.

Finally, this study is related to studies on CEO overconfidence literatures. Previous studies report that overconfident CEOs are likely to make low quality acquisitions; e.g. Roll (1986) and Malmendier and Tate (2008). Suggestions are made for mitigating the value-destroying effect coming from the CEO overconfidence. Our suggestions are related to the link between the consequences of debt contract restrictions and the overconfident CEOs' investment activity; as initiated by Sunder Sunder and Tan (2010).

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SECTION 3



**THE IMPACT OF CORPORATE GOVERNANCE ON
MARKET CAPITALIZATION: EVIDENCE FROM
BAHRAIN BOURSE**

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Abstract

Our study is based on the “Agency Theory”, as it interprets the relationship between corporate governance and market capitalization of firms listed in Bahrain Bourse (BB). Longitudinal data is used in this study from 36 listed firms in Bahrain Bourse during the period of 2009-2013. A set of econometric methods, including the fixed effects method, is used to overcome different measurement problems of such relationship. The study findings include a set of results that are related to effect of ownership structure and board of directors’ characteristics on market capitalization of firms. Based on these findings, a set of recommendations, along with study limitations and future research, are put forward.

Keywords: Corporate Governance, Market Capitalization, Agency Theory, Bahrain Bourse

1. INTRODUCTION

This study contributes to the academic and executive debate that takes place about the impact of corporate governance on the various firms’ activities in Bahrain. It sheds light mainly on the level of corporate governance required especially after the corporate governance list has become mandatory by such firms. This study also provides evidence, not previously discussed in a developing market, on the impact of compliance of corporate governance rules on firms’ market capitalization. This paper mainly examines the roles of the board of directors’ characteristics and ownership structure as two main stepping stones of corporate governance that have impact on market capitalization of listed firms in the Bahrain Stock Exchange. It is expected that this type of examination would add a real contribution to the understanding of such topic both at academic and managerial levels.

Some authors have attributed the emergence of corporate governance to the emergence of major financial problems by international companies. Such companies called for a set of rules and norms of ethical and professional principles to achieve confidence and credibility of the information in the financial statements. In reality, the corporate

governance procedures are far from being a reaction of financial crises as corporate governance procedures have been in place since the emergence of public shareholding companies and the agency theory. The procedures that govern the relationship of shareholders with the board of directors, executive management, and other relevant stakeholders have been addressed since old times. Recent financial crisis, followed by subsequent collapse in major international companies have made these rules and laws essential in order to protect the interests of all parties of the company.

Good corporate governance seeks to achieve a set of goals by the board of directors and provides them with the right incentives to achieve such goals. Effective corporate governance usually facilitates an efficient monitoring process that helps companies to wisely exploit their own resources and prevents any manipulation, distortions or deceit that could lead to asymmetry in information. This can be through the application of robust supervision and control of all economic units. In this way, the interests of various parties can be met by offering an appropriate legal and formal framework that can positively contribute in the economic community, locally and internationally. To achieve such goals, effective and independent information control

measures should be first in place with the aim of continuous improvements.

A company with a good corporate governance level can help reduce business risks, enjoy trading shares in the financial markets, and increase shares value. This is attributed to the important role corporate governance can play which is reflected in an implied value of the share price. Corporate governance can also improve the quality of company's leadership, and the quality of its offerings in term of products and services. It also supports transparency, and enhances trust and the credibility of the financial statements (Hamdan et al., 2013). Our main study gap tries to answer the following questions: What is the level of corporate governance in listed firms in the Bahrain Stock Exchange? Is there a disparity in the application of corporate governance among Bahraini firms based on firms' characteristics? Can corporate governance contribute in improving market capitalization of the firm?

Our study is expected to be significant as it seeks to insightfully research the subject of corporate governance in the Bahrain Stock Exchange, as most of financial analysts and investors look at this market as one of the oldest, most important and active Arab financial markets. This financial center market is located at the heart of the Arabian Gulf region, a region which is known with oil rich. Bahrain market has attracted foreign investments and foreign workers resulting in subsequent huge money transfers. Identification of corporate governance level in this market reflects how transparent that listed companies are and the results of this study can contribute to the development of the corporate governance guide in Bahrain. Studying and analyzing the relationship between corporate governance and market performance of listed firms might reveal new findings in this market not previously researched.

The remainder of this study is divided into the following sections: In the second section we have reviewed previous studies and then developed research hypotheses. In the third section we have discussed research methodology, study sample, and variables measurement's approaches. We have then conducted a descriptive study to describe the relationship between corporate governance and market capitalization, followed by hypotheses testing and results analysis. Finally, we have identified study findings, recommendations as well as highlighting study limitations and suggesting some points for future research.

2. CONCEPTUAL BACKGROUND AND RESEARCH HYPOTHESES

Belloc (2012) discussed corporate ownership, corporate finance and labor as three main channels that constitute a corporate governance system that shapes a corporate's innovation activity. They called for further studies that focus on interrelation between various dimensions of corporate governance and their effect on company's innovation. Perez-de-Toledo and Bocatto (2013) found that extra cash was valued more at companies with good governance as opposed to those who had poor governance. Good corporate governance was assessed based on four dimensions namely access

and content of information, board structure, ownership structure and control and transparency. They claimed that investors increase or decrease their investments based on good or bad governance of the firm as investors believe benefits of holding cash to finance future projects offset the potential agency costs associated with it. Future growth opportunities were found to work well as a moderator with the same euro of extra cash at firms with varied levels of governance quality.

Pae and Choi (2011) found that cost of equity capital decreases when corporate governance is high and also becomes low for firms with strong commitment to business ethics. The authors suggested for companies to lower their cost of equity and increase value by practicing effective corporate governance and showing commitment to higher standards of business ethics. Competitive markets are characterized by high speed of change. In this respect, company performance is monitored by stakeholders and its value is reflected in the stock price. Investors in such competitive environment seek effective corporate governance to protect their investments and reduce anticipated financial risks. Caixe and Krauter (2014) confirmed the positive link between corporate governance and market value and also found that firms listed in premium corporate governance segments are priced higher by the market compared to firms listed in the traditional trading segment.

Jo and Harjoto (2011) investigated the empirical link between corporate governance (CG) and firm value through corporate social responsibility (CSR). Their study postulates that corporate governance manages the interests of multiple stakeholders. CSR here is seen as an extension of firms' efforts to foster effective corporate governance, ensuring firms' sustainability via sound business practices that promote accountability and transparency. They found that CSR was positively associated with corporate governance. Chen et al., (2010) propose that improvements in corporate governance of companies could help reducing costs of equity financing. They found that external financing needs provides incentives for firms to improve their overall quality of corporate governance practices. They linked governance value with specific external forces namely product market competition, investment opportunities and external financing needs, with particular emphasis being placed upon the impact of external financing needs as they relate directly to outside shareholders. They conclude that external financing needs provide incentives for firms to make improvements in the quality of their corporate governance practices and this in terms will have positive effect on firm value.

Some studies show that higher firm value is achievable in those firms with better governance practices that are open to market measures than in those firms with relatively poor governance practices (Core et al., 2006 and Bebchuk et al., 2009). Renders and Gaeremynck (2012) examined how agency problems between majority and minority shareholders as well as voluntary corporate governance can affect the quality of corporate governance in European listed companies. They found that the conflict affects the quality of corporate governance and if agency conflicts are

severe, the costs of installing good governance are high for the majority shareholders while firm's quality is low. Once installed, corporate governance improves and firm value gets higher. Their findings also suggest that there are costs related to good corporate governance, namely, loss of private benefits of control, and that majority shareholders take these costs into account when deciding on the quality of corporate governance. A positive relation exists between good corporate governance and firm value and is more obvious when the principal-principal conflict is more severe. Therefore, good corporate governance is able to lessen the negative effect of the principal-principal agency conflict on firm value as investors value good corporate governance more in companies with more severe conflicts.

Lei and Song (2012) investigated the effects of board structure and internal corporate governance (CG) mechanisms on firm value in an emerging market that have ownership focus and family contribution. They found that firms with independent board structure can have higher firm. They also found that board structure is the most important among the major internal CG mechanisms and can be most valuable to investors in markets with concentrated ownership. They suggested that companies with concentrated ownership should focus on monitoring CG mechanisms with boards of directors to have a greater degree of independence. Therefore, it may be constructive to reduce the number of directors who are family members with the aim of increasing the firm's value.

Toledo and Bocatto (2013) examined the value investors give to one euro of extra cash held by firms in Spain and the influence of corporate governance on this value by comparing the value of cash for firms with good and poor corporate governance. Their study aim was to analyze the interaction between cash and governance and its effect on the market value of Spanish publicly traded firms. They found that one euro of extra cash is valued at a considerable premium at firms with good governance and the conflict between shareholders and debt holders is high as investors apply high discount for leverage when valuing Spanish firms. As with future growth opportunities, investors pay higher premium to good governance which suggests that shareholders believe the benefits of holding cash to finance future investment counterweigh the potential agency costs associated with it.

On other hand, the relationship between ownership types and firm performance with a moderating effect of corporate governance was well addressed and examined by Tam and Tan (2007). Their study revealed that different types of majority owners show different behaviors and preferences for corporate governance practices which in turn affect firm performance. Governance practices such as adopting concentrated ownership and firm characteristics such as firm age, size and sector, are all found to have affected firm performance. Their study suggests that the protection of shareholders' rights, mainly those of the minority shareholders, remains a key issue as large shareholders exercise dominant control through ownership concentration and representation on company board and management regardless of ownership types. Therefore, they called for better scrutiny to moderate the power of large shareholders with the aim of protecting the interests of minority shareholders. This is possible by applying more transparency and accountability in the relationship between governments and business, large shareholder and board of directors, and board of directors and management.

3. RESEARCH DESIGN AND METHODOLOGY

This part describes the research methods of the study, including sample selection and sources of data, study model, measuring descriptive statistics, and data validity.

3.1. Sample Selection and Sources of Data

Bahrain Bourse contains (48) listed companies. Companies were selected according to the following criteria: first, data is available in the period of (5) years (2009 to 2013), and second, companies have not been closed or emerged with any other company during the study period. We start the sample collection process with all the listed firms on the Bahrain Bourse; we obtain data on financial statements, corporate governance indicators, and others control variables from Bahrain Bourse database. (12) companies were excluded from the sample and they were either non Bahraini or were closed during the study period, which left us with 36 companies representing 75% of the original sample. Table (1) summarizes the study sample selection.

Table 1. Sample Selection

#	Sector	Listed companies	Excluded companies	Study sample
1	Commercial Banks	8	2	6
2	Investment Sector	12	1	11
3	Insurance Sector	5	0	5
4	Service Sector	9	2	7
5	Industrial Sector	3	0	3
6	Hotel-Tourism	5	1	4
7	Closed Company	2	2	0
8	Non Bahraini Co.	4	4	0
Total		48	12	36

3.2. Study Model

This study tries to find the effect of corporate governance dimensions on market capitalization. Thus, corporate governance indicators are considered

as independent variables and market capitalization is considered as the dependent variable. In order to measure the impact of corporate governance on market capitalization; the study estimates the following linear regression model:

$$\begin{aligned} \text{MarketCapitalization}_{it} = & \alpha + \beta_1 \text{CGindicator1}_{it} + \beta_2 \text{CGindicator2}_{it} + \beta_3 \text{CGindicator3}_{it} \\ & + \beta_4 \text{CGindicator4}_{it} + \beta_5 \text{CGindicator5}_{it} + \beta_6 \text{CGindicator6}_{it} \\ & + \beta_7 \text{Size}_{it} + \beta_8 \text{Age}_{it} + \beta_9 \text{Leverage}_{it} + \beta_{10} \text{Growth}_{it} + \text{Sector}_{it} + \ell_{it} \end{aligned}$$

Where: Market Capitalization_{it}: is the dependent variable; continuous variable, and is the market capitalization represented by how much the firm (i) worth in the market in the year of (t). α : is the constant. β_1 -10: is the slope of independent and control variables. CGindicator1: is the first corporate governance indicator; coded 0 if a shareholder owns more than 20%, 1 if not for the firm (i) in the year of (t). CGindicator2: is the second corporate governance indicator; coded 0 if the boards' number is not between 7-13, 1 if otherwise for the firm (i) in the year of (t). CGindicator3: is the third corporate governance indicator; coded 0 if ownership of the 3 largest shareholders is more than 50%, 1 if otherwise for the firm (i) in the year of (t). CGindicator4: is the fourth corporate governance indicator; coded 0 if the board is not controlled by more than 50% independent outside directors, 1 if otherwise for the firm (i) in the year of (t). CGindicator5: is the fifth corporate governance indicator; coded 0 if chairman is also CEO, 1 if not for the firm (i) in the year of (t). CGindicator6: is the sixth corporate governance indicator; coded 0 if property managers of the company's shares are not between 1-20%, 1 if otherwise for the firm (i) in the year of (t). Size_{it}: is control variable, the company's size for the firm (i) in the year of (t). Age_{it}: is control variable, the age of the firm (i) in the year of (t). Leverage_{it}: is control variable, the financial leverage of the firm (i) in the year of (t). Growth_{it}: is control variable, the growth is sales of firm (i) for the year of (t). ℓ_{it} : random error.

3.3. Measurement and Descriptions of Variables

The selection of variables is based on an examination of previous empirical studies, table (2) shows the dependent variable, the independent variables, and the control variables employed for all estimated models of the study.

Six corporate governance dimensions have been selected for this study. The first three dimensions are related to ownership of firms operating in Bahrain, while the other three are related to characteristics of board of directors. Tables (2) and (3) describe corporate governance dimensions for firms operating in Bahrain. The first dimension of corporate governance sets a rule that shares of the largest shareholder in the firm should not exceed 20% of overall firm's ownership to protect from the dominance of a small group on the decision making, ignoring the larger group. In this respect, 58% of firms operating in Bahrain have not exceeded 20% of largest shareholder condition which is a good indicator of corporate governance. On the other hand, the remaining 42% of firms are dominated by one owner which is a sign of absent or low corporate governance. The second dimension shows that the ownership of the largest three shareholders should not exceed 50%, to avoid dominance of small group. It has been observed from tables (2) and (3) that only 39% of firms with three largest shareholders have not exceeded 50% of ownership, while 58% of firms are dominated by this small group. Therefore, the finding does not meet the condition and is not reflecting a good practice of corporate governance.

Table 2. The measurement of variables and descriptive statistics

Variable	Description	Descriptive statistics			
		Mean	SD	Minimum	Maximum
Dependent variable:					
Market capitalization	Company's outstanding shares multiplied by its stock price per share.	183,798	294,001	3,600	1,769,545
Independent variables:					
Corporate governance dimensions:					
Ownership of the largest shareholder	Dummy variables coded 0 if a shareholder owns more than 20%, 1 if not.	0.583	0.494	0.000	1.000
Size of the Board of Directors	Dummy variables coded 0 if the boards' number is not between 7-13, 1 if otherwise.	0.889	0.315	0.000	1.000
Ownership of the three largest shareholders	Dummy variables coded 0 if ownership of the 3 largest shareholders is more than 50%, 1 if otherwise.	0.400	0.491	0.000	1.000
Independency of Board of Directors	Dummy variables coded 0 if the board is not controlled by more than 50% independent outside directors, 1 if otherwise.	0.944	0.230	0.000	1.000
Duality of chairman and CEO posts	Dummy variables coded 0 if chairman is also CEO, 1 if not.	0.917	0.277	0.000	1.000
Property of managers	Dummy variables coded 0 if property managers of the company's shares are not between 1-20%, 1 if otherwise.	0.371	0.485	0.000	1.000
Corporate governance index	The average of the six dimensions of corporate governance.	0.681	0.144	0.333	1.000
Control variables:					
Firm size (Millions)	Logarithm of the company's total assets.	1,122,442	2,427,334	4,518	12,344,488
Firm Age	The natural log of the number of years that a firm is listed on an exchange.	25.654	12.998	1.000	55.000
Financial leverage	Total debt divided by total assets.	0.427	0.297	0.000	0.934
Growth	Percentage increase in sales from previous year.	-0.034	0.305	-1.000	1.221
Industrial dummy	Companies who belong to different sectors differ in their corporate governance and market capitalization.				

Table 3. Corporate governance dimensions

<i>Corporate governance dimensions</i>	<i>Frequency of 1's</i>		<i>Frequency of 0's</i>	
	<i>Frequency</i>	<i>Percent</i>	<i>Frequency</i>	<i>Percent</i>
Ownership of the largest shareholder	105	58	75	42
Size of the Board of Directors	160	89	20	11
Ownership of the three largest shareholders	70	39	105	58
Independency of Board of Directors	170	94	10	6
Duality of chairman and CEO posts	165	92	15	8
Property of managers	65	36	110	61

The third dimension is property of management in shareholding, as agency theory says when management owns shares in a firm, agency conflicts is reduced, resulting in reduction in agency costs which is a good indication of corporate governance. From descriptive analysis in tables (2) and (3), it has been noticed that for most of firms in Bahrain, managers do not own shares in their firms. Therefore, this dimension has not been met and the consequences will be high agency conflicts and high agency costs.

The second group of corporate governance dimensions is related to firm's board of directors' characteristics. The fourth dimension relates to the size of board of directors. Previous studies show that the ideal size of board of directors ranges from 7 to 13 members. (89%) of firms in Bahrain meets this condition which is highly favorable and supports good corporate governance practices. The fifth dimension shows independency of board of directors where 50% of firms' board members should not be from executive management. The results show that 94% of firms in Bahrain have 50% of independent board of directors and this is an indication of good corporate governance and gently meets the set criterion. The last dimension is duality of chairman and chief executive officer posts. Our findings reveal that 92% of firms in Bahrain have no dual relationships of these two posts. Overall, we observe that firms in Bahrain have satisfactorily achieved conditions of characteristics of board of directors; however, the level of satisfaction is partially achieved in firms' ownership.

3.4. Descriptive Analysis of the Relationship between Corporate Governance and Market Capitalization

Table (4) shows two categories of firms in Bahrain. The first category enjoys high corporate governance practices while the other category lacks some. In each category, an average of market value is computed to identify the level of relationship between corporate governance and market capitalization for firms operating in Bahrain.

3.5. The Relationship between Corporate Ownership and Market Capitalization

The findings show that market value has increased for those firms which have achieved two conditions of corporate governance that are related to corporate ownership and increase firms' performance. These two conditions are ownership of the three largest shareholders and property of managers. With regard to the third condition of corporate governance, the ownership of the largest shareholder, the findings reveal that firm's performance increases when one person controls the firm. This might be attributed to the fact that in small and family firms, the owner might closely know all the firm's operational details, hence making better performance. This pattern of relationship remains controversial, and needs more study and analysis.

Table 4. Corporate governance dimensions and market capitalization

<i>Market capitalization with:</i>	<i>Corporate governance dimensions</i>					
	<i>Ownership of the largest shareholder</i>	<i>Size of the Board of Directors</i>	<i>Ownership of the three largest shareholders</i>	<i>Independency of Board of Directors</i>	<i>Duality of chairman and CEO posts</i>	<i>Property of managers</i>
Highest Corporate Governance	201,327	232,910	224,040	209,677	208,964	248,578
Lowest Corporate Governance	223,107	36,547	207,880	221,200	224,914	193,906
Mean t-values	-0.455	2.709	0.326	-0.114	-0.190	1.094
(Student's t-test p-value)	(0.650)	(0.007)	(0.745)	(0.910)	(0.850)	(0.275)
Mean z-values	-0.741	3.685	0.606	-1.086	-2.271	0.273
(Mann-Whitney test p-value)	(0.459)	(0.000)	(0.545)	(0.277)	(0.023)	(0.785)

Table 5. The relationship between corporate governance index and control variables

<i>Variable</i>	<i>Corporate governance index</i>	<i>Pearson correlation</i>	<i>Student's t-test p-value</i>	<i>Mann-Whitney z-test p-value</i>
Company size	0.669	-0.055	-1.308	-1.667
	[0.697]	(0.464)	(0.193)	(0.095)
Company age	0.683	0.129	0.119	0.144
	[0.680]	(0.085)	(0.906)	(0.885)
Financial leverage	0.669	-0.034	-1.222	-1.881
	[0.695]	(0.648)	(0.223)	(0.060)

3.6. The Relationship between Board of Directors' Characteristics and Market Capitalization

Our study of the relationship between characteristics of board of directors and firm's performance reveals that only one dimension of corporate governance has a positive relationship with firm's performance, which is the size of the board of directors, see table (4). Firms with an ideal size of board of directors have outperformed other firms. On the other hand, firms with independent board of directors have not performed well which indicates that there is a negative relationship between independency and firm's performance. This finding gently fits with Hamdan's study (2016) which shows that independency of board of directors for firms operating in Bahrain is ineffective as dependent board members enjoy a good level of work knowledge and experience and subsequently perform better than firms with independent board members. Surprisingly, a negative relationship exists when firms separate the two posts of chairman and chief executive officer, meaning that duality of these two posts increases firms' performance, a finding that might need further analysis taking into consideration.

3.7. The Relationship between Corporate Governance Index and Control Variables (Company Size, Company Age and Financial Leverage)

To identify the characteristics of companies and their relationship to the level of corporate governance, we categorize companies operating in Bahrain into two categories based on company size, company age, and financial leverage. We then compute a governance indicator in each category as shown in table (5). We observe that there is a lower governance level in large sized companies compared to small sized companies as a governance indicator in large sized companies' counts for 66.9% while small sized companies' indicator reaches to 69.7%. Surprisingly, governance variation levels between the two sizes of companies are found to be statistically insignificant. Our study results contradict with the management theory that calls for strong and positive relationships between company size and governance level. In the normal situation, large companies with strong economic and financial stands in the country can usually best use governance practices to maintain its economic position and make sure its high impact on economy. This fact still does not exist in companies operating in Bahrain which might be attributed to the newly adopted principles of governance in the country.

With regards to the relationship between company age and governance level, it is clear from table (5) that old companies have better governance than new companies, but insignificant variation is found between the two groups which is again attributed to the possibility of newly and recent adoption of governance principles by such companies. The relationship between financial leverage and corporate governance shows a strong power of creditors on Bahrain companies. Table (5) shows a negative and insignificant relationship between the financial leverage and governance level. This might be a sign of absence of real control from

creditors over companies in Bahrain or creditors do not take the corporate governance level into consideration when lending.

4. EMPIRICAL STUDY

There are two types of panel regression models used, firm fixed effect (FE) model and random effect (RE) model. The trade-off between the two models depends on Hausman test where null hypothesis calls for no differences between effects of both (FE) and (RE) models. Rejection of null hypothesis indicates that the (RE) model is inappropriate and it is preferable to use (FE) model instead. We base our study on fixed effect (FE) model in hypotheses testing as table (6) shows the significance of chi-squared test of Hausman. Although both of (FE) and (RE) models are statistically acceptable, where p-value (F) is significant and less than (1%) for both models, but the fixed effect (FE) model seems to be more representative than random effect (RE) model as the former has high Adjusted R². Also fixed effect (FE) model does not seem to have an autocorrelation problem as a Durbin-Watson stat falls within the adequate range of (1.5-2.5). Also panel regression models are suitable for our study as (VIF) does not exceed (10) for all independent and control variables. Therefore, a multi-linear problem does not exist with current independent and control variables.

4.1. The Effects of Ownership Structure on Market Capitalization

With regard to the effect of governance characteristics in relation to ownership structure on firm's performance, our study results in table (6) show that there is an adverse effect and significant of ownership concentration as more than 50% of firm's shares falls in the hand of three largest shareholders of market value. The table also shows an adverse effect of property of managers on firm's equity and market capitalization. The agency theory suggests that ownership concentration which is in the hand of few shareholders makes them have high control over the firm and generally improves firm's performance. Many previous studies have confirmed this pattern of positive relationship (Pivovarsky, 2003; Sanda, Mikailu and Garba, Sanda et al., 2005; Joh, 2002; Xu and Wang, 1997), while other studies have not found any effect of ownership concentration on firm's performance (Demesetz and Lehn, 1985; Demesetz and Vilalunga, 2001; Kumar, 2003; Rowe and Davidson, 2002).

The study of Khamis et al., (2015) found an adverse effect of ownership concentration on rate of return on assets. Our study goes in line with their study, as we found an adverse relationship of ownership concentration on firm's performance. Furthermore, we also found a positive relationship between governance standard that rejects ownership concentration and firm's market capitalization. Based on that, an adverse relationship exists between ownership concentration and firm's market capitalization. This finding can be justified as ownership distribution among a large number of shareholders improves firm's image, increases exchange of firm's shares and improves market share value. Another justification could be that more

shareholders mean more variety of experience in the firm which positively improves firm's performance.

Based on agency theory, property of managers can reduce agency's conflicts and improve firm's performance. Some researchers found conflicting results about property of managers' effects on firm's performance. While some studies indicated positive effects of property of managers' on firm's performance (Severin, 2001; Kumar, 2003). In our current study and as shown in table (6), we explored a governance indicator of management owning part of firm's shares and its effect on improving firm's market value and found that there is a positive and significant relationship between property of managers and firm's market value as this action within the Bahraini's firm can motivate managers to improve their firm's market performance. It also gives a good and positive impression to the economic and financial community about the firm and removes any suspicion concerning conflict of interests. The results of our study agree with the study of Hamdan et al., (2013) that was conducted in Kuwait and found that there was a positive effect of property of managers on many performance indicators such as market value-added and rate of return on assets.

4.2. The Effects of Board of Directors' Characteristics on Market Capitalization

Our study uses three corporate governance indicators that are related to board of directors' characteristics. These indicators are optimum size of board of directors, independency of board of directors, and duality of chairman and CEO posts. Table (6) illustrates a positive and significant effect of size of board of directors on market value, as firms with an optimal size (7-13 members) have achieved higher market capitalization. Our study agrees with the study of Topal and Dogan (2014) that confirms a positive effect of board of directors on firms' performance in Turkey, but differs with the study of Hamdan et al., (2013) as it does not find any effect of size of board of directors on performance indicators.

There are two approaches in the management and finance literature that discuss the independency of board of directors and its effect on firm's performance. Many studies support the notion that there is no effect of independency of board of directors on firm's performance (Hermalin and Weisbach, 2003). Studies based on accounting measurement of performance (MacAvoy et al, 1983; Hermalin and Weisbach, 1991; Mehran, 1995; Klein, 1998; Bhagat and Blak, 2001) and on Tobin's Q measurement (Morck et al., 1988) have both not found any effect of independency of board of directors on firm's performance. Furthermore, the Stewardship theory, as opposed to Agency theory, supports the idea of no relationship between independency of board of directors and firm's performance and assumes that internal managers are trustful to manage the firm and its resources to achieve optimal performance results and to the interest of shareholders (Donaldson, 1990;

Donaldson and Davis, 1991, 1994). Therefore, Stewardship theory views central control to be in the hand of firm's managers (Dalton et al, 1998). Based on this theory, many studies have found positive relationships between managers and the availability of information that would help taking right decisions within a firm (Baysinger and Hoskisson, 1991). Firm's managers know their firm better and can reach to quality decisions that increase firm's performance. Therefore, a positive relationship between managers and firm's performance does exist (Kenser, 1987).

Some studies have found a relationship between managers and R & D spend (Baysinger et al., 1991; Hill and Snell, 1988), while other studies have not confirmed a relationship between independency of board of directors and firm's performance (Chaganti, Mahajan, and Sharma, 1985; Daily and Dalton, 1992, 1993; Kesner, Victor, and Lamont, 1986; Schmidt, 1975; Zahra and Pearce, 1989). Some other studies have cast doubt on independency of the board members who come from outside the firm as executive directors could have an influence on their selection for reasons other than firms' interests and to their own interests. (Coles et al., 2010; Weisbach, 1998). Additionally, firm's shareholders think that multiple appointments to board members in more than one firm could lead to a phenomenon of busy directors as such directors cannot devote enough time and efforts to serve each firm effectively. This phenomenon makes investors not willing to invest in firms with a high number of independent directors (Fich and Shivdasani, 2006). Furthermore, empirical evidence shows that some independent directors work for their own interest rather than a host firm's interest (Dittmann et al., 2010), hence they opt to work in firms that increase their own benefits irrespective of firm's value Fahlenbrach et al., 2010a).

The second approach that investigates the effect of independency of board of directors on firm's performance is supported by "Agency theory". To reduce agency costs, board of directors should consist of majority of independent directors as independency contributes in agency cost reduction as indicated by Mobbs (2013), and reduce conflicts that might exist between directors and shareholders as well as the ability to obtain high quality information (Rutherford and Buchholtz, 2007). High objectivity, control and better decision making can be obtained when there is a good number of independent board of directors (Fama and Jensen 1983) as they can intervene whenever opportunism exists among managers (Post et al., 2011). Differences between internal and external board of directors stem from their different strategic views. Internal directors mainly concern with short term performance, whereas external and independent directors put long term performance, environmental and social issues on top of their priority (Johnson and Greening, 1999). With regard to environment and society, a positive relationship has also found between independency of board of directors and firm's performance (Shaikat et al., 2015).

Table 6. Panel regression results

t-Critical: at df 179, and confidence level of 99% is 2.326 and level of 95% is 1.960 and level of 90% is 1.645. F-Critical (df for denominator n-β-1 = 180-10-1 = 169) and (df for numerator = β = 10 and confidence level of 99% is 2.34 and confidence level of 95% is 1.84 and confidence level of 10% is 1.6. Significance at: *10%; **5% and ***1% levels.					
Variables	VIF	Firm fixed-effect Model		Random-effect Model	
		β	t-Statistic	β	t-Statistic
Constant		8.535	6.235*** (0.000)	11.320	6.037*** (0.000)
Independent variables:					
Ownership of the largest shareholder	3.579	0.513	0.913 (0.363)	0.788	1.402 (0.164)
Size of the Board of Directors	1.666	1.373	2.563** (0.012)	1.447	1.872* (0.064)
Ownership of the three largest shareholders	5.471	1.513	2.829*** (0.005)	-0.292	-0.525 (0.601)
Independency of Board of Directors	1.785	-0.429	-0.607 (0.545)	-0.784	-0.774 (0.441)
Duality of chairman and CEO posts	1.324	-1.098	-1.641 (0.103)	-0.363	-0.380 (0.705)
Property of managers	8.344	1.319	1.988** (0.041)	0.136	0.283 (0.778)
Control variables:					
Firm size	2.439	0.150	1.806* (0.073)	0.123	1.270 (0.207)
Firm age	1.630	0.003	0.221 (0.826)	-0.065	-5.052*** (0.000)
Financial leverage	2.651	1.098	1.562 (0.121)	-0.810	-2.120** (0.036)
Growth	1.172	-0.299	-0.605 (0.546)	-0.059	-0.825 (0.411)
R2		0.472		0.198	
Adjusted R2		0.223		0.129	
F-Statistic		3.608***		2.861***	
p-value (F)		(0.000)		(0.003)	
Hausman Test (Chi2)	30.142***				
p-value (Chi2)	(0.000)				
Durbin-Watson stat		1.772		0.808	

The relationship between independency of board of directors and firm's performance has clearly been identified in countries that do not have robust regulations to protect investors' interests and other stakeholders. China, as one of emerging markets, has recently moved from managing governmental companies toward independency of board of directors. One of the studies there surveyed the effect of independency of board of directors in 16000 listed firms in Shanghai's bourse and found a positive effect of independency of board of directors on firm's performance. Such independency works as an alternative to rules and regulations that protect investors' rights in firms and improves firms' performance (Liu et al., 2015). A study conducted by Dahya et al., (2008) has provided empirical evidence from (22) countries, apart from USA, and shown a positive and significant relationship between independency of board of directors and firm's performance in countries that have low protection for investors. Other studies later have confirmed same findings (Aggarwal et al., 2009; Bruno and Claessens, 2010).

In Bahrain, our study finds an adverse and insignificant relationship between independency of board of directors and market capitalization. We find that internal directors are more capable of managing a firm as they know firm's operational details more than independent directors. Results in table (6) indicate an adverse and insignificant relationship between duality of chairman and CEO, and market capitalization. This result contradicts with the Agency theory and other previous studies

that show a positive effect of duality of chairman and CEO on firms' performance in Kuwait.

5. CONCLUSION

This paper examines the relationship between corporate governance and market capitalization on firms operating in Bahrain. This study is based on the "Agency Theory" using longitudinal data; which includes (36) companies listed on the Bahrain Stock Exchange for the period (2009-2013). Many econometric techniques are used to overcome the different measurement problems in this relationship. Corporate governance has been divided into two dimensions: the ownership of the board of directors, and the characteristics of the board of directors. The empirical results of the study showed an adverse relationship and important differences between concentrated ownership and market capitalization of Bahraini companies, but a positive relationship between the ownership of the board of directors and market capitalization. Despite the fact that the first relationship is not consistent with the agency theory, but the existence of an adverse relationship between the concentration of ownership and company performance can be justified as the dispersion of properties and distribution between the largest number of shareholders may improve the image of the company to shareholders and indicate a good sign of corporate governance quality in these companies.

The adverse relationship between ownership and performance of the board of directors can also be justified. The positive relationship between the

ownership of the board of directors and companies' performance are consistent with the agency theory, which encourages executive directors to own shares within the company which in turns can improve their performance and thereby improve the company's profitability and performance in all areas, and at the same time reduce agency conflicts and costs. As for corporate governance dimensions that are related to the characteristics of the board of directors in the performance of companies, the results show that the commitment to the optimal size of the board of directors contributes in the improvement in the market value of the company. The optimal size of the board can help improve decision making process and increase company's performance. It is also crucial to have board of directors with relevant expertise that increase company's performance.

The relationship of the independence of the board of directors with firm's performance appears to be negative in the sense that managers internally are the most capable personnel for of the company's management as they maintain adequate expertise with details of operational work, as well as possessing sufficient information that makes them take the right decisions to improve performance. However, this relationship is not statistically significant nor it can be generalized to all companies in Bahrain. There are many benefits to have independent members on the board, but it must be commensurate with the nature of the business environment and culture prevailing in society. Business environment in Bahrain which is relatively small may make it unfavorable to increase independent board of directors. Therefore, executive directors who are knowledgeable and experienced with operational details are more in demand. The most important recommendation of this study is not to increase the number of independent members of the board of directors to more than five members, as at this level the negative impact of independent members starts to emerge, reducing company's performance. I was found that companies combining two positions, chairman of the board of directors and chief executive officer, can achieve better performance, but such relationship was not found to be statistically significant, nor could be generalized.

Study Limitations and Future Research

Our study uses a set of econometric methods to overcome measurement problems, and to reach to correct relations between variables in a way that makes study results more robust. The study also provides preliminary evidence about the relationship of the corporate governance with companies' performance in Bahraini business market. On the other hand, a precaution should be taken when disseminating the results of this study. Despite the fact that the sample represents 75% of the listed companies in the Bahrain Stock Exchange, it remains a small sample, from a small market, as econometric models might not be able to precisely capture relations as in developed markets. Also some other external and internal impact factors are not included in the study sample. Thus; more accurate results can be obtained when a study sample is expanded to financial markets in the Arabian Gulf which share similar social and economic conditions. Future

studies can research the impact of corporate governance, quality of earnings, and its relationship with corporate social responsibility which might probably contribute to further portray the importance of corporate governance in the economic environment of Bahrain.

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DO AUDIT COMMITTEE CHARACTERISTICS OF BAHRAINI LISTED COMPANIES HAVE AN EFFECT ON THE LEVEL OF INTERNET FINANCIAL REPORTING?

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Abstract

Corporate Governance and IFR are influential topics that need to be addressed nowadays due to its importance. Especially since companies are growing and extending globally. This research is conducted in Kingdom of Bahrain through the year 2014, where it investigates the relationship between Audit Committee characteristics as a tool of CG and IFR. Literature review has been conducted, not to mention Multi-regression test was used to evaluate the relationship between Audit Committee characteristics and IFR for Bahraini listed companies. The results have showed that the relationship between Audit Committee characteristics and IFR is negative, which indicates that the Audit committee characteristics have no influence over the disclosure of financial information over the internet. However, Frequency of meeting of the board and Big4 resulted in a positive relationship with internet financial reporting. The study ends with a main conclusion and recommendation that contain certain steps and advices of disclosing financial information in an appropriate way through the internet in order to improve the relationship between Audit committee characteristics and IFR.

Keywords: Corporate Governance, Audit Committee Characteristics, Internet Financial Reporting, Bahrain Bourse

1. INTRODUCTION

Corporate governance (CG) consists of a framework of rules that a board of directors guarantees fairness and transparency in the relationship between the company and its stakeholders. The framework of corporate governance includes both explicit and implicit contracts between employees and the stakeholders in regard to the distribution of responsibilities and rewards, processes of reunifying conflicting interests, and processes of supervision and control within the system of checks-and-balances. Corporate governance has made changes in the business environment in general, and also specifically in terms of accounting and auditing. Mousa et al. (2013) acknowledged that during the past few years' interest has increased in regard to audit committee (AC) as it is a tool of corporate governance with the aim to increase the questioning of management and to increase independence of auditors. Moreover, Ioana and Mariana (2014) stated that the interest and "focus upon corporate governance has increased parallel to the number of bankruptcies caused by errors or fraud" in financial accounting. Ioana and Mariana (2014) also said that the reason behind such cases was the absence of integrity or managers within the specified organization; this resulted in the implementation of different creative accounting practices, increased

interest in personal gain, or biased reporting, all in order to gain financial benefits such as increasing prices in shares and so forth. Millstein (2003) specified that corporate governance has become a key issue in developing economies, while Abhayawansa and Johnson (2007) acknowledged that by stating that the core aim for developing economies to consider setting up corporate governance is the necessity to build the confidence of investors so economies are expanded and local and foreign investors are attracted.

After the 2008 global financial crisis, organizations began to "focus more on their corporate governance structures" (Mousa & Desoky, 2012), and so people started to demand quick and transparent information. As governance is the term used to describe the role of people entrusted with the monitoring, control, and direction of an organization, different bodies are responsible for corporate governance, one of which is the audit committee. An audit committee is a key column of corporate governance. An audit committee plays a crucial role in observing the degree of effectiveness of the internal control framework. An audit committee has the role to help a board of directors fulfill its corporate governance and to oversee responsibilities in relation to the financial reporting of an organization, its internal control system, its risk management system, as well as all audit functions. An audit committee's typical

responsibilities include the oversight of financial reporting, accounting policies and principles, processes of disclosure, hiring, performance, independence, and monitoring the process of internal control. It oversees internal audit performances and debates risk management policies with management. Due to its role of protecting shareholder's interest, financial supervision, and control, an audit committee is the most crucial advisory committee for any given organization. Hamdan et al. (2013) stated that organizations with more "independent boards and more effective audit committee disclose more information [in regard to] the impact of IFRS in financial statements".

An audit committee manages and evaluates the processes of financial reporting and acts as an intercessor between auditors both internal and external, as well as both managers and directors, in order to make sure that the flow of information and reporting transparency is smooth and error free (Mallin, 2007). The notion of audit committees changes depending on the stated purposes, goals, and responsibilities. Many countries worldwide spend increasing effort to define standards that bring about credibility in the reported standards. Also, those instructions and standards will aid towards initiating the role of audit committees and the independence of external auditor for acting as an independent part providing fair and unbiased opinions. As we mentioned earlier, Audit Committee is a part of the corporate governance, where corporate governance monitors over companies to guarantee the rights of investors. These investors ask for financial information and carry on certain decisions whether to continue with a certain company or not, and this is provided through the Internet Financial Reporting (IFR).

Lymer et al. (1999) stated that Internet Financial Reporting (IFR) is an organization's public reporting of financial and operating information using interrelated internet communication mediums or the World Wide Web. In addition, according to Basuony and Mohamed (2014), large organizations prefer to disclose a high level of information to decrease the asymmetry of information and decrease agency costs, as well as that they prefer to disclose information using the internet to gain from low costs. Moreover, Juhmani (2013) declared that those "disclosures play a crucial role in corporate governance by reporting reliable and transparent information to stakeholders and shareholders". Furthermore, IFR may be considered as a voluntary disclosure tool as it is disclosed via the internet. Oyelere & Kuruppu (2012), the internet is a voluntary communication channel for conveying financial information. Xiao et al. (2004) also agreed and stated that IFR is voluntary and unregulated. Debreceeny et al. (2002) added by stating that IFR is an example of total corporate disclosure which is aimed towards decreasing the asymmetry of information between an organizations shareholders and managers. Therefore, IFR aids in decreasing agency problems (Ojah, 2012), and enhancing corporate governance.

Bushee et al. (2014) declared that investors have different incentives that might encourage them to invest in a firm that uses more enhanced mechanisms of corporate governance. A number of studies examined and evaluated corporate

governance in the Kingdom of Bahrain to increase awareness and importance of corporate governance between different stakeholders, such as those studies conducted by Hussain and Mallin (2002), Mousa and Desoky (2012), Hamdan & Al-Sartawi (2013); Al-Sartawi & Hamdan (2013), Al-Sartawi (2015) and Al-Sartawi & Sanad (2015). However, only a few studies focused on the factors that influence IFR in Bahrain and the GCC, such as those studies conducted by Joshi and Al Bastaki (2000) and Mohamed (2010).

Furthermore, based on previous literature, only few researches linked IFR to corporate governance. Hence, the reason this area was chosen is due to the fact that the research relates to previous conducted studies in terms of the relationship and effect of audit committee characteristics, but also expands the study within the Kingdom of Bahrain where it has never been conducted previously. The need to examine the influence of audit committee characteristics on IFR performance quality is becoming a main focus amongst researchers, investors, accountants, and academics. The significance of the study is to examine and evaluate the relationship between specific audit committee characteristics and the internet financial reporting within specific organizations in the Kingdom of Bahrain. The role of audit committees is of great interest to both regulators and the public in corporate governance. This differentiates this research from previously conducted studies in other countries on a global basis upon the focus on Bahrain only.

1.1. Research problem

The Kingdom of Bahrain has focused on enhancing corporate governance policies and practices due to its geographical location where it is centered in the heart of the Gulf, and it is seen as the Gulf's Financial Hub (Sanad & Al-Sartawi, 2016). To be able to attract local and international investors, Bahrain started to apply the corporate governance code in order to guarantee that all organizations are associated with the right methods and practices related to corporate. Therefore, in 2011 Bahrain launched the corporate governance code. Several bodies are engaged for the responsibility of CG including Audit committee. Moreover, Audit committee goal aims to check whether the financial information handed over to investors is reliable and this is a part of CG role.

Upon research, it was found that there is a very limited amount of studies in terms of internet financial reporting and its link to Audit committee. Upon such note, this research study will examine and evaluate the relationship between AC characteristic and Internet Financial Reporting (IFR) within different listed companies within the Kingdom of Bahrain. Not to mention this study is also supported by the recent research of Sanad & Al-Sartawi (2016), which examined the relationship between corporate governance and IFR. The research is important due to the fact that it will study the audit committee and their bond with IFR.

The research problem can be expressed into two main research questions as following:

- What is the level of Internet Financial Reporting in Bahrain listed companies?

- Is there a relationship between the AC characteristics and IFR?

1.2. Significance and Contribution of the Study

The need to examine the influence of audit committee characteristics on IFR performance quality is becoming a main focus amongst researchers, investors, accountants, and academics.

The significance of the study is to examine and evaluate the relationship between specific audit committee characteristics and the internet financial reporting within specific organizations in the Kingdom of Bahrain. The role of audit committees is of great interest to both regulators and the public in corporate governance. This differentiates this research from previously conducted studies in other countries on a global basis upon the focus on Bahrain only.

This study provides regulators with evidence and facts in order to oversee the Bahrain Bourse and monitor the degree of audit committee characteristics impact have on the finances of companies. Organizations would gain benefits from a comprehensive study in regard to the role of audit committees and their relationship with quality and performance of IFR, demonstrating the extent that the characteristics contribute to quality of financial reports. In order to attract investors from across the world, Bahraini listed companies contribute in updating and enhancing their website. Also, all stakeholders will gain advantage through the recognition of Bahrain listed companies that undertake Internet Financial Reporting and the effect of their Audit Committee in terms of reliability and efficiency. Moreover, the degree of effect of audit committee characteristics would benefit investors and the board of directors in terms of their decision making process. This is due to the fact that all financial information has gone through an accurate monitoring process, therefore increasing the reliability of this information used in the decision making. Investors and the board of directors would be more assertive in regard to the presented information in financial reports, and so their decisions would be made more easily, in less time, and with more confidence.

Hence, the findings of the study would be advantageous in examining and evaluating an audit committee's characteristics that are beneficial to regulatory bodies, stakeholders, and the board of directors in developing the effectiveness of their audit committees.

1.3. Research objectives

Generally, the research is aimed towards identifying the relationship between Audit Committee characteristics and the quality of Internet Financial Reporting and to recommend possible changes in order to improve the relationship if required. Also, measures are suggested to narrow the gap in relationship between Audit Committee characteristics and IFR in order for it to lean more towards being a positive rather than a negative outcome.

The research questions can be expressed into research objectives as following:

- To evaluate the level of Internet Financial Reporting in Bahrain listed companies.
- To determine the relationship between the AC characteristics and IFR.

1.4. Research Structure

The project is set in the following method: the second section offers a thorough discussion of past literature published by different authors; the third section defines the method undertaken for the process of data collection; the fourth section reports the findings and results of the study; the fifth section draws conclusions upon the findings and suggests recommendation and opportunities for future research in the field, whilst also discussing the limitations faced upon completing the research.

2. LITERATURE REVIEW

2.1. Theoretical Framework

Corporate governance has generated many changes in both the business environment and in particular in the accounting and auditing professions. In the past few years, interest and focus upon the role of audit committees as they act as tools within corporate governance; audit committees' aims towards increasing questioning of the board of management and to intensify the role of audit independence (Hamdan & Mushtaha 2011).

During recent year, the interest in the role of audit committees expanded in terms of their role in preparing financial statements (Martinez & Fuentes 2007). Wild (1994) conducted a study which found that the reliability and equality of financial reports of organizations depends on the audit committee, while a study by Martinez and Fuentes (2007) found that an audit committee is more dynamic in reviewing financial statements and decreasing differences between managers and external auditors. This lessens the likelihood of a company having qualified opinions from the external auditor resulting from accounting errors and non-commitment to accounting standards.

Previously conducted studies by different authors deliver mixed evidence in regard to the relationship between corporate governance and the quality of financial reporting. Larcker et al. (2007), Klein (2002) Hamdan et al. (2013) and Al-Sartawi (2015) found little evidence suggesting that organizations with stronger governance have less earning management. Beasley (1996) and Al-Sartawi (2013) found that the more independent a board is, the less fraud there is within an organization.

Aguilera et al. (2008) debated that in previous literature the lack of reliable evidence in regard to corporate governance and financial reporting is due to the many mutual attributes between the two processes. In Anglo-Saxon countries corporate governance has the role of aligning the incentives of management with the interest of shareholders as organizations tend to separate an organization in terms of management and ownership (Fama and Jensen, 1983). Though in Europe, organizational conflict occurs more due to the intense ownership structure set within a company (Thomsen et al., 2006; Pae et al., 2008). On one side, problems arise between shareholders and management when

shareholders take a deep interest in their organization in terms of gathering information, reviewing processes, and exercising their voting power against managers in order for them to do what is best for the shareholders (La Porta et al., 2000). On the other side, such monitoring and voting power creates other organizational problems is large shareholders can gain more private advantageous in the expense of smaller shareholder (Faccio et al., 2001). Corporate governance aims towards resolving both types of conflicts (Verriest et al., 2013).

Klein (2002), Carcello et al. (2006) and Al-Sartawi et al. (2013) found that the effectiveness of an audit committee is positively related with the quality of financial statement, and is negatively related to fraud (Abbott et al., 2004; Carcello et al., 2006). A study by Goodwin et al. (2009) found that in Australia organizations with stronger governance have less forecasted management errors from the IFRS. Moreover, Garcia-Meca and Sanchez-Ballesta (2010) concluded in their study that there is a positive relationship between the independence of the board and the voluntary disclosure in countries who have intense investor protection rights.

Audit committees play a crucial role in the practices of corporate governance. Audit committees have the role of monitoring internal control system through associations with internal auditors, as external reporting and compliance is completed by external auditors. Amongst all aspects of relationships between internal auditors, external auditors, and the board of directors, audit committees have a crucial role. (Saibaba & Ansari, 2011).

The notion of audit committees varies in terms of the aims, purposes, and responsibilities that are allocated to them. Al-Thuneibat (2006) defined the concept of audit committees as a committee that is made of nonexecutive directors. The main goal behind setting up an audit committee is to enhance quality in financial reporting and auditing, and questioning the board of directors.

Arens et al. (2009) defines an audit committee as a group of individuals made of board members who have the responsibility of retaining auditor independence.

Previous literature was focused with checking audit committee qualities as a tool of corporate governance, with a number of influences such as increasing the quality of earnings, earnings management, and financial reporting. A lot of studies such Hamdan and Mushtaha's (2011), Al-Sartawi et al. (2013) and Hamdan et al. (2013) focusing toward evaluating the relationship between an organization having an audit reporting, earning management and the characteristics of audit committees. Results of the studies projected a positive impact in regard to the size of audit committees in terms of the report of external auditors. Moreover, the independence of executive and non-executive audit committee members, or the number of meetings has no impact on views of external auditors. An audit committee has the role of resolving issues and conflict with the administration and therefore they result in enhancing the quality of audits. (Mousa et al, 2013)

Quality of financial reporting is crucial due to the fact that those qualitative characteristics make the information on financial statements useful and

reliable to users. Abdullah (2006) stated that the framework established by the Financial Accounting Standards Boards (FASB) has listed many qualitative characteristics as useful financial information. Such qualitative characteristics include relevance, reliability, time, verifiability, honesty and integrity, neutrality, consistency, and comparability, and therefore financial statements are considered as being of high quality if they fulfill the aforementioned characteristics. (Suleiman & Alhaji, 2015).

The core characteristics that define an audit committee include the number of members in the committee (size), the frequency of meetings, members' independence, and the professional expertise and experience of those members in finance and accounting, as well as the position of the audit committee regard to corporate governance (specifically in terms of the organization's submission to the Corporate Governance Code. (Ioana and Mariana, 2014).

An audit committee acts as an oversight committee performing under the main board of directors. An audit committee is delegated by the board of directors in regard to the responsibility of corporate reporting process (Bedard & Gendron, 2010). Akhtaruddin & Haron, (2010) stated that an audit committee is considered as a monitoring device that decreases the symmetry of information as the Malaysian Code on Corporate Governance (2007) sees an audit committee as the definitive supervisor of the corporate reporting process.

Past literature on audit committees has stated that the effectiveness of an audit committee depends on its characteristics (Akhtaruddin & Haron, 2010; Dhaliwal et al., 2010; Li et al., 2012). Therefore, a reliable mixture of experience, expertise, and capabilities are crucial in supporting an audit committee's ability to efficiently carry out its responsibilities. (Madi et al., 2014).

Baxter and Cotter (2009) stated that an audit committee's independence is a key characteristic that influences a committee's competence and effectiveness in the process of managing financial statements. Also, Baxter and Cotter (2009) agreed that an audit committee's independence is greatly related to the measurement of earnings quality. On the other hand, Nimer et al. (2012) found that the results of multiple regressions specified that there is no relationship between the effectiveness of audit committee characteristics and the dividend payout policies in firms in Jordan. (Hamdan et al., 2013).

Aside from different board characteristics, a crucial variable is the independence of audit committees. An Audit committee (AC) is expected to play a key role in financial reporting, auditing, and corporate governance. DeZoort (1998) found that the most vital responsibility of an AC is to assess controls. Other crucial responsibilities are to evaluate financial statements, internal and external audits, letters of external auditors, and to assess auditor independence.

Khan and Kotishwar (2011) found that independent directors, along with non-executive directors of a company, have power and control over the chief executive. Those directors act as a link with the exterior environment and offer an international outlook. Moreover, independent directors put an effort in enhancing the processes conducted by

board members and even bring in specialists to make use of their expertise and knowledge, to provide continuity, and to assist in recognizing alliances and acquisitions; those directors help sustain a morally ethical climate within the organization. (Suleiman & Alhaji, 2015).

Likewise, Otchere et al. (2012) stated that non-executive directors should be categorized as a check and balance mechanism that improves the effectiveness of a board. A board influences the quantity of information disclosed and the time it took for them to be released. Hence, when the board is independent and acknowledge their obligations of transparency and accountability to stakeholders, they will disclose all information in a timely manner. The authors also found that the board and audit committees of listed firms in the Ghana Stock Exchange (GSE) are taken over by non-executive directors. (Suleiman & Alhaji, 2015).

Moreover, the more independent (nonexecutive) directors there are on the board the more monitoring and control there is. This is due to the fact that independent directors are able to control the excess of executive directors, and therefore safeguard shareholder and stakeholder interest. Also, independent directors are free from bias and influence and are able to reliably monitor processes that would improve the quality of information that is conveyed to users of financial statements (Suleiman & Alhaji, 2015). Therefore, it is suggested that employing independent directors on an organization's board should be based on past records and knowledge and not on the proportion of total numbers of directors on the board itself. Aside from different board characteristics, a crucial variable is the independence of audit committees. An Audit committee (AC) is expected to play a key role in financial reporting, auditing, and corporate governance. DeZoort (1998) found that the most vital responsibility of an AC is to assess controls. Other crucial responsibilities are to evaluate financial statements, internal and external audits, letters of external auditors, and to assess auditor independence.

The efficiency of an audit committee is enhanced by financial expertise of committee members; this is a key characteristic that ensures effective operation (Baxter & Cotter, 2009). Lisic et al. (2011) suggest that when there is a financial expert on the audit committee then that does not mean that there is more effective monitoring. Rather, monitoring effectiveness of audit committee financial expertise depends on the authority of top management. Moreover, there were some discrepancies in Baxter and Cotter's (2009) study between the results that failed to show a relation between the earnings management and the financial expertise of an audit committee. Accordingly, the authors recommended that financial expertise of an audit committee shouldn't be considered when trying to evaluate characteristics that effect performance of any given organization. (Hamdan et al., 2013).

On the other hand, in their study Teitel & Machuga (2010) found that after implementing the Best Corporate Practices Code in Mexico, when an organization hires auditors with high financial expertise and experience then there is great improvement in the quality of earnings in relation to

those firms with auditors of low expertise. It is stated that in Mexico it is believed that hiring high quality auditors is a mechanism to replace a weak regulatory environment. (Hamdan et al., 2013).

An essential reflection in regard to the absence of quality in financial expertise is the uncertain practices of auditors in terms of familiarity of International Financial Reporting Standards (IFRS). In China, regulators require that IFRS based financial statements have to be audited by an international well reputable auditor. Such regulation specifies the absence of experience of local auditors (Jinghan & Haitao, 2010). Tang (2000) stated that submission to accounting standards depends on constituency and competency of auditors. Tang also stated that most accountants received inadequate levels of education that is not compatible with IFRS practices.

In their study, Cohen et al. (2004) deliberate the role of audit committees in terms of different characteristics such as experience and expertise, effectiveness, responsibilities, earning management, and fraud. Most characteristics conversed by Cohen et al. (2004) are considered as core features of audit committees although availability of previous studies was scarce. By using the available information, results suggested that for an audit committee to play a key role in financial reporting then the committee has to be devolved with enough power and adequate expertise in order to be efficient in monitoring the actions of management. (Ghafran & O'Sullivan, 2013).

To efficiently supervise the process of corporate reporting, audit committee members have to be sufficiently financially educated in order for them to be able to comprehend financial statements successfully (Dhaliwal et al., 2010). Thorough financial expertise allows audit committee members to categorize and debate questions that challenge managers and external auditors to a bigger scope of financial reporting quality (Bedard & Gendron, 2010). In response, this will improve the clearness and reliability of corporate reporting and therefore lessen issues that are related to the flow of information. Studies conducted by (Kelton and Yang (2008), as well as Kent et al. (2010) found a positive relation between an audit committee's financial expertise and the quality of financial reporting.

Baxter and Cotter (2009) stated that the level, activities, and responsibilities of an audit committee are crucial in terms of improving the reliability in enhancing earnings quality. Also, the size of any given audit committee has positive effect on earnings quality. The bigger an audit committee is the more effective it is due to the fact that they comprise of members with diverse knowledge and expertise in order to perform more reliable monitoring of financial practices. (Hamdan et al., 2013).

Thoopsamut and Jaikengkit (2009) evaluated the relationship between audit committee characteristics and earnings managements in financial reports of organizations that are listed on the Stock Exchange of Thailand. The study conducted by the authors consisted of data collected from various financial documentation that was analyzed by using multiple regression with a 95% confidence interval. Results of the study showed a negative relation between the tenure of audit committees and earnings management.

Nevertheless, in the same study, the authors found that the number of meetings of an audit committee and the audit firm size are not significantly related to earnings management. The results of the study suggested that the tenure of audit committees has effect on the quality of financial reports. (Hamdan et al., 2013).

In their previous work, Allegrini & Greco (2011) stated the fact that the resource dependency theory argues that a large audit committee is more eager to dedicate resources and authority to effectively carry out responsibilities. The more directors there are on an audit committee, the more diversity and expertise and capabilities there are that would guarantee operative monitoring (Bedard & Gendron, 2010). Therefore, a large number of audit committee members are more likely to aid a committee to expose and solve issues and dilemmas in corporate reporting processes (Li et al., 2012). This means that size is an integral factor for an audit committee to oversee corporate disclosure practices (Persons, 2009). Persons found evidence that numerous directors on audit committees tend to improve the level of voluntary disclosures.

DeZoort et al. (2002) define the frequency of meetings as an evaluation of an auditor committee's due diligence. The frequency of meetings is a core element in the reliability and efficiency of a company's activities and processes, although there were few studies that acknowledged the connection between the performance of the company and the number of meetings (Ioana and Mariana, 2014).

The frequency of meetings is an important characteristic of auditor committees. Board members that regularly meet are more likely to accomplish their work and responsibilities attentively and successfully. Thorough boards would more effectively improve the level of oversight of the process of financial reporting both directly and indirectly through choices of external auditors and the audit committee (Yatim et al., 2006).

Financial statements with better quality means that there is more clearness, better disclosures, prevention of fraud, and lower degrees of accruals. Yige et al. (2012) view audit committee meetings and the independence of board of directors are complementary in corporate governance. The authors also find evidence that the independence of board members increases as audit committees' meetings increase. Xie et al. (2003) found that the more meetings there are, the more diligence there is. Raghunandan and Rama (2007) and Sharma et al. (2009) found that the frequency of audit committee meetings is positively associated with growth and profitability. Also, Abbott et al. (2000) and Beasley et al. (2000) found that the increasing frequency of meetings is related to better quality of financial statements. (Saibaba & Ansari, 2013)

In addition, Xie et al. (2003) debated the fact that when boards don't met enough would only focus on reviewing management plans and listening to presentation, while they would not have the time to concentrate and focus on aspects such as earnings management and fraud within financial statements. Hence, the authors found that there is a negative relationship between earnings management and the frequency of meetings.

3. RESEARCH METHODOLOGY

3.1. Hypothesis Development

Audit committee characteristics as Independent Variables:

Ioana and Mariana (2014) stated that putting aside the management system adopted within a company, it is crucial to establish balance of power so that there is no specific group with unlimited control within any company. An audit committee is responsible for maximizing the value of a company through honesty, reliability, monitoring, and controlling management in order for them to prevent any acquiring of personal benefits. The authors note that AC characteristics affect profitability as many studies found positive relationships between performance and structure of committees, frequency of meetings, and expertise. Moreover, Hamdan et al. (2013) found that an AC does influence financial and stock performance, but has no impact on operating performance.

Beasley (1996) found that the size of the committee is positively associated with their ability to control disclosure decisions while Bushee et al. (2014) stated that such behavior is considered as ineffective governance due to lack of transparency and integrity when it comes to the managing and control of the company.

Hamdan et al. (2013) used AC size, financial expertise, and independence to determine factors that affect the use of IFR. Saibaba and Ansari (2011) considered independence and size in their study, and then chose the frequency of meetings as a control variable in their 2013 study. On the other hand, Basuony and Mohamed (2014) considered factors such as firm size, return on assets, leverage, industry type and auditor type, while Madi et al. (2014) included multiple directorship in their study. Also, based on Ghafran and O'Sullivan (2013), their review was set around regulatory expectations of audit committees trying to evaluate how specific characteristics influence the AC's effectiveness. It was found that larger and more independent AC's with more financial expertise will have a higher level of external audit coverage and assurance. The authors also found that specific AC characteristics such as independence, expertise, and frequency of meetings, result in more effective AC performance.

IFR Dependent Variables:

In order to evaluate IFR, different variables may be used for different indexes. Almilia (2009) structured an index to measure the technology used in IFR rather than to use content of information, while Kelton and Yang (2008) used content and format to evaluate IFR along with Khan and Ismail (2011) who used content and presentation for the IFR index.

The researcher of the study assumed an internet financial reporting index (IFRI) for the research by using indexes from previous studies. The IFR index included the dimensions of content and presentation of information due to the fact that they are adopted by most authors (Kelton and Yang, 2008; Almilia, 2009; Aly et al, 2010; Khan and Ismail, 2011) in order to measure the websites of the

selected companies. Moreover, the presentation formation may aid in arranging more reliable disclosure to the interested parties in terms of ease of access, readiness, and clearly set financial information that aid in acquiring the needed information (FASB, 2000).

Control Variables:

Upon reviewing numerous past studies conducted that examined different aspects that may or may not have influence over IFR, the researcher chose to select mainly the leverage, the size of the firm, age, and the type of Auditor and the sector as control variables for this study. Different researchers such as Joshi and Al-Bastaki (2000), Madi et al.(2014), Ghafran and O'Sullivan (2013) had all agreed that the size of a company or a firm is one of the main characteristics that influences whether a company is using the internet for broadcasting their financial information or not. Also, many studies have already determined the factors that have influence over IFR.

Firm size is calculated through calculating the total assets; leverage is calculated by dividing liabilities over assets, age is calculated through the first day of the company establishment till this day, as for the auditor type it is linked to the Big4 through identifying the listed companies that have been audited by one of these Big4 firms. Variable 1 is linked and zero otherwise, lastly sector type is classified into 3 sections: service, financial and industrial

The control variables to be used are held constant throughout the whole study. As the researcher aims to examine the influence of specific independent variables linked to Audit Committee characteristics, the possibility that other control variables exist is eliminated. All information gathered from Bahrain bourse website and the official websites of the companies under examination. The literature reviewed provided a base for the research hypotheses related to Audit committee characteristics and IFR. The hypotheses and sub-hypothesis are set as follows:

Hypothesis:

H0: *There is no relationship between Audit Committee characteristics and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

H1: *There is relationship between Audit Committee characteristics and internet financial*

reporting (IFR) of companies that are listed in Bahrain Bourse.

Sub-hypotheses:

H01: *There is no relationship between Audit Committee board independence and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

Ha1: *There is a relationship between Audit Committee board independence and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

H02: *There is no relationship between Audit Committee members' financial expertise and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

Ha2: *There is a relationship between Audit Committee members' financial expertise and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

H03: *There is no relationship between Audit Committee size and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

Ha3: *There is a relationship between Audit Committee size and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

H04: *There is no relationship between Audit Committee frequency of meetings and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

Ha4: *There is a relationship between Audit Committee frequency of meetings and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

3.2. Sample selection and distribution

The research study mainly depends on the sample selected which includes the original 48 companies which are listed in the Bahrain Bourse for the year 2014; some companies were excluded from the study due to several reasons such as maintenance to their websites or the actual website wasn't functioning well , so only 39 companies were chosen. Moreover, information required for the study was gathered by the researcher from the official websites of the companies selected in order to evaluate the relationship between Audit committee characteristics and the IFR in regard to the specific aforementioned characteristics.

Table 1. The Selection of Sampling

ITEMS	NO.	%
Listed companies in Bahrain stock Exchange	48	100%
Excluded from Bahrain stock exchange	-5	-10.4%
Company's Website not functioning properly	-1	-2.1%
Companies with no websites	-1	-2.1%
Companies with no investors relation in their	-1	-2.1%
Companies that are shutdown	-1	-2.1%
Total	39	81%

The sample of the research was divided into three sectors which are the financial sector, the services sector, and the industrial sector (see table below). The research study focuses on the

characteristics of the Audit committees which will be evaluated through independence, expertise, size, and frequency of meetings (Dharmadasa et al, 2014; Tai, 2015).

Table2. Sampling Distribution

<i>Sector</i>	<i>Category</i>	<i>Companies within category</i>
Financial	Banks	8
	Investment	10
	Insurance	5
Services	Services	9
	Hotels and Tourism	4
Industrial	Industrial	3
Total		39

3.3. Model Development

The variables selected for the research study are based upon the review of literature conducted by various authors. The IFR index is made of multi-factor independent dummy variables that are linked to the characteristics of the audit committees adopted from the literature. To be able to evaluate the IFR, the average of the variables is to be

calculated. The researcher aims to evaluate the average of IFR through the checklist structures based on the past literature examined in the previous chapter. Furthermore, to specify the relationship between the dependent variable that is internet financial reporting and the independent variable that is Audit committee characteristics, a multiple regression analysis is used through the following equation:

$$IFRli = \beta_0 + \beta_1 AC_SIZE_i + \beta_2 AC_FM_i + \beta_3 AC_INDP_i + \beta_4 AC_FEX_i + \beta_5 ROA_i + \beta_6 F_SIZE_i + \beta_7 LVG_i + \beta_8 ROE_i + \sum \beta_j SECT_{i,j} + \beta_9 AGE_i + \beta_{10} BIG4_i + \mathcal{E}_i \quad (1)$$

Where:

<i>Code</i>	<i>Variable Name</i>	<i>Operationalization</i>
Dependent variable - Internet financial reporting index:		
IFRI	Internet financial reporting index	This is a binary variable wherein 0 indicates that the company does not use IFR and 1 otherwise
Independent Variables - AC Characteristics:		
AC_FEX	Financial expertise	This is a binary variable wherein 1 indicates that the member is of adequate financial expertise and 0 otherwise
AC_SIZE	Audit committee size (3)	This variable is calculated by counting out the number of members in the Audit committee during the year.
AC_INDP%	Audit committee independence	This variable is calculated by computing the percentage of independent members in the Audit committee during the year.
AC_FM	Meeting frequency (4)	This variable is calculated by counting out the number of Audit committee meetings held during the year.
Control Variables:		
F_SIZE	Firm size	Natural logarithm of Total Assets
ROA	Return on assets	Net income/Total Assets
ROE	Return on Equity	Net income/Shareholders Equity
LVG	Leverage	Total liabilities/ Total Assets
SECT	Financial sector	This is a binary Wherein 1 means that the company is Commercial Banks; Investment and Insurance and 0 otherwise
	Services sector	This is a binary Wherein 1 means that the company is Services, Hotels and Tourism and 0 otherwise
	Industrial sector	This is a binary Wherein 1 means that the company is Industrial and 0 otherwise
BIG4	Auditor Type	This is a binary if (Big 4) =1 , Otherwise=0

Age	1st day of company establishment till date
ei	Error

4. DATA ANALYSIS AND HYPOTHESIS TESTING

This chapter includes 3 sections; the first section addresses the descriptive analysis. The second section addresses the Empirical analysis and for the final section the hypothesis testing will be reviewed. The analysis has been conducted through a check list for Bahraini listed companies during the year of 2014.

4.1. Descriptive Analysis

Descriptive analysis or as we can call it the Descriptive statics is used to understand the main features of the data in our study. Or we can say the analysis of data that help us summarize or recognize the data in a more meaningful way.

Eventually this analysis provides us with simple and accurate summaries about the sample and its main measures.

4.2. General Descriptive Analysis

The main variables were categorized into three categories, the independent variable, and the dependent variable and control variables. Table No.3 shows the continuous variables summarized into descriptive statistics. The mean of Audit committee size is almost 4 and it ranges from 2 to 8, and according to the Code of Corporate Governance in Kingdom of Bahrain at least 3 members must be assigned in the Audit Committee, this means that the majority are following this rule. As for the frequency of meeting, there should be at least 4

meeting per year, the number of meetings range between 2 to 10 meetings and the mean is 4.38. This indicates that the majority are clearly following the code. Moving to the member's independence, the majority of the members of the committee including the chairman must be independent directors according to the corporate governance code. The mean is .557 which indicates that the board is increasing the independence of members that stimulates in attracting more investors and avoiding conflict of interest among the board. As for the financial expertise it appears that all members in Bahraini's listed companies have the right experience to acquire these positions. Financial expertise has not been mentioned in table no.3 because as we have mentioned earlier they all came as experienced persons, and the system have excluded them directly due to the lack of effectiveness to the model.

The mean of total assets is BD 1432226 of the sample size, this is a great indication that the mean size of the sample is big and that most companies are adopting IFR as showed by past studies who revealed that large companies are more into disclosing their annual report on their websites (Ismail and Tayib, 2000).

In addition, the mean of return on assets is .04893 ranging from -0.354 to .2664, which means that even if these companies are suffering from losses they disclose their information. Furthermore, the leverage range between .0415 and .8969, this also indicates that most companies depend on loans to finance their business and have a relatively high leverage. Moreover, IFR must be increased to ensure and provide the shareholders with the company's current performance.

ROE mean is .07938 and it is ranging from -.16230 and .2807, which means even loss is recognized and disclosed. And finally the age of the company, the mean of the age is almost 30 which are between 8 and 57. This shows that the majority of these companies have been established from a long time.

IFR index mean is .71 which is between .238 and .918. This index is calculated using the dummy variables in the checklist. The mean level of the IFR specify that majority of the companies are using a reasonable amount of internet financial reporting. Moreover, Kingdom of Bahrain is developing their selves in order to adopt new features and trends to allow an accurate presentation of financial information and transparency.

Table 3. Descriptive Statistics of Continues Variables

<i>Variable</i>	<i>N</i>	<i>MIN</i>	<i>MAX</i>	<i>Mean</i>	<i>SD</i>
Size of Audit Committee	39	2	8	3.95	1.255
Frequency of meeting	39	2	10	4.38	1.290
Independence%	39	.0	1.0	.557	.2607
Firm size/ Total assets	39	5949	12309764	1432226	2970637.707
ROA	39	-.0354251	.266468	0.489345	.06213082
Leverage	39	.04151089	.89694781	.4248997	.28448947
ROE	39	-.1623070	.280790	.0793872	.08246971
Age	39	8	57	29.95	12.137
IFR level	39	.23864	.91860	.7109300	.17004648

In table 4, descriptive statistics has been applied for dummy variables; only two variables have been mentioned.

According to Table No.4, we conclude that 80% of the companies have been audited by the Big4. This means that the majority of the samples' companies are appointing the Big4 which leads to a higher level of transparency in disclosure. Moreover, the study of Fan and Wong (2004) implies governance role can be played by external auditors,

which explains the increasing level of corporate governance in Bahraini's listed companies. The real reason why these companies acquire or hire these name brand auditors is to avoid conflict of interest in their structured ownership. As for Financial expertise, it appears that 100% of all members in Audit committee have the financial experience. And that's the main reason why this variable was not mention in the model or the previous tables.

Table 4. Descriptive Statistics for Dummy Variables

<i>Label</i>		<i>Frequency of 1's</i>		<i>Frequency of 0's</i>	
		<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
Big 4	BIG4	32	80%	7	17.5%
Financial.EXP	AC_FEX	39	100%	0	0

4.3. Descriptive Statistics according to the Firm's Size

In this study the classification of firms has been classified into two groups; large firms and small firms. The large firms has a greater mean than the small firms, which resembles a higher level of IFR, on the other hand the small firms has a lesser mean which indicates a lower level of IFR. The analysis is summarized in Table No.5

As we have mentioned earlier, the Audit committee size must consists of at least 3 members, large firms has 3 or more members in their committee, whereas the smaller firms has less members. The mean for the large firms is (4.29), and on the other hand the small firm mean is (3.53). This means there is a significant relationship at 5% confidence due to the sig. results of (0.034), not to mention the t-test (1.884) was higher than its main value at 5% of confidence.

Furthermore, members of the audit committee must meet 4 times a year, large firms has followed

this rule and sometimes their meetings exceeds 4 times, however in smaller firms the meetings are less than 4. The mean for the large firms is (4.71), as for the small firms the mean is (3.94). The result was there is a significant relationship at 5% confidence, because the sig. result is (0.034) and the t-test (1.879) is higher than its crucial value at 5% of confidence.

The independence of the committee members in large firms is greater than the independence of members in small firms. The mean for the large firms is (.557), whereas the mean for the small firms is (.546). The result was not statistically significant because the sig result is (0.4495)

To conclude firms that have large audit committee, with frequent meetings and more independent board members has more commitment to IFR and apply IFR in the right manner, because these firms have wider experience than these small firms.

Total assets for large firms are (2011820) which is greater than the total assets for small firms (311676.53). The result is statistically significant at 5% of confidence due to the result of sig. (0.03).

Moreover, ROA for small firms were higher than the ROA for bigger firms, ROA for small firms

mean was (0.08095) and the large firms was (0.02448), therefore the result was significant at 1% of confidence. This is due to the sig. result at (0.002) and t-test at (3.053). This also proves that there is a negative significant relationship between the company's total asset and their earnings.

Moving to the leverage, large firms leverage is greater than the leverage of the smaller firms. The mean of the large companies leverage is (.4825), on the other hand the leverage of the small firms is (.3281). Therefore there is a significant relationship at 5% confidence because the sig. result is (0.045) and the t-test is (1.741).

Finally, ROE for small firms were higher than the ROE for bigger firms, ROE for small firms mean was (.10183) and the large firms was (.05902), therefore the result was significant at 10% of confidence. This is due to the sig. result at (0.058) and t-test at (1.610).

To summarize large firms with higher profits and with greater assets and leverage tend to practice IFR better than the smaller firms, this leads to a greater disclosure and transparency of financial information.

Table 5. Descriptive Statistics according to the Firm's Size

Variables	Obs.	Size of the firm		T.test	Sig.
		Large firms	Small firms		
Size of Committee	21-17	4.29	3.53	1.884**	0.034
Frequency of meeting	21-17	4.71	3.94	1.879**	0.034
Independence%	21-17	.557	.546	.128	0.4495
Firm size/Total assets	21-17	2011820	311676.53	1.940**	0.03
ROA	21-17	.02448725	.08095782	-3.053*	0.002
Leverage	21-17	.482599054	.328197790	1.741**	0.045
ROE	21-17	.05902050	.10183130	-1.610***	0.058

Statistically confident at: 10%***, 5%**, 1%*

C.T.test: 10% = 1.303, 5% = 1.684, 1% = 2.423

4.4. Empirical analysis

It is the path or the study in order to collect information or knowledge from means that are indirect or direct experience, the empirical analysis searches for more than one mean or variable, this analysis can be analyzed qualitatively or quantitatively.

The analysis depends on a small sample which is 48 listed companies in the Bahraini Bourse, however this number has been reduced to 39 companies due to many reasons and factors that we have mentioned earlier in chapter 3. Main data of Audit committee characteristics and IFR were gathered from the company's websites and some by phone. The sample size is quite small because the Bahraini market is limited and not as wide as GCC markets. The validity of data will be tested

throughout this study to be sure that the model used is correct.

Two tests were used in this analysis, one is the Multicollinearity test and the other one is the Autocorrelation test. These tests will observe the relationship between Audit committee characteristics and the IFR in an accurate way.

Table No.6 shows the Autocorrelation test, this test is used to determine whether there is an autocorrelation problem or not. To check whether there is a problem or not Durbin Watson test is applied, the test measures whether two scenes are correlated or not, this will enhance the accuracy of the model used. The Durbin Watson figure shows a (2.278), and it is between the statistical ranges (1.5 - 2.5). This shows that there is no autocorrelation problem. A study of Durbin (1970) assures this rule, where he emphasizes no threat is associated with the model if figures range between (1.5 - 2.5).

Table 6. Autocorrelation Test

Model	R	R square	Adjusted R square	Std.Error of the Estimate	Durbin- Watson
1	.718	.516	.311	.14283	2.278

Moving to the second test which is the Multicollinearity test, this test examines two or more main variables in a linear model to check if they are highly correlated or not. If the correlation tends to

be negative, then the model would be inaccurate. Variance Inflation Factor (VIF) is used to guarantee whether correlation among variables exists. If VIF figures are greater than 10, it indicates a colinearity

problem. This is based on the study of Wooldridge (2013) as he assured a multicollinearity problem exists if VIF value is 10 or greater. Table No.7 shows

that all VIF figures are less than 10, which indicates that there is no collinearity problem.

Table 7. Collinearity Statistics Test

<i>Model</i>	<i>Tolerance</i>	<i>VIF</i>
Audit committee size	.566	1.765
Frequency of meeting	.679	1.473
Independence%	.800	1.249
ROA	.132	7.558
Firm size/ Total assets	.382	2.619
Leverage	.342	2.922
ROE	.193	5.170
AGE	.825	1.211
Auditor Type/Big 4	.529	1.890
SSECT	.362	2.760
INSECT	.550	1.818

4.5. Testing the hypothesis

Looking back at the pervious analysis that we have done, we summarize that the level of IFR and Audit committee characteristics are extremely high in Bahraini listed companies. The results showed a percentage of 71% concerning the IFR index, and 80% concerning the Audit committee characteristics. This section will explain the main results of the hypothesis done through the multi regression analysis.

H01: *There is no relationship between Audit Committee board independence and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

Ha1: *There is a relationship between Audit Committee board independence and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

Table No. 8 shows there is a negative relationship between Audit Committee board independence and (IFR), which means Audit Committee independence has no influence over IFR, although independency of members may encourage disclosure and enhance the transparency of financial information, but according to the results it shows the independency has no influence at all in this study. Moreover, the result of the sig showed (.231) which means it is not statistically significant. Therefore the null hypothesis is accepted.

H02: *There is no relationship between Audit Committee members' financial expertise and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

Ha2: *There is a relationship between Audit Committee members' financial expertise and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse*

The financial expertise variable has not been included in Table No. 8, due to the fact that all members in the listed Bahraini companies has the financial experience, therefore it won't affect the result of the model. According to this financial expertise has been eliminated.

H03: *There is no relationship between Audit Committee size and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

Ha3: *There is a relationship between Audit Committee size and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse*

There is a significant negative relationship between Audit committee size and the IFR. Although the recent study of Yap et al. (2011) claimed as the board gets wider and bigger so is the financial information range which enhances disclosure over websites, but according to this study the size of the Audit committee has no influence over the IFR. Additionally the result was not statistically significant, therefore H04 is accepted.

H04: *There is no relationship between Audit Committee frequency of meetings and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

Ha4: *There is a relationship between Audit Committee frequency of meetings and internet financial reporting (IFR) of companies that are listed in Bahrain Bourse.*

There is a significant positive relationship between Audit committee frequency of meetings and IFR. This is due to the fact that as these meetings increase, awareness and experience increases among members, and there will be more encouragement of financial information disclosure on the company's websites. But according to schedule No. 8 the result was not statistically significant, therefore the null hypothesis is accepted

Moreover, there is a positive relationship between firms' size and IFR, this is supported by the study of Xiao et al. (1996) who claimed that small firms are not so interested as much as larger firm in using IT technology in improving IFR.

As for the leverage and age, there was a negative relationship between them and the IFR. As well as a negative result that was not statically significant. Although in the study of Debreceeny et al. (2002) he has specified that there is a positive relationship between leverage and IFR. In our research the negative relationship is due to the fact as leverage increases the investors would like more financial information to understand whether the company is capable of paying its debts, however this disclosure is performed by the IFR, and IFR costs is incredibly high, and since IFR is voluntary not all

companies would like to apply it, which explains the negative relationship.

As for the age, the negative relationship is explained by the fact as the company grows older, there is no tendency to apply IFR especially because it is costly and they have attracted enough loyal customers and gained their trust. The result of both variables was not statistically significant.

Additionally, there was a negative relationship between ROA and IFR and a negative result that was not statistically significant. The negative relationship is due to the fact monitoring process that is provided by the Audit company is applied through the IFR, and IFR costs are high, which leads to a decline in the revenue which causes a further decline in the ROA. On the contra side the study of Islam et al. (2014) supports the positive relationship between ROA and IFR as he addressed that profitability is not sufficient in discussing the degree of voluntary disclosure of financial information. Meanwhile, a positive relationship existed between ROE and IFR but the result was not statistically significant.

As for the sectors they have been included it Table No. 8 just to balance out the control variables included in the model

Lastly, the big4 has maintained a positive relationship with IFR, which means companies using

Big4 firms are supporting the level of IFR. The study of (Xiao et al., 2004; Kelton and Yang, 2008) supports the theory that there is a positive relationship between the size of the firm and voluntary disclosure. Furthermore, the positive relationship is explained by the fact that the Audit Committee has a crucial role in hiring external auditors and assigning the main task of evaluation of disclosure to them, which explains the positive relationship. This action increases the monitoring control cost and therefore supporting the disclosure of financial information.

Going back to table No. 8, it shows that sig. is (.026) which is less than 5%, this is a great indication that the model we are using is accurate. According to De Iorio et al. (2004) a significant level is determined at 5%, where if F-value is less than the significant level than the model is assumed to be correct.

Overall we conclude that only big 4 has a significant influence and supports the IFR, however this study is all about testing the association between Audit committee characteristics and IFR. Therefore the null hypothesis is accepted due to the negative relationship between Audit committee characteristics and IFR.

Table 8. Multi Regression Results

Variable	Beta	T. test	Sig
Audit committee size	-.059	-.324	.749
Frequency of meeting	.249	1.503	.145
Independence%	-.187	-1.228	.231
ROA	-.418	-1.113	.276
Firm size/ Total assets	.093	.419	.679
Leverage	-.192	-.825	.417
ROE	.105	.339	.737
AGE	-.095	-.631	.534
Auditor Type/Big 4	.540	2.880	.008
SSECT	-.050	-.221	.827
INSECT	.182	.990	.331
F			2.517
Sig(F)			.026

5. CONCLUSION AND RECOMMENDATIONS

5.1. Main Results and Conclusion

Corporate governance consists of framework of rules and policies that allow companies to take specific actions to stay compliant with the government rules and laws, these rules can direct key people in companies on how to apply specific tasks and roles.

Corporate governance can enhance companies reputation, by boosting the laws and regulation of corporate governance and the way it work, this results in more stakeholders wanting to work with the company, not to mention lenders who will notice the company strong fiscal policies and internal control. Corporate governance does not only attract investors and stakeholders, it also gets the attention of government agencies, employees, vendors and suppliers. Moreover, corporate governance eliminates the bad behavior of employees by addressing the rules and laws to decrease potential fraud and conflict of interest.

Corporate governance is associated with the role of audit committee. An audit committee plays a crucial role in observing the degree of effectiveness of the internal control framework. An audit committee has the role to help a board of directors fulfill its corporate governance and to oversee responsibilities in relation to the financial reporting of an organization, its internal control system, its risk management system, as well as all audit functions. Due to its role of protecting shareholder's interest, financial supervision, and control, an audit committee is the most crucial advisory committee for any given organization.

Moreover, the practice of providing financial information is called transparency that is associated with the ease of financial information flow from the firm to the investors; therefore IFR plays a crucial role in supporting this flow. The study of Juhmani (2013) declared that those "disclosures play a crucial role in corporate governance by reporting reliable and transparent information to stakeholders and shareholders".

Also Debreceeny et al. (2002) added by stating that IFR is an example of total corporate disclosure

which is aimed towards decreasing the asymmetry of information between an organizations shareholders and managers. Therefore, IFR aids in decreasing agency problems (Ojah, 2012), and enhancing corporate governance. Accordingly, the research study has investigated the relationship between Audit committee characteristics and the IFR in Kingdom of Bahrain.

Several tests have been conducted in order to address the relationship among variables, including multi regression. The result showed that the relationship between Audit committee characteristics and IFR is appropriate. However there was a negative relationship between them, except for Audit Committee frequency of meetings as a positive relationship existed with IFR, but the result was not statistically significant. Overall the negative relationship is due to the fact that Audit committee characteristics do not influence the disclosure of financial information through the internet (IFR). This result matches the research study of Sanad & Al-Sartawi (2016) who also claimed there was a negative relationship between corporate governance and IFR. This indicates that our study is accurate and on the right path.

Although Audit committee has no significant influence over the IFR, a positive relationship revealed among Big 4 and the IFR which indicates that Big4 has a significant influence over IFR. This is explained by the fact that Audit Committee has a crucial role in hiring external auditors and assigning the main task of evaluation of disclosure to them. Not to mention hiring them results in reducing the conflict of interest and agency problem which is the aim of the corporate governance. Additionally the study of Beattie (2001) claimed that external auditors can play a huge role in supporting corporate governance by making the management responsible for its stewardship of the firm to the shareholders. This indicates that Big4 and the audit committee roles in corporate governance are crucial in addressing the objectives and aims of CG. (Ojo, 2009).

5.2. Recommendations

Although Kingdom of Bahrain is considered one of the main business hubs around the world, their application of regulation is still in process, this is demonstrated by the fact that disclosure of financial information via the internet is voluntary and not mandatory. However the code of corporate governance in Bahrain demands listed companies to apply the code or give a reasonable justification if they refused to apply. This is supported by the recent study of Ramadhan (2014) who mentioned that Bahrain as a developing country does not maintain an adequate policy on voluntary disclosure. Therefore, IFR application or as we call it CG code must be developed and improved in a way that attracts more investors and stakeholders to Bahrain.

Second, IFR disclosure is related to high monitoring cost, which is the reason why many companies refuse to adopt it. In order to encourage these companies' sessions or lectures can be conducted to prove the great influence that IFR can generate when adopted, like explaining to them how it can attract more stakeholders and investors that can influence profits. Not to mention monitoring

costs can be controlled if the company evaluated this program through risk and management department and through applying strategic study or by increasing the network segment which will reduce the cost effectively.

Third, companies with long term loyal customers can be encouraged to apply IFR by raising their knowledge about threatening new rivals entering the market that uses new techniques and apply IFR. Since these companies tend to have old formed systems that became difficult for them to extract financial information and present them, introducing IFR helps them in reducing time spent on analysis, improving efficiency, and improving the presentation of financial information. Therefore, these companies must be educated the benefits of IFR application and its ability not only to attract local customers but also foreign customers.

Forth, results have showed that few companies are not dealing with external auditors (Big 4), however hiring these external auditors contribute in providing validity, discovering errors, eliminating legal issues and not to mention educating the business owner and helping him make the right management decisions. Moreover, hiring them contribute in raising the degree of financial information distribution to stakeholders which will enhance the degree of transparency.

During the study, we have noticed many companies' websites lack investor's relationship page, in order to attract more investors such things must be displayed in the main websites to help investors take correct investment decisions. Furthermore, Bahrain bourse can contribute in the transparency and disclosure of financial information by linking financial statement to the listed company's page.

Fifth, CBB and government of Bahrain should encourage and support listed Bahraini companies to disclose financial information via the internet in order to eliminate agency costs and enhance transparency. This is supported by the study of Mousa and Desoky (2012) and Debreceeny et al. (2002) who both agreed that IFR is one of the instruments that contribute in distributing disclosure that focuses on lowering misconnection of financial information between the management and their stakeholders.

Finally, to overcome the lack in studies for the IFR in GCC in general the researchers recommend that other researchers to apply studies in GCC or even Arab world by using a larger sample. Moreover, since there are limited studies that concerns corporate governance evaluated in Bahrain, a great number of potential studies could be conducted that investigates the relationship between CG and internal auditors, directors brought from outside or even ownership structure.

Additionally, a study can be conducted to investigate whether ownership structure has an effect on IFR. This is included in a previous study of Bushee & Noe (2000) who both claimed higher institutional ownership is supported by a higher disclosure.

Furthermore, we suggest a study that addresses the relationship between IFR and voluntary disclosure in Bahrain or even GCC. Not to mention a study can be conducted to investigate the benefits of IFR in small established companies.

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