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EDITORIAL

Dear readers!

The recent issue of the journal Corporate Ownership and Control pays attention to issues of capital structure, profitability dual class, loans, debt covenants, global finance etc. More detailed issues are given below.

Kudzai Raymond Marandu and Athenia Bongani Sibindi investigate the relationship between capital structure and profitability within the context of an emerging market of South Africa. *Nilanjan Basu and Ming Qiu* examine the manner in which debt issuance by dual class firms differs from that issued by comparable single-class firms. *Lemonakis Christos, Vassakis Konstantinos, Garefalakis Alexandros and Michailidou Despoina* focuse on the role of business cooperation and firms' exporting activity as the determinants of Greek manufacturing SMEs' innovative extend use, contributing to the existing empirical literature. *Santanu K. Ganguli* investigates the characteristics and performance of the persistent high liquidity firms in India in the backdrop of ownership concentration. *Ghada Tayem, Mohammad Tayeh and Adel Bino* examine how ownership concentration influences the relation between stock liquidity and asset liquidity. *Abu Khan, Kabir Hassan, Neal Maroney and Jose Francisco Rubio* investigate the change in operating performance, efficiency, and value addition of US bank mergers and acquisitions after GLBA. *Manas Mayur* examines the relationship between post-IPO performance of 306 Indian firms and the changes in insiders' ownership around their IPOs.

Mireille Chidiac El Hajj, Richard Abou Moussa, Maha Akiki and Anthony Sassine study governance practices in non-financial enterprises in Lebanon, and it is the first time that such enterprises are studied in the Lebanese context. *Merwe Oberholzer* develops a data envelopment analysis (DEA) model with two stages. *C.F. van Dreven and H.M. Koolma* elaborate, supported by literature on trust, a framework for corporate governance that might overcome lacunas in the classical frameworks of the principal agency theory and the stewardship theory.

Francesco Grimaldi investigates the relationship between ownership structures and turnaround processes in the Italian context. *F.G. Grandis and G. Mattei* analyse the different types of organizational models, identifiable in the Public sector when considering, simultaneously, two different variables: 1) the distribution of power between politicians and managers; 2) the nature of the manager's employment contracts. *Daniela M. Salvioni, Simona Franzoni and Francesca Gennari* argue that the effective integration of Corporate Social Responsibility, sustainability and leadership makes easier the convergence between insider and outsider corporate governance systems.

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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ACADEMIC INVESTIGATIONS & CONCEPTS

SECTION 1

CAPITAL STRUCTURE AND PROFITABILITY: AN EMPIRICAL STUDY OF SOUTH AFRICAN BANKS

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Abstract

The bank capital structure debacle in the aftermath of the 2007-2009 financial crises continues to preoccupy the minds of regulators and scholars alike. In this paper we investigate the relationship between capital structure and profitability within the context of an emerging market of South Africa. We conduct multiple linear regressions on time series data of big South African banks for the period 2002 to 2013. We establish a strong relationship between the ROA (profitability measure) and the bank specific determinants of capital structure, namely capital adequacy, size, deposits and credit risk. The relationship exhibits sensitivity to macro-economic shocks (such as recessions), in the case of credit risk and capital but is persistent for the other determinants of capital structure.

Keywords: Capital structure, Profitability, Business Cycles, Banks, South Africa

1. INTRODUCTION

In the aftermath of the 2007-2009 financial crises banks were hard hit by the recession world over but others survived. The South African banking sector was not spared either. The 2007-2009 financial crises were characterised by increasing risk, interest rate cuts and tightening of regulations all of which have a theoretical bearing on factors affecting capital structure and the optimal mix of debt and equity. Investors were moving out of equities and seeking safety in gold, debt became more expensive due to high risk environment. This study assesses the nexus between capital structure and profitability within the banking sector in South Africa. This research effort seeks to establish how these spikes affected profitability from a practical perspective by analysing bank data before, during and post the recession.

The imperatives that we consider in this article are bank profitability and capital structure. According to Chen *et al* (2010:232), profitability serves as one of the determinants of both capital structure and stock returns. This paper looks at bank specific profitability. Demirguc-Kunt and Huizinga (1999:3) consider two measures of bank performance: bank profitability (measured as profits divided by assets), and bank interest margins (measured as net interest income divided by assets). It is trite to highlight that in order for a firm to have the necessary resources in terms of assets, they need to raise the capital. This can be achieved by equity and or debt. This capital comes at a cost in dividends and interest respectively. The aim of the finance manager is to raise the capital at the lowest cost possible and to seek optimality. Capital structure refers to the combination of debt and equity of a company which shows the behaviour of the company in financing its overall operations and growth and is considered one of the important decisions in financial management. The primary objective of the company is to maximise the shareholders wealth by making an appropriate mix of the main sources of finance.

The relationship between capital structure and profitability is vital and cannot be over emphasized because profitability is necessary in order for the firm to survive (Shubita and Alsawalhah, 2012:105).The goal of the firm is to maximize shareholder value, profit contributes by providing the basis for calculation of EPS (earnings per share), declaration of dividend and subsequently retained earnings . Relating to commercial bank interest margins and profitability for banks from four different EU countries for the period of 1986 -1999, Abreu and Mendes (2001) investigated the influences of bank-specific variables along with other variables on profitability of banks. They find that well-capitalized banks have low bankruptcy costs and higher interest margins on assets.

The relationship between capital structure and profitability is very important as this affects the value

of the firm. The mix of debt and equity has an impact on the share price. To this end there is a need to investigate the impact of business cycles on this relationship between capital structure and profitability, more so in the aftermath of the global recession that the world is yet to fully recover from. The SA banking sector managed to survive the worst. As such, the impetus of this study is to establish the relationship between capital structure and profitability of the banks in South Africa. Thus the primary objective of this study is to determine the relationship between capital structure and its effect on profitability of South African banks listed on the Johannesburg Stock Exchange (JSE).

The rest of the paper is arranged as follows: Section 2 reviews the related literature. Section 3 outlines the research methodology. Section 4 presents the research findings. Section 5 concludes the paper.

2. REVIEW OF RELATED LITERATURE

Since Modigliani and Millers (1958) seminal paper, the choice between debt and equity has been extensively investigated in finance literature. Weston and Brigham (1981) contend that there is a wide disagreement over what determines the choice of capital structure and how the choice affects performance. Capital structure decisions of firms of today have important implications for value of the firm or its cost of capital. Nevertheless a firm can choose the capital structure it wants, because the important elements that influence such a decision are easily identifiable. However the precise elements are not easily obtainable (Ross *et al*, 2001: 439). The complexity with this relationship is that it is not static and it is evolving. That decision becomes even more difficult, in times when the economic environment in which the company operates presents a high degree of instability. Therefore, the choice among the ideal proportion of debt and equity can affect the value of the company, as much as the return rates (Ferrati *et al*, 2012: 1).

2.1. Capital Structure Theories

The choice between debt and equity has been a crucial subject in finance since Modigliani and Miller (1958) seminal paper argued that capital structure is not related to firm value. However Modigliani and Miller (1963) alluded to that corporate value is maximised when it is entirely financed with debt, this created a benefit for debt in that interest rate acted as a shield from taxes. To help unravel relationship between capital structure and firm value, this study will rely on the following theories: trade off theory, pecking order theory and the agency theory.

2.1.1. Trade-off Theory

The trade-off theory posits that firms trade-off the benefits of debt financing against higher interest rates and bankruptcy costs (Brigham *et al*, 1998). Additionally Brigham *et al* (1998) assert that bankruptcy problems are most likely to arise when a firm has a lot of debt in its capital structure. Compared with equity, debt is cheaper because of the tax shield. However, should a firm be highly leveraged, the benefits that arise from the tax shield may be cancelled by the costs associated with bankruptcy. As a result the trade-off theory argues that firms set an optimal target ratio determined by the trade-off between the benefits and cost of debt (Park and Jang, 2013).

As a consequence, financing with debt instead of equity increases the total after-tax return to investors and therefore increases corporate value, implying that companies should maximise debt financing over equity. However, too much debt raises the probability of financial distress. The trade-off theory stipulates that firms will borrow to the point that the marginal value of the tax shield equals the expected marginal cost of financial distress, implying moderate debt ratios for nonfinancial businesses (Kwan, 2009). During the recession, the issue of spikes in interest rates was prominent due to high risk perception—there were shifts in the global perception of risk especially the risk of the finance sector.

2.1.2. Pecking order

The pecking order theory postulates that businesses prefer internal capital to external financing. It thus establishes a financial hierarchy that firms will follow in financing their operations. Kwan (2009) contends that pecking order theory emphasizes the information asymmetry between managers and outside investors. A company that issues equity may signal that it has positive net-present-value projects, meaning that capital raised by issuing stock can be invested in projects that exceed the company's hurdle rate of return. But the market may read stock issuance as a signal that the company is overvalued and its share price too high.

Capital structure theories can help explain the choices banks made on raising capital during the financial crisis. Under the pecking order theory, when banks have private information about their assets, they would choose to issue debt before equity to minimize the undervaluation problem. But, during the financial crisis, banks needed to raise equity to replenish depleted capital (Kwan, 2009). The present study explores the capital structures of the South African banks with view to establishing if there were shifts in composition of debt and equity and whether the pecking order theory could help explain these shifts. With rising interest rates it meant that borrowing became more expensive and with high risk perception investors moved out of equity triggering falling demand for shares and depleting the sources of financing. The study investigates the effects of the pecking order.

2.1.3. Agency Theory

The agency problem arises as a result of conflict of interest of the managers with those of owners. In essence this problem is inherent in a principal-principle relationship. The availability of free cash flow can cause managers to over-invest in sub-optimal projects which will erode firm value. According to Park and Jang (2013), to mitigate over-investment, managers' ability to promote their interests is constrained by the availability of free cash flows. This constraint can be tightened even further though debt financing which is a capital structure decision. Richardson (2006) defined free cash flow as cash flow beyond what is necessary to maintain

assets and finance expected new investments. Kwan (2009) stresses that, while a high debt ratio can raise the possibility of financial distress, it can also add value by inhibiting managers from making unprofitable investments. The study looks at the agency theory with a view to establish whether it has a role to play in the choice of capital structure. The question of whether banks had excess cash flow will be investigated as this has a direct influence on the choice of capital structure.

2.2. Bank-Specific Determinants

Many empirical researchers have explored the determinants of capital structure choice from different point of views and in different environments related to developed and developing economies. The following will be reviewed as determinants of capital structure and their effect on profitability: size, credit risk, growth rate, tax and interest rates within the banking sector.

The bank efficiency theory will help to understand if bank specific variables have a relationship with profitability within the banking sector of South Africa JSE listed banks. In this context, each bank -specific variable influences in the negative or positive way. The study looks at the ability of banks to use their resources efficiently both in producing banking products and services and in generating income from these goods and services. At the same time, the nature of this relationship can significantly affect the bank profitability. This means that if the association between each bank-specific variable is positive, the profitability is high; if it is negative, the profitability is low making the cycle is asymmetric. Farlex (2015) affirms that bank efficiency ratio is the ratio of expenses to revenue. Banks desire a lower efficiency ratio because this means that the bank is making considerably more than it is spending and is therefore on sound financial footing. Considering the cost aspect of acquiring capital and the return aspect of assessing revenue and profitability, bank efficiency becomes relatable in this regard. Athanasoglou *et al.* (2005:06) submitted that all bank-specific determinants, excluding size, significantly affect bank profitability in line with prior expectations. Additionally, they also indicate that profitability is pro-cyclical, and the effect of the business cycle is asymmetric.

2.2.1. Capital Adequacy

Capital is the source of funding for assets within a firm. It consists of equity and liabilities. Bank specific equity and capital will be a focal point. Capital adequacy is one of the determinants of bank profitability as indicated by different academics. Kosmidou *et al.* (2005:02) investigated the impact of bank-specific characteristics, macro-economic conditions and financial market structure on UK-owned commercial banks' profits, during the period 1995-2002. It is found that capital strength, represented by the equity to assets ratio, is the main contributing factor of UK banks' profits giving impetus to the case that well capitalised banks face lower costs of external financing, which reduce their costs and enhance profits. In terms of liability, Mendes and Abreu (2001:15) state that less leveraged banks have higher margins, and this is consistent with theories stressing that better capitalised banks can charge more for loans and pay less on deposits in so far as they face lower bankruptcy risks.

Dietrich and Wanzenried (2009:34) analysed the profitability of commercial banks in Switzerland during the 1999 to 2006 period. It was found that better capitalised banks seemed to be more profitable. This positive impact on bank profitability can be due to the fact that capital refers to the volume of amount of own funds available to sustain a banks activity and, therefore, bank capital acts as a safety net in the case of adversative developments. Javaid *et al.* (2001:69) analysed the determinants of bank profitability in Pakistan during the 2004-2008 period. They observed that banks with more equity capital, total assets, loans and deposits were perceived to have more security, and such an advantage could be translated into higher profitability.

2.2.2. Size

Theoretically, the relationship between size and leverage is unclear. According to the trade-off model, large firms are expected to have a higher debt capacity and are able to be more highly geared. Large firms are more diversified, thus, less exposed to the risk of bankruptcy. They may also be able to reduce transaction costs associated with long-term debt issuance. As stated by Chen (2004), the firm's size has been the critical point of capital structure decision. According to Muradoglu and Sivaprasad (2009) small firms have restricted access to the funding that is why they face higher interest rate as compared to larger firms and their growth is ultimately influenced.

The relationship between the bank-size and profitability can be measured by economies of scale. Sufian and Chong (2008:94) examined factors that influence the profitability of financial institutions in a developing economy. They found that bank size is generally used to capture potential economies or diseconomies of scale in the banking sector.

Miller and Noulas (1997) examined large commercial banks to determine what factors affected bank profitability. They found that large banks experienced poor performance because of the declining quality of the loan portfolio. However, real estate loans generally had a negative effect on large banks profitability, although not at high levels of significance. In contrast, contraction and land development loans had a strong positive effect on these banks profitability. Hassan and AL-Tamimi (2008:46) examined the determinants of the UEA commercial banks performance. They found that for the most significant determinants of the national banks performance were banks size and banks portfolio composition.

2.2.3. Business Risk

According to Brigham *et al* (1998) the firm has a certain amount of risk inherent in its operations and this is business risk, if it uses debt, then in effect, it partitions the investors into two groups and concentrates most of its business risk on the ordinary shareholders, the ordinary shareholders then demand higher compensation for assuming this risk. The tussle between creditors and shareholders is of interest to this study as they both share the profit. The proportions will highly depend on the capital

structure. A highly leveraged firm might pay more in interest to creditors than the ordinary shareholders. According to Brigham and Davies (2013:34) no investment should be undertaken unless the expected rate of return is high enough to compensate for the perceived risk.

Kjellman and Hansen (1995) state that observed that some firms employ more debts in their financing structure, other firms prefer equity financing, whereas many other firms have set target debt-equity ratio. It all depends on the nature of the business. Therefore, the company should consider its financial flexibility and its tax position. Operating conditions along with these factors may cause deviation in actual capital structure from the targeted capital structure. Hence, the optimal capital structure must be used as the definitive capital structure that decreases the Weighted Average Cost of Capital (WACC) with an increase in shareholders' value (Javaria *et al*, 2013).The study investigates the proportion of debt to equity in the capital structure, whether there is a trend or pattern that differentiates the banks in question and if it is a distinctive contributor to profitability.

The banking sector is highly regulated, especially after the challenges that arose because of the recession. Bank regulators directly affect capital structure by setting minimums for equity capital reserve ratios. Also, regulators conduct examinations and take other actions to keep the expected costs of financial distress, bankruptcy, or liquidation relatively low which may reduce agency costs outside of debt (Berger and Bonaccorsi di Patti, 2006).This study explores the effects of regulation on South African banks during the recession. Naturally a high risk environment would trigger tightening of regulations. Focus on the changes in REPO rate by the South African Reserve Bank will be emphasised. These changes have a direct effect on the cost of debt to the South African banking sector.

According to Al-Jafari and Alchami (2014:28) credit risk is measured as loan loss provisions divided by total loans. Several studies confirm credit risk to have a relationship with profitability in the banking industry. The link between credit risk and business risk is relevant to this study. The common underlying factor between credit risk and business risk is operational efficiency. Credit risk management plays an important role in terms of efficient banking. Manoj (2010:18) identified the determinants of profitability and operational efficiency of Kerela State old private sector banks in India, using an econometric methodology. He found that the old private sector banks in general and Kerala state (KOPBs) in particular, enhanced operational efficiency and risk management capability, particularly credit risk management. When a debtor defaults on approved terms of payments, this may result in crystallisation of credit risk to the bank.

Naceur and Omran (2011) examined the influence of bank regulation, concentration and financial and institutional development on commercial bank margins and profitability across a broad selection of Middle East and North Africa (MENA) countries. They found that banks specialising in particular credit risk management have a positive impact on banks net interest and profitability.

Flaminin *et al.* (2009:01) examined a sample of 389 banks in 41 sub-Saharan African countries to study the determinants of bank profitability. They found that apart from credit risk, higher returns on assets are associated with larger bank size, activity diversification and private ownership. Bank returns are affected by macro-economic variables, suggesting that macro-economic policies that promote low inflation and stable output growth do boost credit expansion. In South Africa the reserve bank has a policy of inflation targeting and REPO rate is adjusted in line with inflation. The study will consider the effect of this macroeconomic variable on the SA banks listed on JSE.

Ali *et al*, (2011:235) studied Islamic banks profitability in Pakistan by taking into consideration bank-specific and macro-economic factors. They observed that the high credit risk and capitalisation lead to lower profitability measured by return on asset (ROA). Additionally, the operating efficiency tends to exhibit the higher profitability level as measured by return on equity (ROE). The underlying difference between ROA and ROE is the financial leverage multiplier, optimal usage of debt reflects operational efficiency, and a higher ROA does not necessarily mean a higher ROE as well. This study investigates the underlying reasons for such inconsistency within the SA banks listed on the JSE.

2.2.4. Growth rate

According to the trade-off theory, firms holding future growth opportunities, which are a form of intangible assets, tend to borrow less than firms holding more tangible assets because growth opportunities cannot be collateralised (Chen, 2004). The effect of the growth rates of the South African banks listed on the JSE is of particular interest to the researchers. The growth rate might signify the need for more capital and will therefore have an effect on the capital structure of the firm. Deposit is a core of the bank, the higher the levels of deposit, the more effect on bank profitability. Deposits are the main source of banks funding and are the lowest cost of funds. Alper and Anbar (2011: 144) examined the determinants of bank profitability in Turkey. They found that the more deposits are transformed into loans, the higher the interest margin and profit. Therefore, deposits have positive impact on profitability of the banks. In contrary, when there is higher cost of funding, it negatively affects bank profitability.

Haron (2004:18) examined the effects of the factors that contribute towards the profitability of Islamic banks. He found that the more deposits placed by depositors with the bank, the more income is received by the bank influencing the profitability.

2.2.5. Tax on Banks

Some researchers believe that tax provision influences debt equity ratio. Higher rate of tax encourages profitable companies to choose for high debt equity ratio to obtain tax shield. There are theoretical and empirical arguments that the tax shield of debt financing induces the companies to get more debt to maximize the value of the company (Maleki *et al*, 2013:6). However, Miller (1977) and Fama and French (1988) found no evidence in supporting tax benefits of debt financing. Barclay and Smith (1995) and Graham (2000) found mixed results

for tax shield of debts. Taxation has been a point of contention since Miller and Modigliani (1958) seminal paper. Taxation acts differ across the globe and the effects will differ accordingly. This study will observe the influence of tax laws on the South African banking sector, particularly focusing on those listed on the JSE. Although fiscal issues are likely to exert a significant influence on banks behaviour, the taxation of the financial sector has received little attention (Caminal, 2003). The tax deductibility of interest payments shields the pre-tax income of the firm and this ultimately lowers the weighted average cost of capital (WACC). In addition, the presence of taxes causes the cost of equity to rise less rapidly with debt than would be the case in the absence of taxes (Brigham and Ehrhardt, 2008: 613).

According to Albertazzi and Gambacorta (2010), the main channel through which the corporate income tax may exert an impact on bank activity is related to the fact this form of taxation bears upon bank equity holders and therefore interacts with prudential capital requirements. In their study of how bank profitability is affected by corporate income tax, both from a theoretical and an empirical perspective. They conclude that the theoretical model highlights two main mechanisms. Firstly, corporate income taxation in the banking sector changes the costs of bank equity and therefore makes capital requirements more or less tight (so-called cost of equity effect). Secondly, a higher corporate income tax rate brings a reduction of investments from the corporate sector and a downward shift of the demand for bank loans and other bank services (so-called market effect). Empirical evidence shows an increase in the corporate income tax rate has a positive impact on the interest rate demanded on loans and a negative one on the lending volume, while leaving unaffected the deposit market.

Rasiah (2010:77) one of the major expense incurred in generating revenue include interest paid out to depositors which is termed as interest expenses. Other expenses are non-interest expenses such as overhead expenses, operating expenses, salaries and wages paid to employees and miscellaneous expenses, the more expenses incurred by the bank, the less profit the bank will make.

2.3. Bank Profitability

There are internal and external factors that determine bank profitability across many countries. Most of the studies consider internal factors as bank specific and external factors as industry specific and macroeconomic environment. External determinants are variables that are not allied to bank management but reveal the economic and legal environment that affect the operation and performance of financial institutions (Athanasoglou *et al*, 2008:122). On the other hand, the external determinants, both industry and macroeconomic related, are variables that reflect the economic and legal environments (Sufian and Habibullah, 2009:210).The investigation focuses on the economic environment considering the environment prior, during and after the recession for South African banks listed on the JSE. According to Athanasoglou *et al* (2005:06), the external determinants are variables that are not related to bank management but reflect the operation and performance of financial institutions.

According to South African Reserve Bank (2011) the banking sector remained adequately capitalised with total banking-sector equity increasing by 12,1 per cent during 2011. Total capital adequacy improved from 14, 9 % at the end of December 2010 to 15.1% at the end of December 2011. The Tier 1 capital-adequacy ratio (CAR) of the banking sector increased from 11. 8% to 12.2 % during the same period. The report is suggestive of the fact that the banking sector managed to shrug off recessionary pressures. The study investigates the possible reasons for this rise in capital adequacy.

Internal and external environment are interlinked. Internal determinants are factors that are mainly influenced by a bank's management decisions and policy objectives. Such profitability determinants are the level of liquidity, capital adequacy, and expenses of management, provisioning policy and bank size. According to Guru *et al.* (2002:3), the determinants of bank profitability can be divided into two main categories, namely, those that are management controlled and those that are beyond the control of management. The factors which are management controllable are classified as internal determinants and those beyond the control of management are referred to as external determinants. Rasiah (2010: 750) states that the internal factors which tend to have a direct impact on bank revenue and costs are bank assets, liability portfolio management and overhead expenses. Bank performance is measured by return on average assets (ROAA), return on average equity (ROAE), and/or net interest margins (NIM) and is usually expressed as a function of internal and external determinants. In the same view, Dietrich and Wanzenried (2009:04) point out that bank profitability is usually measured by return on average assets and is expressed as a function of internal and external determinants. However, external variables include bank-specific variables that are also expected to affect the profitability of financial institutions.

Capital structure theories can help explain the choices banks made on raising capital during the financial crisis. Under the pecking order theory, when banks have private information about their assets, they would choose to issue debt before equity to minimize the undervaluation problem. However, during the financial crisis, banks needed to raise equity to replenish depleted capital. In that environment, issuing preferred stock may have been a reasonable strategy because it avoided diluting ordinary equity while restoring the balance of equity and debt financing and meeting regulatory capital requirements. According to Damodaran (2009) issuing new ordinary equity at a discount would have transferred wealth from existing shareholders to new shareholders. In addition, Damodaran (2009) elaborates that issuing new debt would have increased the probability of default, with the associated risk of losing control rights. Unlike debt service payments, preferred stock dividends can be suspended without triggering bankruptcy (Damodaran, 2009).

3. METHODOLOGY

This study provides an in depth analysis on the effect of the relationship between capital structure and profitability of South African banks listed on the JSE prior, during and post the recession period. The study

consists of 28 banks in the South African banking industry as the population. The JSE will be used as the sample from the population of banks in South Africa. JSE listed banks sell shares directly to the market, these shares constitute equity in the capital structure. The sample of banks on JSE will allow for determination of macro-economic effects of the independent variables on the debt to equity ratio.

The banks sampled in this research are 6 South African banks selected from a population of 28 banks as cited above. The study considered data for the period of 12 years from 2002-2013 for the following sample of banks listed on the JSE: ABSA Bank, Nedbank, FNB, Standard Bank Capitec Bank and African Bank. The study employs the following secondary information sources: Tax data sourced from the South African Revenue Service (SARS), McGregor BFA, South African Reserve bank annual Supervision reports and Bank Scope. The data is collected from the balance sheets, comprehensive income statements and statements of changes in equity of JSE listed banks from 2006-2013. The data is categorised according to the secondary variables and each measured against the performance of the banks over a period of 12 years. A time series analysis is conducted on a year on year basis.

3.1. Data and Variables

The study uses a multiple regression technique to test the relationship between bank specific, industry specific and macroeconomic determinants with regards to bank profitability. Multiple regression techniques are used in this study to analyse the internal determinants and external determinants. First, it has the advantage of giving more informative data as it consists of both the cross-sectional information, which captures individual variability, and the time series information, which captures dynamic adjustment. Second, this technique allows for the study of the impact of macroeconomic developments on profitability after controlling for bank-specific characteristics, with less collinearity among variables, more degrees of freedom and greater efficiency (Vong and Chan 2008:104). Extant literature on bank profitability confers that the appropriate functional form of analysis is the linear one (See for instance, Vong and Chan 2008:105 and Bourke 1989:73). As such, to examine the determinants of bank profitability in South Africa, this study employed a linear regression model.

The relationship between debt and profitability is thus estimated in the linear regression models. Regression analysis is used to investigate the relationship between capital structure and profitability measured by ROA and ROE. The study utilised the SAS software to do the analysis.

3.2. Variables Definition and Measurements

Variables include profitability ratios and leverage ratios. Profitability is operationalised using the ratio of EBIT to equity. Leverage ratios include long term debt to total capital, short term debt to total capital, and total debt to total capital for each of the banks selected in sample. Firm size, taxation and growth will be included as independent variables. This study utilise the Return on Assets (ROA) as the primary measure of profitability and the Return on Equity (ROE) as the alternative measures of bank profitability. The model is specified as follows:

$$ROA = \alpha + \beta_1 CAP + \beta_2 Size + \beta_3 DEPOSIT\ FIXED + \beta_4 DEPOSIT\ SAVED + \beta_5 CreditRisk + \beta_6 Interest\ Rate \quad (1)$$

Robustness checks are conducted with an alternative definition of the profitability measure as specified by the model below:

The alternative model is specified as follows:

$$ROE = \alpha + \beta_1 CAP + \beta_2 Size + \beta_3 DEPOSIT\ FIXED + \beta_4 DEPOSIT\ SAVED + \beta_5 CreditRisk + \beta_6 Interest\ Rate \quad (2)$$

Where, ROE =return on equity
ROA = return on assets
Size = size variable
Deposit Fixed and Deposit Saved = deposits variable
Credit Risk = credit risk variable
Interest Rate = Interest rate variable

3.2.1.Dependant Variables

(i) Return on Asset (ROA)
Vong and Chan (2008:101) argue that the performance of a bank is measured by its return on assets (ROA). The ROA, defined as net income divided by total assets, reflects how well a bank's management is in using the banks investment resources to generate profits. A number of authors have used ROA as a measure of bank profitability (Kosmidou 2007:05; Javaid *et al.*, 2011:66; Athanasoglou *et al.*, 2006:21 and Flamini *et al*, 2009). Banks with lower leverage (higher equity) will generally report higher ROA, but lower ROE. This study uses the ROA as the primary dependent variable. In the calculation of ROA the Financial Leverage Multiplier is excluded and the study shows the effect of this difference on profitability.

(ii) Return on Equity (ROE)
Return on Equity (ROE) indicates the return to shareholders on their equity and equals net profits after tax divided by total equity. It combines profitability, asset efficiency and debt optimisation and the relationship is multiplicative. ROE was used as dependent variable by some of these authors such as Albertazzi and Gambacorta (2009:11); Athanasoglou *et al*, (2008:125) and Hassan and Bashir (2003:11) amongst others.

3.2.2. Independent Variables

The study employs the following bank specific determinants as the independent variables: firm size, credit risk, growth rate, company tax, and interest rates.

(i) Firm Size
One of the most important questions regarding bank profitability is whether or not bank size optimises profitability. Generally, the effect of size on profitability is expected to be positive to a certain extent. However, for banks that become extremely large, the effect of size could be negative due to bureaucracy and other reasons. Hence, the size-profitability relationship may be expected to be non-linear and the study also used the banks logarithm of total assets and their square in order to capture the possible non-linear relationship and to remove the scale effect (Dietrich and Wanzenried, 2009:12).

(ii) Credit Risk
The study utilises the loan-loss provisions to total loans ratio. In view of the fact that increased exposure to credit risk is normally associated with decreased firm profitability and, hence, it is expected to have a negative relationship with banks profitability.

(iii) Capital Adequacy
Capital is the source of funding for assets within a firm. It consists of equity and liabilities. Bank specific equity and capital will be a focal point. Kosmidou *et al.* (2005:02) investigated the impact of bank-specific characteristics, macro-economic conditions and financial market structure on UK-owned commercial banks' profits, during the period 1995-2002. It is found that capital strength, represented by the equity to assets ratio, is the main contributing factor of UK banks' profits giving impetus to the case that well capitalised banks face lower costs of external financing, which reduce their costs and enhance profits. Dietrich and Wanzenried (2009:34) analysed the profitability of commercial banks in Switzerland during the 1999 to 2006 period. It was found that better capitalised banks seemed to be more profitable. This positive impact on bank profitability can be due to the fact that capital refers to the volume of amount of own funds available to sustain a banks activity and, therefore, bank capital acts as a safety net in the case of adversative developments

(iv) Deposit saved and deposit fixed
According to the trade-off theory, firms holding future growth opportunities, which are a form of intangible assets, tend to borrow less than firms holding more tangible assets because growth opportunities cannot be collateralised (Chen, 2004). The growth rate might signify the need for more capital and will therefore have an effect on the capital structure of the firm. Deposit is a core of the bank, the more level of deposit is high, the more effect on bank profitability. Deposits are the main source of banks funding and are the lowest cost of funds. Alper and Anbar (2011: 144) examined the determinants of bank profitability in Turkey. They found that the more deposits are transformed into loans, the higher the interest margin and profit. Therefore, deposits have positive impact on profitability of the banks. In contrary, when there is higher cost of funding, it negatively affects bank profitability.

(v) Tax on Banks
Some researchers believe that tax provision influences debt equity ratio. Higher rate of tax encourages profitable companies to choose for high debt equity ratio to obtain tax shield. There are theoretical and empirical arguments that the tax shield of debt financing induces the companies to get more debt to maximize the value of the company, Maleki *et al* (2013:6).

4. RESEARCH FINDINGS

In this section we present the empirical findings of the study. We start of by presenting the summary statistics and then proceed to present the regression results.

4.1. Summary Statistics

The summary statistics give us a quick simple description of data and the study considers the following; the mean, standard deviation, variance, minimum and maximum. The summary statistics are presented in Table 1. The study's focal point is the dependent variables of ROAE an ROAA and the independent variables of capital, deposits, credit risk and interest rates. For the sample of banks analysed the mean for ROAE is 18.47 and higher than the ROAA mean of 2.9. The mean for the capital is 15.4. The standard deviation ROAE is 10.59, compared to ROAA of 3.19 shows the spread is larger for ROAE. Capital standard deviation is the highest at 16.7.The variance ROAE is 112.17, ROAA is lower at 10.16 and capital of 280.1.Capital has the highest spread of numbers.

Table 1. Summary Statistics

Results
The MEANS Procedure

Variable	Mean	Std Dev	Variance	Minimum	Maximum	N	Coeff of Variation
ROAE	18.4736620	10.5914482	112.1787753	-48.3100000	38.8900000	71	57.3326947
ROAA	2.8509859	3.1880172	10.1634540	-7.4500000	11.2100000	71	111.8215712
SIZE	23.9532857	18.9794651	360.2200963	10.1000000	98.0000000	70	79.2353306
CAP	15.4407042	16.7362309	280.1014234	4.8400000	88.8400000	71	108.3903339
DEPOSIT FIXED	11.0220000	13.5621401	183.9316446	0.3100000	50.1800000	70	123.0460907
DEPOSIT SAVED	52.3336207	34.6563805	1201.06	0	93.3900000	58	66.2220195
CREDIT RISK	6.7167606	7.3617169	54.1948754	1.1000000	30.0400000	71	109.6021931
INTEREST RATE	5.5416667	2.2709977	5.1574306	2.8000000	11.1000000	72	40.9804096

4.2. Regression Analysis

In this study we carried out regression tests for the period prior to recession, during recession and after the recession period. We also performed robustness checks by using an alternative measure of profitability that is; we also employed the return on equity measure instead of the return on assets. We first employed the ROA measure as the dependent variable. The motivation lies in that Vong and Chan

(2008:101) argue that the performance of a bank is best measured by its return on assets (ROA). The ROA, defined as net income divided by total assets, reflects how well a bank's management is in using the banks investment resources to generate profits. A number of authors have used ROA as a measure of bank profitability (See for instance Kosmidou 2007:05; Javaid *et al.*, 2011:66; Athanasoglou *et al.*, 2006:21 and Flamini *et al*, 2009).

Table 2 and Table 3 document the results of the bivariate regression analysis where ROA is employed as the dependent variable. The coefficient of determination shows a strong relationship between capital and ROA at 0.5936. The probability shows that it is highly significant with a p-value of less than 0.01.The parameter estimate shows a positive relationship between capital and profitability as the F-value is high, the relationship between capital and ROA is moderately significant. Thus it would seem that as the banks acquire more capital their ROA also increases in tandem. The residuals plot in Table 3 also depicts a fairly strong association between ROA and the capital variable.

However the results are not robust when we employ the alternative definition of profitability. Thus the bivariate relationship between return on equity and capital is highly insignificant. The results are outlined in Table 3 and Figure 2. The motivation in using the ROE measure lies in that Return on Equity (ROE) indicates the return to shareholders on their equity and equals net profits after tax divided by total equity. It combines profitability, asset efficiency and debt optimisation and the relationship is multiplicative. ROE was used as dependent variable by some of these authors such as Albertazzi and Gambacorta (2009:11); Athanasoglou et al, (2008:125); Hassan and Bashir (2003:11).

Our results show a very weak relationship between ROE and Capital as the F value is very low at 0.05, the level of significance is very low (Table 3). The results also depict a very weak association between capital and ROE in the banking sector. The residuals plot shows almost a flat line indicating that a change in the Capital does not influence the ROE (Refer to Figure 2).

Table 2. Bivariate regression of Return on Assets against Capital

Linear regression – Cap/ROA

Linear Regression Results
The REG Procedure
Model: Linear_Regression_Model
Dependent Variable:ROAA

Number of Observations Read	72
Number of Observations Used	71
Number of Observations with Missing Values	1

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	428.36947	428.36947	100.80	<.0001
Error	69	293.23576	4.24979		
Corrected Total	70	721.60523			

Root MSE	2.06150	R-Square	0.5936
Dependent Mean	2.85099	Adj R-Sq	0.5877
Coeff Var	72.30842		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	95% Confidence Limits	
Intercept	1	0.58483	0.33287	1.76	0.0834	-0.07923	1.24889
CAP	1	0.14676	0.01462	10.04	<.0001	0.11760	0.17593

Figure 1. Plot of Residuals of Return on Assets against Capital

Linear regression-Cap/ROA

Linear Regression Results
The REG Procedure
Model: Linear_Regression_Model
Dependent variable:ROAA

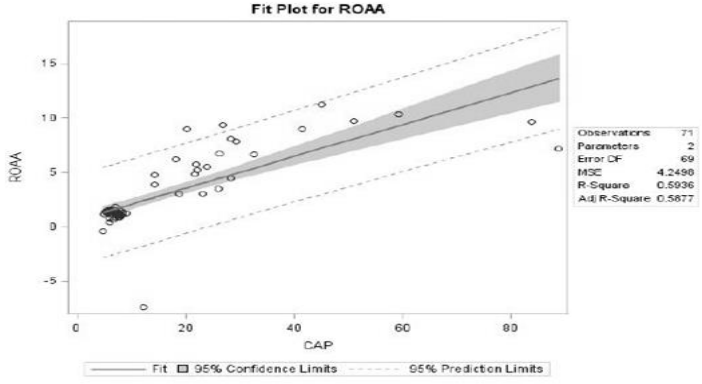


Table 3. Bivariate regression of Return on Equity against Capital

Linear Regression Results
The REG Procedure
Model: Linear_Regression_Model
Dependent Variable: ROAE

Number of Observations Read	72
Number of Observations Used	71
Number of Observations with Missing Values	1

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	5.65183	5.65183	0.05	0.8255
Error	69	7959.04122	115.34842		
Corrected Total	70	7964.69305			

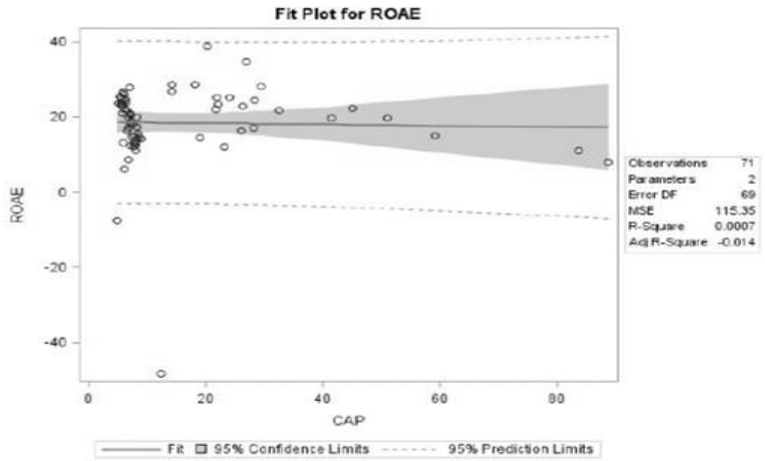
Root MSE	10.74004	R-Square	0.0007
Dependent Mean	18.47366	Adj R-Sq	-0.0138
Coeff Var	58.13703		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	95% Confidence Limits	
Intercept	1	18.73396	1.73420	10.80	<.0001	15.27432	22.19361
CAP	1	-0.01686	0.07616	-0.22	0.8255	-0.16879	0.13507

Figure 2. Plot of Residuals of Return on Equity against Capital

Linear Regression Results
The REG Procedure
Model: Linear_Refression_Model
Dependent Variable:ROAE



Having established that the relationship between capital and profitability was not robust to the alternative measure of profitability—ROE we thus proceeded to utilise ROA as the only measure of profitability. We then test the relationship between ROA (the profitability measure) and the determinants of capital structure for the period before recession, during the recession and after the recession. For the period prior to recession, the results show a strong relationship between ROA and the independent variables. The coefficient of determination is 0.97 implying it is a very strong association (Refer to Table 4). Further the regression results show that ROA is explained by all the dependent variables as their coefficients are statistically significant at the 5 percent level of significance.

Our results show an even explanatory relationship between ROA and the independent variables for the period during the recession since the coefficient of determination is 0.99 (See Table 5). However the coefficient for credit risk is now positive, this means that as the credit risk went up, ROA also went up.

Table 4. Regression of ROA against the Determinants of Capital Structure for the period before the recession.

Linear Regression Results
The REG Procedure
Model: Linear_Regression_Model
Dependent Variable: ROAA

Number of Observations Read	32
Number of Observations Used	20
Number of Observations with Missing Values	12

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	96.06670	24.01668	132.78	<.0001
Error	15	2.71308	0.18087		
Corrected Total	19	98.77978			

Root MSE	0.42529	R-Square	0.9725
Dependent Mean	2.20900	Adj R-Sq	0.9652
Coeff Var	19.25261		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-1.25245	0.47014	-2.66	0.0177
CREDIT RISK	1	-0.16577	0.03290	-5.04	0.0001
DEPOSIT SAVED	1	-0.00953	0.00321	-2.96	0.0097
SIZE	1	0.18788	0.06323	2.97	0.0095
CAP	1	0.16806	0.07330	2.29	0.0367

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Table 5. Regression of ROA against the Determinants of Capital Structure for the period during the recession.

OVERALL REPORT – DURING RECESSION ROA
Linear Regression Results
The REG Procedure
Model:Linear_regression_Model
Dependent Variable:ROAA

Number of Observations Read	24
Number of Observations Used	12
Number of Observations with Missing Values	12

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	89.49583	22.37396	426.69	<.0001
Error	7	0.36706	0.05244		
Corrected Total	11	89.86289			

Root MSE	0.22899	R-Square	0.9959
Dependent Mean	2.62083	Adj R-Sq	0.9936
Coeff Var	8.73732		

Parameter Estimates							
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	95% Confidence Limits	
Intercept	1	-0.61514	0.28527	-2.16	0.0680	-1.28969	0.05941
CAP	1	0.13108	0.07805	1.68	0.1370	-0.05348	0.31563
DEPOSIT SAVED	1	-0.00233	0.00219	-1.07	0.3222	-0.00752	0.00285
SIZE	1	0.07865	0.04801	1.64	0.1454	-0.03488	0.19218
CREDIT RISK	1	0.20814	0.04855	4.29	0.0036	0.09335	0.32294

The period after the recession shows an even slightly stronger relationship between the independent variables and ROA (Refer to Table 6). The coefficient of determination is 0.968. However some of the variables such as deposit saved and capital become insignificant. The coefficient for credit risk is now negative, this means that as the credit risk variable went up, and the return on assets went down. It would seem that the period prior and after recession shows a negative relationship between ROA and credit risk. However the relationship turns positive during the recession.

Table 6. Regression of ROA against the Determinants of Capital Structure for the period after the recession

POST RECESSION PERIOD (2009-2013)
Linear Regression Results
The REG Procedure
Model:Linear_regression_Model
Dependent Variable:ROAA

Number of Observations Read	34
Number of Observations Used	24
Number of Observations with Missing Values	10

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	76.85679	19.21420	144.58	<.0001
Error	19	2.52500	0.13289		
Corrected Total	23	79.38180			

Root MSE	0.36455	R-Square	0.9682
Dependent Mean	1.98208	Adj R-Sq	0.9615
Coeff Var	18.39214		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	95% Confidence Limits	
Intercept	1	-2.34204	0.38360	-6.11	<.0001	-3.14492	-1.53917
CREDIT RISK	1	-0.31561	0.12869	-2.45	0.0240	-0.58496	-0.04626
DEPOSIT SAVED	1	0.00289	0.00278	1.04	0.3114	-0.00293	0.00872
SIZE	1	0.23139	0.05105	4.53	0.0002	0.12454	0.33823
CAP	1	0.06615	0.07437	0.89	0.3848	-0.08950	0.22181

5. CONCLUSION

In this research effort we have demonstrated that there is a significant relationship between profitability and the determinants of capital. On one hand we found empirical evidence in support of a positive association between ROA (the profitability measure) and capital as well as the size variables. On the other hand the relationship between ROA and the deposits saved as well as credit risk variables seem to be sensitive to the business cycles. It starts of negative during the period before the recession. The negative relationship subsists between ROA and deposit saved during the recession. However it turns to an insignificant one ex-post the financial crises. However with credit risk the relationship changes from a negative one (ex-ante the financial crisis) to a positive one (during the financial crisis) and then rivets to a negative association (ex-post the financial crisis). The study also establishes a strong positive relationship between capital structure and ROA, however it unravels that there is no relationship between capital structure and ROE. Arguably, as this study utilises the ROA as the primary dependent variable it could the financial leverage multiplier (FLM) shores up and accounts for the non-robustness when the ROE measure is employed as the profitability variable. Based on the findings we conclude that there is a relationship between ROA and capital structure. The study found that the composition of debt to equity in South African banks is higher equity and lower leverage. Banks with lower leverage (higher equity) will generally report higher ROA, but lower ROE. Our results also show no change in the relationship between Capital and ROA of JSE listed banks prior, during and after the recession. Notable is the change in credit risk from a negative relationship prior and post-recession, but a negative relationship during the recession. However on the main, there is no change on the trend in relationship between capital and ROA.

What is noteworthy is that our results corroborate the findings of the IMF. According to the SARB (2010) the IMF stated that the banking sector had remained essentially sound, although its activity had been affected by the recession. Banks remained profitable despite the increase in impaired loans to 6 per cent of gross loans and advances in January 2010 from 2 per cent two years earlier. The IMF noted that no public support was extended during the recession and capital-adequacy ratios had remained above their regulatory minima throughout the crisis period. The South African banking sector managed to shrug off the effects of the recession.

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DUAL CLASS FIRMS AND DEBT ISSUANCE

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Abstract

We examine the manner in which debt issuance by dual class firms differs from that issued by comparable single-class firms. Using the comprehensive sample of dual class firms compiled by Gompers, Ishii, and Metrick (2010), we find that dual class firms tend to borrow at lower interest rates and for longer maturities but face more covenants, especially performance based covenants. Our results are robust to corrections for the endogenous choice of dual class share structures. We also find that the returns earned by the stocks of these dual class firms have lower volatility. Our findings are consistent with the conjecture that dual class firms tend to avoid idiosyncratic risk and that with the help of performance based covenants, creditors are able to create safer lending opportunities with dual class firms than with single-class firms.

Keywords: Dual Class, Loans, Debt Covenants, Corporate Governance/Executive Compensation
JEL Classification: G32, G34

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1. INTRODUCTION

Dual class shares structures have been of considerable interest to researchers in corporate governance as they have the potential to crucially tilt the balance of power in corporations.[1] As surveyed by Adams and Ferreira (2008), this divergence between cash-flow rights and voting rights has the potential to increase or decrease a firm's value. On the one hand, dual class share structures can destroy value by encouraging the expropriation of wealth by controlling shareholders, preventing the proper functioning of the market for corporate control, and distorting investments. On the other hand, they can be beneficial if they alleviate free-rider problems and improve managerial decision making (Burkart and Lee, 2008). As such the net impact of dual class share structures appears to be more of an empirical issue. An influential contribution in this direction is that of Gompers, Ishii, and Metrick (2010) who compile an exhaustive sample of dual class firms and find that on the whole, dual class firms tend to be valued lower than their non-dual class counterparts. In addition, the results of Masulis, Wang, and Xie (2009) suggest that at least a part of this value destruction could be attributed to poorer acquisition and capital expenditure decisions by dual class firms.

Our study focusses on an important follow up question – the impact of dual class share structures on debt contracting. If the value destruction in dual class firms noted by prior studies is a direct reduction in the value of projects, it should imply lower value for the debt as well as the equity of the firm. As such, lenders would rationally be more wary of dual class firms and tend to impose tighter restrictions on them, charge them higher rates of interest, and take steps to ensure more frequent contracting. An alternate possibility is that the lower value of dual class firms is driven by suboptimal risk-taking by the decision makers of such firms. As noted by both Adams and Ferreira (2008) and Gompers, Ishii, and Metrick (2010), dual class share structures are often used by founding families to ensure their control over the firm. Further, as noted by Anderson and Reeb (2003) founding families are unique in their long investment horizons and have a special interest in the survival of the firm. Therefore, disproportionate control wielded by such owners could result in risk-averse decision making which would in turn result in a transfer of wealth from equity holders to debt holders. In such a situation, lenders would be more likely to welcome dual class firms and tend to impose fewer restrictions on them, while charging them lower rates of interest and lending to them for longer maturities. We empirically test these competing hypotheses.

We find that lenders, in fact, do impose more covenants on dual class firms. However, the greater use of covenants for dual class firms is driven entirely by performance based (i.e. income statement based) covenants. In fact, lenders impose less capital based covenants (i.e. covenants that rely on balance sheet information) on dual class firms. Moreover, after imposing more performance based covenants, lenders appear to charge dual class firms a lower interest rate as well as negotiate a longer maturity for such loans. Our evidence indicates that at least a portion of the value destruction associated with dual class firms is likely to be driven by an excessive reduction in risk for such firms. We test this conjecture using the volatility of the returns earned on the firm's stock as our proxy for idiosyncratic risk. Our preliminary evidence is consistent with this

[1] A typical dual class shares structure will have two categories or classes of shares. Typically one of them will have significantly higher voting right per share than the other while they retain similar cash flow rights. It is also common in these situations to have more than two classes of equity with different voting rights for each group. However, the implications for corporate control and governance is similar and, as is common in the literature, we use the term "dual class" to refer to any share structures where there are multiple classes of shareholders with different voting and cash flow right.

prediction and indicates that dual class firms are less risky than their single class counterparts.

We make two main contributions to the literature. First, as reviewed by Adams and Ferreira (2008), the debate on the role of dual class firms has mostly focused on the value of equity (either as abnormal returns in event studies or as measured by the market to book ratio). The findings of Gompers, Ishii, and Metrick (2010) suggest that overall dual class firms have lower value as compared to their single-class counterparts. However, the observed reduction in value could be attained in two possible ways. One possibility would be an inappropriate (from the equity holders' perspective) reduction in risk which would result in a transfer of value from equity to debt holders. Alternatively, it could be an outright reduction of firm value as a result of insiders using their position to transfer value out of the firm. Our evidence suggests that the former is the more likely explanation.

We also contribute to our understanding of the relationship between dual class shares structures and debt. As such, our paper is most closely related to that of Dey, Nikolaev, and Wang (2015) who focus on the manner in which debt can be used to alleviate the conflict between controlling and minority shareholders in dual class firms. Our results complement theirs by focusing on the terms of issuance of debt (rather than the choice of the level of debt or the kind of debt issued) in more detail. Similar to them, we find that debt issuance by dual class firms is associated with a greater use of performance based covenants. However, we extend their analysis to the other primary aspects of debt issuance, namely the interest spread and the maturity of the loan. We find that dual class firms in fact pay lower interest costs and typically borrow for longer maturities than do their single class counterparts. Our findings provide a more detailed picture of the process of borrowing for dual class firms.

The remainder of the paper is organized as follows. Section 2 discusses the related literature and develops our hypotheses. Section 3 describes our data. Section 4 provides a discussion of our results and section 5 concludes.

2. PRIOR RESEARCH AND HYPOTHESES

Recent empirical research on dual class firms has highlighted the potential for value destruction that can be a consequence of certain shareholders wielding power that is disproportionately higher than their cash flow rights (Gomper, Ishii, and Metrick, 2010; Masulis, Wang, and Xie, 2009). Their findings are similar in spirit to those of Shleifer and Vishny (1997) and Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000) who have noted that insiders who control the firm but do not have high cash flow ownership are prone to expropriating value from the firm at the expense of other contributors of capital. The implications of such expropriation for debt issuance have been examined in an international setting by Lin, Ma, Malatesta, and Xuan (2011) who consider a number of governance variables. They find that the impact of such governance issues on bank loans is strongest when firms are family controlled, especially when the CEO is from the controlling family. Further, they find that the impact on bank loans is at least partially mitigated in the presence of stronger laws and institutions. The presence of a wedge between cash-flow and voting rights appears to exacerbate the controlling shareholders incentives to expropriate the minority shareholders as well as lenders.

The most obvious interpretation of these findings in our context would be that lenders ought to be careful in lending to firms with dual class share structures for fear of such expropriation at the hands of the controlling shareholders. Similarly, shorter loan maturity and a greater use of restrictive covenants have been shown to be the other tools that are commonly used by lenders to control credit risk when lending to borrowers who are more likely to default on their obligations (Ortiz-Molina and Penas, 2008; Bradley and Roberts, 2015). In light of the above discussion we have our three main hypotheses as follows:

Hypothesis 1: Lenders will charge dual class firms a higher interest cost than comparable firms that have only a single class of equity.

Hypothesis 2: Lenders will contract for loans of a shorter maturity with dual class firms than they will with comparable firms that have only a single class of equity.

Hypothesis 3: Lenders will impose more conditions on dual class firms in the form of restrictive covenants than on comparable firms that have only a single class of equity.

As noted by John, Litov, and Yeung (2008), expropriation by dominant shareholders, as discussed above, is not the only channel through which controlling shareholders could reduce firm value. An alternative channel lies in the controlling shareholders' approach to risk. One possibility is that the controlling shareholders could indulge in excessive risk-taking to the detriment of debt holders. Such activities would generate similar predictions to the three hypotheses above. However, a different possibility arises in situations where controlling shareholders have significant undiversified investment in the firm. In such cases, they could end up taking suboptimal (rather than excessive) amounts of risk. An implication is that for such firms the interests of the controlling shareholders would be aligned with those of the debt holders (and conflict with those of minority shareholders).

The possibility of controlling shareholders forcing suboptimal levels of risk has also come up in the literature on family firms and the connection is especially relevant for dual class firms. As noted by Gompers, Ishii, and Metrick (2010), founding families are known for using dual class share structures. This agrees with the observation of Anderson and Reeb (2003) that founding families are unique in their focus on the long term and often have a clear objective of keeping the firm in the family for generations. As such, dual class share structures can be attractive to such firms – not as a means of extracting value at the expense of minority shareholders but more as a means of ensuring the family's ongoing control over the firm. For such firms the survival of the firm – which would imply meeting all obligations related to borrowing – could take on an additional importance, possibly at the expense of maximizing the value of equity. If this logic lies at the root of the observed reduction in the value of dual class firms and their less productive investment

decisions (Gomper, Ishii, and Metrick, 2010; Masulis, Wang, and Xie, 2009) then these firms should be regarded favourably by lenders. More specifically, we would then expect dual class firms to pay lower interest costs, be less restricted by covenants and contract for longer maturities.

This alternative interpretation of how dual class share structures could affect the contract between lender and borrower is especially important in the context of the restrictive covenants that accompany the loan. As noted by Christensen and Nikolaev (2012) and Dey, Nikolaev, and Wang (2015) covenants could, in general, be classified as performance based covenants and capital based covenants. Performance based covenants are those that are largely based on the income statement and are designed to monitor the performance of the firm, transferring control to the lenders if any pre-set norms are not met. These retain their importance in dual class firms where the management places a greater importance on survival as opposed to value maximization. In fact, it could be argued that these covenants are even more important for dual class firms where the controlling insiders could shield themselves from the discipline exerted by the market for corporate control. In contrast, capital based covenants are based on the balance sheet, and ensure that sufficient capital be maintained in order to control for the conflicts of interest between equity holders and debt holders. To the extent that dual class firms are already very sensitive to the issue of firm survival, these capital based covenants could assume lesser importance than performance based ones. In sum, we have two additional hypotheses with respect to the usage of covenants.

Hypothesis 3A: Lenders will impose fewer conditions on dual class firms in the form of capital based covenants than on comparable firms that have only a single class of equity.

Hypothesis 3B: Lenders will impose more conditions on dual class firms in the form of performance based covenants than on comparable firms that have only a single class of equity.

3. DATA

We begin with a comprehensive list of dual-class companies that Gompers, Ishii, and Metrick (2010) construct from the universe of U.S. public firms from 1994–2002.[2] As discussed by Gomper, Ishii, and Metrick (2010) and Masulis, Wang, and Xie (2009) this dataset is an exhaustive one that includes all public US firms. We merge in firm characteristics for these firms from Compustat. We then merge this data with the Dealscan database using the Dealscan – Compustat linking file provided by Michael Roberts.[3] The sample of loans recorded in Dealscan for these firms is described in Table 1. Dealscan reports loans at the "package" and the "facility" level. A facility represents the smallest unit or tranche of a loan. Multiple such facilities which are entered into at the same time are referred to as a package. However, covenants are only reported at the package level. Moreover, all facilities that are part of a single package are in some sense part of the same contract. Therefore, as noted by Murfin (2012), facilities within a package are not independent and carrying out the analysis at a facility level (with the assumption that they are independent observations) would result in a large and spurious inflation in the significance of all tests. With this in mind, our entire analysis is carried out at the package level. As can be seen from Table 1, our sample consists of 7,400 packages obtained from 6,802 firms.

At this point we would like to note that even analyzing at the package level does not guarantee independence of observations. Specifically, as pointed out by Roberts (2015), it is entirely possible that several of the packages represent renegotiations of the same deal and as such have a strong dependency. However, as further noted by Roberts (2015) eliminating such a bias would require manual collection of data for each transaction in order to establish its independence. In this study we focus on a large sample approach and as such, we note this weakness. In addition, as can be seen from Table 1, our sample has over 6.800 distinct firms for the 7,400 packages implying that most of our sample consists of contracts by distinct firms and therefore are free of this bias. As a result we expect that the magnitude of this problem to be small.

Table 1. Sample description

The table reports the number of loan packages and the number of firms for each year in the sample. The basic unit of observation for the Dealscan database is a "facility". However, a number of facilities that are established at the same time are grouped together as a "package". As noted by Murfin (2012), facilities within a package are hardly independent and continuing our analysis at the facility level would spuriously inflate significance. As such the package is our unit of observations for this paper.

Year	*Firms*	*Packages*
1994	302	319
1995	713	775
1996	980	1088
1997	901	988
1998	792	858
1999	698	766
2000	766	820
2001	853	912
2002	797	874
Total	6802	7400

4. RESULTS

4.1 Univariate tests

In this section we report our univariate and multivariate tests. Since the three most important terms in a loan contract are the interest spread, the maturity, and the restrictive covenants, we focus on these three variables. The interest spread is provided by the Dealscan database as measured as a spread over equivalent LIBOR. The maturity is provided in months. Finally, in order to measure the scope of the restrictive covenants, we follow Bradley and Roberts (2015) and construct an index of the intensity of covenant usage. Similar to them, we group covenants into six groups: secured, dividend, financial, asset sweep, debt sweep, and equity sweep. The covenant intensity index takes on a value of between 0 and 6 depending on the number of these covenants that are

[2] We thank Andrew Metrick for making this data publicly available.
[3] We thank Michael Roberts for making this file publicly available. The file is available at his website at http://finance.wharton.upenn.edu/~mrrobert/styled-9/styled-12/index.html and is based on the procedure described in Chava and Roberts (2008).

actually present in a particular loan package. Thus, a package that has all six kinds of covenants will have a covenant intensity score of six and one that has none of the six will have a score of zero. As pointed out by Bradley and Roberts (2015), this approach has a small disadvantage in implicitly assuming that the impact of the different groups of covenants is similar. However, it has the significant advantage of avoiding any subjective judgements and is well suited to a large sample study such as this one.

In Table 2, we report the univariate differences between dual class and non-dual class firms in terms of the aforementioned three variables. The significance levels for a t-test of means and a Wilcoxon test for the overall central point of the distribution are also reported. As can be seen dual class firms typically pay a lower interest spread for their loans and borrow for longer maturities than do their non-dual class counterparts. These findings appear to indicate that lenders consider dual class firms to be better potential borrowers than non-dual class firms. However, the comparison for covenants shows that lenders also typically require them to agree to more extensive covenants. These last findings are at odds with the previous two in that they suggest that lenders consider dual class firms more and not less risky than non-dual class firms. Overall, these preliminary results indicate that the lending relationship for dual class firms is more nuanced than a straightforward increase or decrease in the potential for conflicts between lender and borrower. In the following tests we attempt to establish the robustness of these results and arrive at a feasible interpretation for them.

Table 2. Univariate tests

*This table reports the means and medians for our primary dependent variables for the subsamples of dual class and single class firms as well as the differences between the two subsamples for each variable. The outcome of a parametric t-test for the difference in means and the nonparametric Wilcoxon test for the difference in the distribution are reported as follows: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.*

	Mean	***Median***	***Difference of means***	***Difference of medians***
			(Dual - Single)	(Dual - Single)
Interest spread				
Single class	197.65	185	-14.22***	-10***
Dual class	183.43	175		
Maturity				
Single class	37.46	36	7.34***	0.5***
Dual class	44.80	36.5		
Covenants				
Single class	2.67	2	0.16**	0*
Dual class	2.84	2		

4.2. Multivariate tests

In Table 3, we report the results for OLS regressions with interest spread, maturity, and covenant intensity as the dependent variables of interest. The main predictor variable, dual, takes a value of 1 for dual class firms and a value of 0 for non-dual class firms. We control for the following firm level and deal level effects. The size of the firm is measured by the market value of equity plus the book value of assets minus the book value of equity as provided by Compustat. Credit risk is measured by Altman's (1968) Z-score. The market to book ratio for assets is measured as the size of the firm (as described above) divided by the book value of the firm. Assets maturity is measured as described by Stohs and Mauer (1996). Asset tangibility is measured by the ratio of net property, plant and equipment to total assets. We also control for leverage measured as the total debt to equity ratio and the return on assets (computed as the ratio of operating income before depreciation to total assets). The size of the loan package is obtained from Dealscan. We also include two deal – level indicator variables. The first of these is, Revolver, is an indicator variable that equals one if the package includes a revolving credit facility. The other, Termloan, is an indicator variable that equals one if the package includes a term loan and zero otherwise. The regressions are run both with and without year fixed effects.

Panel A of Table 3 reports the results for the interest spread. We find a negative and statistically significant relation between the use of dual class share structures and the interest spread. Based on these results, dual class firms appear to pay between 9 and 16 basis points lower in interest rates for the average loan. Several researchers (see, e.g., Goss and Roberts, 2011) have pointed out that the distribution of interest spread could be skewed and in such situations the log of the interest spread could give a more representative picture. We rerun our test with this alternate specification of the dependent variable. The results are reported in the last column of Table 3, Panel A. Our conclusions remain qualitatively unchanged. Our results overall indicate that lenders anticipate less problems in dual class firms than they do for non-dual class ones. However, as discussed earlier, the interest spread is just one key part of the lending contact. We now turn to two other key elements of the lending contract – the loan maturity and the usage of restrictive covenants.

In Panel B of Table 3 we report the results from regressing the maturity of the loan contract on the dual class indicator and control variables. We observe a robust, positive and statistically significant relation between the dual indicator variable and the maturity of the loan. On average, dual class firms appear to borrow for maturities that are 7 to 8 months longer than loans made to firms with a single class of equity. As before, our results indicate that this conclusion is robust to controlling for year fixed effects as well as a logarithmic specification for the dependent variable. In Panel C of Table 3 we report similar regressions with covenant intensity as the dependent variable. We find a weaker but positive relationship between the use of covenants and the dual indicator. Although the coefficient estimate is significant in only three of the four specifications the magnitude is economically meaningful – our results indicate that loans taken by dual class firms have an average covenant intensity that is higher by about 0.12 to 0.16. This finding is at odds with the earlier ones with respect to interest spread and maturity. It suggests that although dual class firms are able to borrow for

longer maturities and at a lower interest cost, they are subjected to more restrictive covenants. Overall our results are mixed with respect to our three primary hypotheses. We do find some support for our third hypothesis in the form of a greater use of covenants for loans made to dual class firms, suggesting that lenders perceive greater risk in lending to these firms. However, our results with respect to the interest spread and maturity of these loans suggest the opposite.

Table 3. The effect of dual class share structures on interest spread, maturity, and covenants

*This table reports results for OLS regressions with the dual class dummy (dual) as the independent variable. The dependent variable in panel A is interest spread above LIBOR (allindrawn) with log of spread used for the last column. The dependent variable in panel B is maturity measured in months with a log of maturity used for the last column. The dependent variable in panel C is covenant intensity measured as a count of the number of covenants (out of six) that are included in the particular loan package. All variables are described in the Appendix. Heteroscedasticity-adjusted (White) standard errors are used in calculation of t-statistics that are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.*

Panel A. Interest spread

	allindrawn	***allindrawn***	***allindrawn***	***allindrawn***	***logspread***
dual	-14.22***	-9.619**	-16.93***	-11.42**	-0.0768**
	(-2.67)	(-2.09)	(-3.29)	(-2.54)	(-2.44)
dealamount		-35.20***		-34.12***	-0.265***
		(-7.21)		(-6.81)	(-7.04)
size		18.42		-0.905	0.0521
		(1.10)		(-0.05)	(0.40)
zscore		-11.83***		-10.56***	-0.0605***
		(-8.37)		(-7.69)	(-8.33)
revolver		-24.53***		-19.56***	-0.129***
		(-8.67)		(-6.93)	(-7.00)
termloan		68.71***		66.26***	0.246***
		(6.40)		(6.26)	(5.56)
mbassets		-3.188***		-1.781**	-0.0166***
		(-3.87)		(-2.14)	(-2.92)
assetmaturity		-0.0399		-0.0214	6.74e-05
		(-0.31)		(-0.17)	(0.15)
ppeassets		-40.87***		-36.56***	-0.261***
		(-6.27)		(-5.67)	(-6.92)
leverage		0.1320***		0.0989***	0.0009***
		(20.31)		(12.56)	(22.65)
roa		-200.0***		-203.1***	-1.106***
		(-9.84)		(-10.17)	(-10.32)
Constant	197.7***	279.9***	197.9***	272.0***	5.534***
	(131.16)	(64.78)	(133.60)	(63.46)	(213.88)
Observations	7,400	7,400	7,400	7,400	7,400
R-squared	0.001	0.208	0.001	0.199	0.193
Number of year	NO	NO	YES	YES	NO

Panel B. Maturity

	maturity	***maturity***	***maturity***	***maturity***	***logmaturity***
dual	7.339***	7.512***	7.995***	8.045***	0.180***
	(6.38)	(6.58)	(7.21)	(7.32)	(5.70)
dealamount		0.729		0.571	-0.0117
		(1.27)		(1.03)	(-0.67)
size		-8.002*		-3.547	-0.169
		(-1.86)		(-0.93)	(-1.18)
zscore		-0.0863		-0.357*	0.00180
		(-0.46)		(-1.95)	(0.29)
revolver		3.438***		2.205***	0.197***
		(6.57)		(4.31)	(11.49)
termloan		13.71***		14.29***	0.362***
		(7.47)		(7.79)	(8.25)
mbassets		0.197		-0.110	-0.00138
		(1.03)		(-0.69)	(-0.22)
assetmaturity		0.00301		-0.000581	-8.28e-05
		(0.20)		(-0.04)	(-0.15)
ppeassets		7.943***		6.825***	0.230***
		(6.76)		(5.95)	(6.24)
leverage		0.0262***		0.0306***	0.0009***
		(13.50)		(17.00)	(13.62)
roa		17.95***		18.20***	0.573***
		(7.69)		(8.04)	(7.23)
Constant	37.46***	30.11***	37.41***	31.98***	3.162***
	(142.58)	(41.05)	(146.15)	(45.83)	(131.07)
Observations	7,303	7,303	7,303	7,303	7,303
R-squared	0.008	0.051	0.010	0.049	0.054
Year Fixed effects	NO	NO	YES	YES	NO

Panel C. Covenant intensity

	covint	***covint***	***covint***	***covint***
dual	0.164** (2.06)	0.143* (1.88)	0.133* (1.69)	0.123 (1.63)
dealamount		-0.150*** (-2.77)		-0.148*** (-2.67)
size		-0.249 (-0.68)		-0.339 (-0.90)
zscore		-0.0816*** (-5.12)		-0.0730*** (-4.64)
revolver		-0.742*** (-17.27)		-0.701*** (-16.26)
termloan		-0.191* (-1.82)		-0.212** (-2.04)
mbassets		-0.0224* (-1.76)		-0.0157 (-1.24)
assetmaturity		-0.000999 (-1.31)		-0.000893 (-1.13)
ppeassets		-0.493*** (-5.49)		-0.450*** (-5.04)
leverage		0.0025*** (20.19)		0.0022*** (15.87)
roa		0.558*** (3.09)		0.536*** (3.01)
Constant	2.673*** (128.70)	3.406*** (56.68)	2.676*** (129.71)	3.350*** (56.04)
Observations	7,400	7,400	7,400	7,400
R-squared	0.001	0.059	0.000	0.052
Number of year	NO	NO	YES	YES

Table 4. The effect of dual class share structures on performance and capital based covenants

*This table reports results for OLS regressions with the number of capital based (first four columns – c_cov) and performance based (last four columns – p_cov) covenants as the dependent variable and the dual class dummy (dual) as the independent variable. All variables are described in the Appendix. Heteroscedasticity-adjusted (White) standard errors are used in calculation of t-statistics that are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.*

	c_cov	***c_cov***	***c_cov***	***c_cov***	***p_cov***	***p_cov***	***p_cov***	***p_cov***
dual	-0.183*** (-6.70)	-0.161*** (-6.08)	-0.159*** (-5.99)	-0.142*** (-5.50)	0.380*** (7.68)	0.351*** (7.33)	0.365*** (7.44)	0.341*** (7.14)
dealamount		-0.0492*** (-3.36)		-0.0558*** (-3.99)		-0.0649*** (-2.90)		-0.0632*** (-2.79)
size		-0.324*** (-4.38)		-0.172** (-2.10)		0.0521 (0.28)		0.00501 (0.03)
zscore		0.0452*** (7.26)		0.0344*** (5.94)		-0.0511*** (-5.33)		-0.0463*** (-4.89)
revolver		0.158*** (9.55)		0.109*** (6.69)		-0.333*** (-13.27)		-0.308*** (-12.31)
termloan		0.113*** (2.85)		0.132*** (3.46)		-0.215*** (-3.77)		-0.222*** (-3.93)
mbassets		0.0327*** (6.62)		0.0216*** (4.93)		-0.0234*** (-3.15)		-0.0199*** (-2.68)
assetmaturity		6.80e-05 (0.11)		-9.63e-05 (-0.16)		-0.000217 (-0.63)		-0.000116 (-0.35)
ppeassets		0.157*** (4.43)		0.115*** (3.30)		-0.382*** (-7.07)		-0.360*** (-6.70)
leverage		-0.0006*** (-16.08)		-0.0003*** (-8.61)		0.0016*** (17.89)		0.0014*** (15.28)
roa		-0.766*** (-8.91)		-0.744*** (-9.08)		1.604*** (13.44)		1.589*** (13.43)
Constant	0.602*** (71.44)	0.441*** (20.86)	0.600*** (74.26)	0.512*** (24.85)	1.568*** (126.30)	1.839*** (52.84)	1.569*** (127.12)	1.807*** (51.97)
Observations	7,400	7,400	7,400	7,400	7,400	7,400	7,400	7,400
R-squared	0.005	0.050	0.004	0.037	0.009	0.067	0.009	0.064
Year Fixed Effects	NO	NO	YES	YES	NO	NO	YES	YES

We explore the role of covenants further in Table 4. Following Christensen and Nikolaev (2012) and Dey, Nikolaev, and Wang (2015) we construct two new measures of covenant intensity. Performance based covenants (p_cov) rely on information from the income statement and are largely designed to monitor the ongoing performance of the firm in the form of tripwires that trigger when the firm's performance falls below a critical level. In contrast, capital based covenants (c_cov) are based on information from the balance sheet and are designed to ensure that the conflicts of interest such as those outlined by Myers

(1977) and Myers and Majluf (1984) are mitigated. As discussed earlier, loans made to dual class firms are more likely to need performance based rather than capital based covenants. Our conjecture is strongly supported by the results in Table 4. We observe a robust positive and significant relation between the dual indicator variable and the use of performance based covenants and an equally robust and negative relation between the dual indicator and capital based covenants. Similar to Dey, Nikolaev, and Wang (2015), our results indicate that lenders are likely to use more performance based covenants and less capital based covenants when they lend to dual class firms.

Our results thus far indicate a possible relation between the use of dual class share structures by firms and the interest spread, loan maturity, and restrictive covenants associated with lending to such firms. A possible concern arises from the potential endogeneity inherent in the OLS specifications. First, the three dependent variables could influence each other. Thus, a loan with a short maturity and multiple restrictive covenants (both of which we have shown to be dependent on the use of dual class share structures) would, ceteris paribus, be associated with a lower interest spread. As such, our specifications could suffer from an omitted variable bias such that the dual indicator variable could be correlated with error term. Second, as noted by Gompers, Ishii, and Metrick (2010), the use of dual class share structures is itself a choice and as such the dual indicator variable is endogenous for this reason as well. With these two issues in mind we use a two stage least squares regression to re-estimate the results reported in Tables 3 and 4 after correcting for endogeneity.[4] The pitfalls in selecting good instruments for dual class status are described by Gompers, Ishii, and Metrick (2010) – any variable related to firm performance that could make the control of a firm more attractive is also likely to change the valuation and the attractiveness of the firm as a potential borrower. Gompers, Ishii and Metrick (2010) note that the decision to use a dual class share structure is taken very early in a firm's history. Similar to them we use the following instruments: an indicator for being in the media industry at the IPO year; the percentile ranking of the IPO-year sales of the firm relative to other firms with the same IPO year; the percentile ranking of the IPO-year profits of the firm relative to other firms in the same IPO year; the percentage of all Compustat firms located in the same metropolitan or micropolitan statistical area (MSA) as the firm in the year of the firm's IPO; the percentage of all Compustat sales by firms located in the same MSA as a firm in the year of the firm's IPO. In addition, the three relations estimated in Table 3 are for the same sample of loans. As a result, there may be additional improvements in efficiency that we could get from estimating them as system of equations using three stage least squares. The results of the two stage least squares estimation are reported in Panel A of Table 5 and those from the three stage least squares estimation are reported in Panel B of Table 5.[5] As can be seen, our conclusions from the OLS regressions do not change.

Thus far our results indicate that lenders to dual class firms insist on tougher restrictions through covenants, in particular, performance based covenants. However, after imposing these restrictions, they then appear to lend for longer maturities and at lower interest spreads to these firms than they do to their single-class counterparts. Our interpretation of these findings is that the power wielded by holders of the superior class of shares results in two possibilities. First, it raises the possibility of their taking actions to the detriment of lenders. Second, many of the holders of the superior class of stock could be the controlling shareholders with incentives to reduce the risk of the firm and focus on long term survival. The lenders appear to control the first effect by imposing more performance based covenants. Having given themselves that assurance, they are then able to respond to the second effect by lowering interest spreads and raising maturities. If our interpretation is correct, then the lower interest spread and higher maturity of these loans will be driven by risk-averse policies adopted by the controlling shareholders.

We provide a preliminary test for this conjecture in Table 6 by regressing the standard deviation of the stock's returns on the dual class indicator variable. The standard deviation data is obtained from the Center for Research in Security Prices (CRSP).[6] We control for industry fixed effects using the Fama French 48-industry classification as well as for the following firm level variables that could be associated with the stock's volatility: size, leverage, R&D expenditure scaled by sales, capital expenditure scaled by sales, and advertising expenditure scaled by sales. Our results indicate that dual class firms exhibit significantly lower idiosyncratic risk as measured by stock price volatility than do comparable single-class firms. Overall, these results are supportive of our conjecture that the average dual class firms tends to focus more on survival and lower risk than a comparable single-class firm.

[4] Ideally, it would have been desirable for us to include these "omitted variables" as endogenous predictor variables in our instrumental variable regressions. However, since interest spread, covenant intensity, and maturity are negotiated jointly, it is very difficult to think of any instrument that will be correlated with one but not the others. Nor does the empirical literature provide much guidance in this matter. As a result, we are forced to adopt the less powerful approach of excluding these variables and correcting for the endogeneity of the indicator for dual class firms.

[5] As noted by Adams, Almeida, and Ferreira (2009), the standard 2SLS estimates are consistent even though the endogenous variable in question is binary (i.e. we are implicitly using the linear probability model in the first stage with its attendant problems). As they go on to discuss, other assumptions about the error distributions could be made, leading to alternative maximum likelihood estimation techniques.

[6] CRSP reports the annual standard deviation of returns for stocks subject to there being sufficient data – defined as at least eighty percent of the observations – available. As a result of this stringent requirement we lose a number of observations for the results in Table 6, largely for the smaller firms in our sample.

Table 5. Endogeneity corrections

*This table reports final stage results for instrumental variable regressions with the dual class dummy (dual) as the endogenous predictor variable. The dependent variables are as in Tables 3 and 4. Panel A reports results for the two stage least squares regression and panel B for the three stage least squares regression. Results are reported for allindrawn (without the log transformation) in panel A and the log specifications for interest spread in panel B. They remain qualitatively the same when using the other specification in either panel. All variables are described in the Appendix. Heteroscedasticity-adjusted standard errors are used in calculation of t-statistics that are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.*

Panel A. 2SLS

	allindrawn	***covint***	***p_cov***	***c_cov***	***maturity***
dual	-172.3*** (-8.78)	1.295*** (4.60)	2.364*** (12.55)	-1.750*** (-13.27)	47.57*** (12.00)
dealamount	-34.40*** (-15.12)	-0.167*** (-5.10)	-0.0967*** (-4.42)	-0.0252* (-1.65)	0.327 (0.71)
size	24.85** (2.45)	-0.253* (-1.73)	-0.00177 (-0.02)	-0.270*** (-3.96)	-8.811*** (-4.29)
zscore	-11.62*** (-11.77)	-0.0851*** (-6.00)	-0.0543*** (-5.72)	0.0466*** (7.02)	-0.138 (-0.69)
revolver	-25.66*** (-8.71)	-0.731*** (-17.28)	-0.327*** (-11.55)	0.152*** (7.70)	3.544*** (5.93)
termloan	75.08*** (10.43)	-0.237** (-2.29)	-0.280*** (-4.05)	0.164*** (3.40)	12.83*** (8.73)
mbassets	-3.838*** (-4.79)	-0.0193* (-1.68)	-0.0158** (-2.06)	0.0260*** (4.83)	0.318* (1.96)
assetmaturity	-0.0637 (-0.69)	-0.00112 (-0.85)	-0.000309 (-0.35)	-0.000121 (-0.20)	0.00155 (0.08)
ppeassets	-47.43*** (-7.29)	-0.431*** (-4.61)	-0.272*** (-4.36)	0.0726* (1.66)	9.827*** (7.45)
leverage	0.1170 (0.75)	0.0026 (1.16)	0.0018 (1.17)	-0.0007 (-0.69)	0.0295 (0.94)
roa	-193.9*** (-14.60)	0.529*** (2.78)	1.529*** (11.99)	-0.702*** (-7.86)	16.69*** (6.21)
Constant	295.4*** (71.81)	3.305*** (55.97)	1.657*** (41.96)	0.589*** (21.29)	26.51*** (31.73)
Observations	7,231	7,231	7,231	7,231	7,143

Panel B. 3SLS

	logspread	***covint***	***maturity***	***logspread***	***covint***	***maturity***
dual	-1.795*** (-12.76)	1.439*** (5.06)	44.51*** (11.50)	-1.320*** (-10.63)	1.225*** (4.34)	47.57*** (12.01)
dealamount				-0.257*** (-17.90)	-0.168*** (-5.15)	0.327 (0.71)
size				0.107* (1.67)	-0.269* (-1.84)	-8.811*** (-4.30)
zscore				-0.0620*** (-9.86)	-0.0859*** (-6.00)	-0.138 (-0.69)
revolver				-0.137*** (-7.34)	-0.738*** (-17.37)	3.544*** (5.94)
termloan				0.290*** (6.31)	-0.216** (-2.06)	12.83*** (8.74)
mbassets				-0.0218*** (-4.29)	-0.0175 (-1.52)	0.318** (1.96)
assetmaturity				-0.000144 (-0.25)	-0.00118 (-0.89)	0.00155 (0.08)
ppeassets				-0.323*** (-7.82)	-0.439*** (-4.68)	9.827*** (7.46)
leverage				0.0007 (0.76)	0.0026 (1.15)	0.0295 (0.94)
roa				-1.038*** (-12.35)	0.520*** (2.72)	16.69*** (6.22)
Constant	5.188*** (345.61)	2.589*** (85.40)	34.53*** (83.65)	5.657*** (216.27)	3.328*** (55.98)	26.51*** (31.76)
Observations	7,143	7,143	7,143	7,143	7,143	7,143

Table 6. Dual class firms and stock price volatility

*This table reports results for OLS regressions with the annual standard deviation of stock price returns (sdevv) as reported by CRSP as the dependent variable. The dual class dummy (dual) is the predictor variable. All variables are described in the Appendix. Heteroscedasticity-adjusted (White) standard errors are used in calculation of t-statistics that are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.*

	sdevv	***sdevv***	***sdevv***
dual	-0.00337*** (-4.21)	-0.00306*** (-3.75)	-0.00385*** (-3.79)
size		-0.00337** (-2.03)	-0.00385* (-1.89)
leverage		0.000782*** (4.28)	0.000903*** (6.98)
rndsale		0.0241*** (2.72)	0.0194*** (3.64)
capsale		0.000548 (0.70)	0.000933 (0.88)
adsale		-0.00533 (-0.65)	0.00585 (0.56)
Constant	0.0297*** (101.90)	0.0285*** (70.18)	0.0284*** (74.46)
Observations	3,405	3,405	3,405
R-squared	0.003	0.021	0.023
Industry fixed effects			YES

5. CONCLUSION

In this paper we explore the contracting between dual class firms and lenders using information from the loan contracts available from Dealscan. Our results suggest that lenders impose significantly more performance – based covenants on dual class firms at the time of borrowing. However, they also charge dual class firms relatively lower interest rates and typically lend to them for longer maturities. Our evidence provides a fresh perspective on the growing literature that examines the impact of dual class shares structures. As noted by Adams and Ferreira (2008), the debate about the use of dual class share structures has largely been framed in terms of whether they are value enhancing mechanisms or value reducing ones. However, even when stock prices or returns indicate that dual class share structures lower value, we are still left with unanswered questions. Do they destroy value for both shareholders and debt holders? Or could they be transferring value from shareholders to debt holders? By examining the contracting between dual class firms and lenders we begin to answer some of these questions. The fact that lenders impose more covenants and yet lend at lower rates suggests that the role of dual class shares is more nuanced. Our findings suggest that the impact of dual class share structures cannot be dismissed as outright value destruction. At least one major goal of the controlling shareholders of dual class firms appears to be that of lower risk and this raises the possibility that dual class firms could be especially attractive clients for lenders. We look forward to future research to further distinguish between different kinds of dual class shareholders and the impact of dual class share structures in different situations.

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APPENDIX. Variable description

Variable	*Description*
Dependent variables	
allindrawn	The amount the borrower pays in basis points over LIBOR as provided by the Dealscan database
logspread	Natural logarithm of all indrawn
maturity	Loan maturity in months
logmaturity	Natural logarithm of maturity
covint	The number of covenants (between 0 and 6) associated with the package as described by Roberts (2004).
c_cov	The number of capital based covenants as described by Dey, Nikolaev and Wang (2015)
p_cov	The number of performance based covenants as described by Dey, Nikolaev and Wang (2015)
sdevv	Standard deviation of stock returns from CRSP
Predictor and control variables	
dual	An indicator variable taking the value of one if a firm is a dual class firm.
dealamount	Total amount committed in the deal.
size	Market value of fir assets measured as total net assets plus the market value of equity minus the book value of equity.
zscore	Altman z-score
revolver	An indicator variable taking the value of one if the loan is a revolving credit, zero otherwise.
termloan	An indicator variable taking the value of one if the loan is a term loan and zero otherwise
mbassets	Market to book value of the firm assets
assetmaturity	Defined as $\frac{\text{CA}}{CA+PPE} * \frac{\text{CA}}{COGS} + \frac{\text{PPE}}{CA+PPE} * \frac{\text{PPE}}{Depriciation}$ where, CA is the current assets of a firm, PPE is the net property, plant and equipment, COGS is the cost of goods sold, and Deprecation is the depreciation and amortization expense.
ppeassets	The ratio of net PPE to total assets
leverage	Firm debt as a percent of equity
roa	Firm return on assets

COOPERATION'S CHARACTERISTICS FOR POTENTIAL INNOVATIVE SMES IN CRISIS: THE GREEK PARADIGM

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Abstract

This study focuses on the role of business cooperation and firms' exporting activity as the determinants of Greek manufacturing SMEs' innovative extend use, contributing to the existing empirical literature. The empirical analysis based on unique both quantitative and qualitative data, derived from a survey covering more than 158 small and medium-sized Greek manufacturing firms, and examines factors affecting innovation activity, emphasizing on clustering activities. We find that inter-firm cooperation enhances innovation activity, which in turn empowers firms' growth by improving domestic and overseas sales performance. This study opens the floor for a greater perspective in managerial and financial firms' characteristics; Firms should take initiatives to promote collaborative networks for innovation and create trade associations that represent SMEs, in order to facilitate social interaction. Also, government should offer incentives to SMEs with high innovation potential (e.g. tax allowances) and invigorate linkages between universities, research centers and the private sector by creating effective institutional arrangements. Finally, we seek to provide policy implications to business owners, policy makers and academics, to optimize performance, in the shadow of economic turbulence that the country experiences.

Keywords: Innovation, Cooperation, Clustering, Z-Score, Risk, Greek Manufacturing, SMEs, Financial Crisis

1. INTRODUCTION

Small and Medium Enterprises (SMEs) are considered as the engine of a country's economic growth (Lee et al., 2012; Sawers et al., 2008; Zeng et al., 2010) and attract the interest of policy makers, since they represent the majority of the economic structures and they are the main employers of a country (Tödtling & Trippl, 2005; Villa & Antonelli, 2009; Zeng et al., 2010;Lee et al., 2012; Muscio & Nardone, 2012; Solleiro & Gaona, 2012). SMEs have the ability to react faster to the changing needs and environment, and argue that the successful development of these enterprises enhances the competitiveness of a country (Sawers et al., 2008). However, even though flexibility of SMEs is seen as an advantage for accelerating their innovation, only few of them achieve to manage the whole innovation process on their own in order to turn their inventions into products or services. They often lack resources and capabilities at the stages of manufacturing, distribution, promotion and research funding, and this leads them to cooperate with other firms, in order to reduce risk, cost and time required for innovation, as well as to gain access to sales and marketing networks during the last stages of innovation process (Lee et al., 2010).

SMEs face higher cost of capitals compared to larger and thus turn to solutions such as venture capitals and partnerships (Hall and Lerner, 2009). The ability of smaller firms to compete larger is limited due to internal (lack of knowledge, skills, capital, human resources) and external (presence of big players in the market) issues. Therefore, innovation partnerships is a way for smaller enterprises to overcome these obstacles. Clustering enables small firms to supplement their existing resources and overcome funding barriers that are faced due to their small size and their limited access to new knowledge.

Today's Greece is struggling to overcome economic crisis and return to growth. In the meantime, many experts agree that economic growth is inextricably linked to innovation and cooperation. SMEs represent 99.9% of Greece's total enterprises (OECD, 2014) and given that manufacturing firms are considered to be the main innovators within an economy, this study attempts to examine the relationship between clustering and Greek manufacturing SMEs' innovation. The performance of SMEs and their financial soundness are paramount (Voulgaris et al, 2000), thus the impact of innovation on firm probability of default is examined also.

The study is structured as follows: the next section presents a literature review in SMEs' innovation and the relationship with clustering, while section 3 highlight the methodology as well as the model approach of the study. In section 4, the empirical results of the study are presented and

discussed. Section 5 summarizes the empirical findings and draws the policy implications of the study.

2. LITERATURE REVIEW

Firms form alliances because they are not self-sufficient and they cooperate in order to reduce uncertainty and gain access to other resources (Ozman, 2009). Zeng et al. (2010) observed that SMEs have limited financial resources implying less R&D investments and generally more uncertainty and barriers to innovation, and need some additional resources, such as marketing knowledge and managerial skills. They concluded that collaborative networks are crucial to overcome those barriers and to reduce uncertainty in innovation. Therefore, they argue that it is necessary for SMEs to link different enterprises, research facilities, vendors and clients to an innovation network which will enable them to share knowledge and benefit from the skills available in the network. Those external skills and resources that are available for exploitation can provide the impetus and the potential for SMEs to innovate, as more and more companies focus on the external environment, looking for ideas, knowledge and resources necessary for the development of successful innovations (Garefalakis et al., 2016).

Nevertheless, although firm cooperation is generally beneficial to both small enterprises, as it provides access to new knowledge, new markets, specialized and experienced partners and additional sources of financing, and large, which may not have much to lose, problems related to the additional knowledge transferred accidentally from one firm to another, are frequently identified (Sawers et al., 2008). This unintentional knowledge diffusion is considered as a major threat for a small firm choosing to cooperate with a larger, and thus businesses should develop safety mechanisms against this type of information flows.

Since SMEs lack research personnel and do not have the resources needed for the development of their own R&D department, they collaborate with universities and research centers. Kirkels & Duysters (2010) arguing that SMEs have neither the time nor the financial resources to devote to education in order to acquire knowledge. To address this lack of competitiveness, they should give priority to enhancement of their innovation through rise of private R&D investments and strengthening the linkages between businesses, research organizations, universities and government (Muscio & Nardone, 2012; Solleiro & Gaona, 2012). Cooperation with other firms and development of links with knowledge centers are key factors for enhancing SME innovation (Revilla & Fernández, 2012). Moreover, Lee et al. (2012) suggest that government subsidies and regulations support and encourage R&D, in order to address the financing problem of SMEs.

Lack of innovative collaborations has a negative impact on innovation (Zeng et al., 2010). The involvement of businesses in efficient cooperative networks is considered to be one of the most important factors of achieving innovation (Klerkx & Leeuwis, 2008). Lee et al. (2010) argued that firms engaged in more than one link are more innovative than those linked with only one partner. The importance of multiple links is also supported by Zeng et al. (2010) arguing that a wide range of external partners and other sources has a positive impact on firm innovation. In the same context, Lee et al. (2012) argue that cooperation with suppliers, customers and other partners should be taken more seriously in order to SMEs can achieve innovation and define the ability of an SME to innovate as its ability to choose "ever-changing environment-responsive strategies and actions to achieve corporate goals".

Aziz & Norhashim (2008) argue that there is no single definition for clusters. Porter (1998) defined clusters as "geographic concentrations of interconnected companies, suppliers of specialized inputs, service providers, firms in related industries, and associated institutions (universities, standards agencies, trade associations and so on) in particular fields that compete but also cooperate" and as "a form of network that occurs within a geographic location, in which the proximity of firms and institutions ensures certain forms of commonality and increases the frequency and impact of interactions". According to Casanueva et al. (2013), clusters are "knowledge production centers that are characterized by the transference of knowledge and information between its members. Maine et al. (2008) argue that the definition of the minimum requirement for a cluster is "a group of firms from the same or related industry located geographically near to each other". According to Felzensztein et al. (2014), the proximity between cooperating enterprises is of particular importance, in cases of obtaining access to information, technology and innovation. However, they highlight that clusters share a geographical area that can vary from one city or area to one country or a group of neighboring countries. Cooperation networks can range from a narrow region (municipality or county) to an entire state or, more rarely, an entire continent (Villa & Antonelli, 2009). Similarly, Erkuş-Öztürk (2009) indicated that the term "cluster" refers to a local network of specialized organizations, where close links between businesses exist; local networks are not the only to contribute significantly to the competitiveness of the cluster. International networks are of major importance in terms of competitiveness, as well. Finally, Moosavi & Noorizadegan (2009) defined clusters as "interrelated industries and institutions that mutually reinforce and enhance competitive advantage by acting as each other's consumers, competitors, partners, suppliers and sources of research and development, relying on collaboration and cooperation between public and private sectors, breaking down barriers and promoting the intangible assets of synergy, trust and social capital". Moreover, according to Enright & Roberts (2001), "firms and organizations involved in clusters are able to achieve synergies and leverage economic advantage from shared access to information and knowledge networks, supplier and distribution chains, markets and marketing intelligence, competencies, and resources in a specific locality" and they also argue that "the modern concept of clusters involves integrated and often dissimilar firms and public agencies/ institutions specializing and collaborating of R&D, innovation, commercialization and marketing to produce a range of new or re-engineered products and services".

Thus, the actors that form a cluster can be suppliers, specialized infrastructure providers,

customers, research and technology oriented enterprises, as well as governmental or other institutions like universities, think tanks, standard agencies and trade associations. All these elements, linked together with continuous cooperating and competitive linkages, promote growth, innovation and competitiveness (Motoyama, 2008). Connell et al. (2014) highlighted the continuous linkages among actors enabling enterprises to gain added value and improve their competitive advantage by exploiting the strengths of the cluster and the agglomeration economies.

The majority of authors argue that companies involved in a cluster enjoy more benefits and, generally, have higher levels of innovation activity (Cai & Fan, 2011; Szanyi, 2012; Connell et al., 2014; Lai et al., 2014; Bourletidis, 2014). The main reasons why innovation is associated with clusters related with the benefits associated with the creation of new knowledge, which arises through interpersonal contacts (Connell et al., 2014). Joining a cooperation network gives companies the opportunity to develop inter-firm relations and social capital, through social interactions (Felzenszteinet al., 2014). Therefore, mutual trust, cooperation and information exchange is encouraged and thus firms' willingness and ability to innovate is enhanced (Kumral et al., 2006). Another factor affecting innovation performance is the total number of strategic alliances. In strategic alliances, the strong bonds of trust facilitate the flow of tacit knowledge (Casanueva et al., 2013; Sarvan et al., 2011), which is the basis of innovation process (López-Nicolás & Meroño-Cerdán, 2011). Trust is an important prerequisite for the development of inter-firm relations and the facilitation of knowledge exchange among them, as it is considered an essential feature of business networks which can affect cooperation and information and knowledge quality that flows among firms' human capital (Connell et al., 2014).

According to Felzensztein et al. (2014), companies participate in a cluster in order to access specialized suppliers achieving: joint sales to foreign markets, joint distribution policies, joint marketing agencies for foreign markets, collaboration and share market information. Moreover, the participation of enterprises in a cluster often leads to reduction of investment costs, facilitation of qualified employee, knowledge and information acquisition, access to common suppliers and the enhancing of their competitiveness (Lai et al., 2014). Bourletidis (2014) indicated that in order to efficiently solve the legal and regulatory issues raised, the actors of a cluster can promote their common positions to the public authorities through clustering. Therefore, the most important benefit firms enjoy when joining a cluster, is their ability to increase their external resources, knowledge and capabilities and, through them, to improve their competitive advantage.

Clustering reduces transaction costs, especially the cost of searching and information reduces the possibility of wiretapping and facilitates the acquisition of resources and capabilities (Maine et al., 2008). Moreover, firms in a cluster can benefit from lower prices of large scale orders, the training of their human resources, use of facilities, testing and other benefits that result from economies of scale (Moosavi & Noorizadegan, 2009). Generally, clusters correlate companies from different levels of the industrial chain and through joint technologies, infrastructure and distribution channels, enable them to achieve competitive advantages (Erkuş-Öztürk, 2009).

It seems that frequent interactions in terms of sharing knowledge and ideas enhancing the development of social capital, is a very important competitive advantage for companies (Ben Letaifa & Rabeau, 2013). Even though companies aim to strengthen their competitive advantage by entering a cluster, their placement near businesses of similar object doesn't seem to be enough to benefit them. Agglomeration in a regional setting may have negative effects as well, since it does not autonomously lead to knowledge exchange, which is the terminus (Connell et al., 2014). Beugelsdijk & Cornet (2002) argued that geographic proximity is not leading companies to collaborate, but the attractiveness of the transaction. Thus, physical proximity of a potential partner can be considered an advantageous, but it is not a necessary condition for cooperation.

Tödtling & Trippl (2005) distinguished the problems that may arise through clustering in two categories. The first is the lack of communication and cooperation, which result inadequate flows of knowledge and technology and, thus, low levels of innovation, and the second is the existence of extremely strong bows between the actors, which can cause serious deadlocks. One more issue, highlighted by Ben Letaifa & Rabeau (2013), is the "knowledge base proximity" between the cooperating parties, which can also lead to dead ends, because when every actor has a homogenous knowledge base, no new ideas flow and the creation of new knowledge becomes impossible.

Cooperation is a basic characteristic of clusters and firm size is an important indicator for the determination of the level of linkages with other businesses and organizations (Garefalakis et al., 2015a,b). Given the increased need for resources, small businesses are usually linked more closely compared to the largest, which need collaborations less, due to their size (Erkuş-Öztürk, 2009). Soriano & Huarng (2013) argue that external partnerships may enhance as well as limit a firm's capability to turn its R&D activities into successful innovation, depending on the type and extent of their partnership. They also highlight that universities, suppliers and customers are important examples of external sources of innovation, with which firms can cooperate during their innovative activities.

However, De Faria et al. (2010) argue that collaborations are more likely to be found in high tech industry, as almost 80% of all inter-firm research partnerships are concluded in this industry. This is primarily due to the high complexity of the processes and faster creation and use of knowledge.

With university – industry collaborations being an important part of regional and national innovation systems, further enhancement of their cooperation is particularly important for the competitiveness of a country. Universities play a vital role, not only as the main creators of new knowledge and technology, but also as "suppliers" of qualified personnel in the labour market (Guan & Zhao, 2013). According to Muscio & Nardone (2012), in order for technological progress and economic growth to exist, an institutional link between industry and universities is necessary. Belderbos et al. (2004) highlighted that

universities significantly affect firms' productivity performance, as they are the only sources of knowledge that effectively disseminate knowledge to the public (through publications) and improve the productivity of innovative sales of firms (via their formal R&D collaboration). This is because firms' collaborations with universities focus more on developing new products, rather than improving the existing ones. Tödtling et al. (2009) also argue that complex or radical innovations are based on new scientific knowledge, which is mainly created in universities and research centers. Moreover, according to Belderbos et al. (2004), university and research center collaborations focus more on innovations that may open up new markets or market segments, while there is a positive relation between university collaboration and new to the market innovative products corporate sales share. Similarly, De Faria et al. (2010) argue that university, research center and competitor cooperation positively affects the increase of new to the market products and services sales, and highlight that collaborations with universities is one way for sharing costs, as they complement the existing innovation processes, like internal R&D. Moreover, they argue that cooperation with universities has a significant impact on achieving process innovation. In the same context, Guan & Zhao (2013) argue that university – industry collaboration facilitates the reduction of R&D costs and the diversification of risks. According to Tödtling et al. (2009), firm cooperation with universities and research centers has an important impact on patenting, while, according to Belderbos et al. (2004), this kind of collaboration is more likely to be chosen by firms operating in rapid technological growth industries. Generally, cooperating with universities seems to bring sales increases, high levels of research productivity and patenting to companies (Fontana et al., 2006).

Cooperation with suppliers is related to the improvement of process innovation (De Faria et al., 2010) and focuses on incremental innovations, improving products or processes (Belderbos et al., 2004). Moreover, De Faria et al. (2010) argue that supplier, as well as competitor cooperation has a significant impact on labor productivity growth. One more important source of knowledge for firms aiming at radical innovations is customers. Customer cooperation reduces the risk that relates to the introduction of innovations to the market and it is connected to product innovation (Belderbos et al., 2004). Participating in the products' design process, customers have an active role during the innovation process and often it's them that bring new solutions and products in the spotlight (Tödtling et al., 2009).

However, opposite to universities and competitors, customer cooperation seems to negatively affect innovation production levels (Belderbos et al., 2004).Businesses within a cluster usually cooperate and compete at the same time (Felzensztein et al., 2014). Competition within a cluster often enhances innovation (Tödtling et al., 2009). A "coopetition" relationship offers the advantage of a combination of the need for innovation, as a result of competition, and the access to new resources, as a result of cooperation. In particular, this relationship provides benefits such as reduced costs, tolerance to risk-taking, foresight in product development and expectations for healthier competition (Osarenkhoe, 2010). As argued by Maine et al. (2008), the co-location of competing firms can generate demand-side benefits, by reducing consumer search costs. They also highlight that such a co-location is by definition necessary, in order for a cluster to exist, and argue that small businesses that develop new products are those that benefit the most through competitor cooperation, as they usually lack R&D resources. According to Belderbos et al. (2004), cooperation between competitors is the only type of cooperation that has multiple purposes and effects, as it increases labor productivity through the cost-sharing of R&D, and sales productivity, by allowing the starting of innovative programs (through risk allocation) and by improving sales (through technological standards establishment). Besides, as argued by Sedziuviene & Vveinhardt (2010), "the success of the most strategic decisions depends on competitive efforts, which involve deep knowledge on consumers' behavior, viewpoints as well as the adequate analysis of stronger competitors".

During the activity of large companies idle is often observed, due to increased bureaucracy, which makes them less flexible, compared to SMEs. Information flows slow down as they become larger and that limits their innovative capability. However, their surplus resources intended for R&D financing, and the sophisticated marketing systems, which facilitate the promotion of their innovations (Revilla & Fernández, 2012), make large firms especially attractive for partnerships. SMEs often enter into supplier-customer relations with large firms in order to create value (Lee et al., 2010), while, at other occasions, their cooperation relates to joint innovative activities. However, due to the high cost of capital faced by smaller businesses, as opposed to larger, which usually prefer to use their own resources to finance R&D activities (Hall & Lerner, 2009), there are cases where smaller companies become dependent on the largest, and that leads to tense relations and power imbalances (Osarenkhoe, 2010).

International cooperation linkages, according to Erkuş-Öztürk (2009), seem to increase with the firm size. As argued by Zeng et al. (2010), cooperation with foreign firms facilitates the introduction of new products to the domestic market, through new ideas, while, according to Kang & Park (2012), SMEs that cooperate with foreign firms performed better in their innovation results, than those that did not cooperate.

3. METHODOLOGY AND DATA

3.1. Data

The data sample of this study consisted of 158 Greek manufacturing SMEs in a balanced panel data set covering the time period of 2009-2013. The qualitative data of this study are based on survey-questionnaire research, while firm-level financial data derived from Infobank Hellastat S.A. The questionnaire completed from firm executives (owners, general managers or CEOs) who were asked to rate the importance of each factor for their firm on a five-point Likert scale (1- Very low, 5- Very high) during the examining period (Madrid-Guijarro et al., 2009). Obtaining information on qualitative variables associated with SMEs internal operation and their

relation to the market (e.g. management, organization etc.) is more difficult than obtaining these from large firms (Voulgaris et al., 2000).

About 800 Greek SMEs from manufacturing sector were contacted and 158 valid responses obtained, giving a respond rate of 19.8%.

According to European Commission (EU recommendation 2003/361:http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm), the main factors determining whether a company is an SME are: number of employees and turnover or balance sheet total. In this research, the number of employees is selected for the separation of firms that constitute the data sample. Hence, from the total data sample, 14.6% are too small-micro, 61.4% small and 24% are medium.

3.2. Empirical model

Data panel approach is used in order to analyze changes on an individual level. The general form of a panel data model is:

$$y_{it} = a + \beta x_{it} + \varepsilon_{it}, \quad (1)$$

where, β_{it} measures the partial effects of x_{it}in period t for unit i.

Generalized least squares (GLS) method is used for the estimation of the unknown parameters in a linear regression model. The resulting estimator is given by the form:

$$\hat{\beta} = (X^{*\prime}X^{*})^{-1}X^{*\prime}y^{*} = (X'\Psi^{-1}X)^{-1}X'\Psi^{-1}y \quad (2)$$

3.3. Variables

In this study, the a proxy of innovation (INN) is used as dependent variable, taking value one whether firm innovates in whichever type of innovation (Lemonakis et al., 2013). Six explanatory variables that present a five-point Likert scale (0=low-5=very high) are used in order to define the relationship between innovation clustering. In addition, proxy of firm risk (Z-score ratio) is used in order to investigate the relationship between innovative activity and firm survival (Table 1).

Table 1. Variables of the model

Variable	*Symbol*	*Definition*
Innovation	INN	Dummy variable, taking value one whether firm innovates in whichever type of innovation.
Cooperation in Knowledge of Production	CWEPKP	Cooperation of firm with external partners enhancing knowledge of production.
Cooperation in distribution networks	CWEPD	Cooperation with external partners in distribution networks.
Cooperation in R&D activities	CTRD	Cooperation with external firms in R&D activities.
Cooperation in exports	CFE	Company cooperation with other companies in exports.
Cooperation with universities/ research centers	CWIU	Firm cooperation with universities and/or research centers.
Foreign Ownership	PROP	Property right relations (subsidiary or parent) with foreign companies with which it cooperates. It takes value one whether it has or zero otherwise
Z- Score	RISK	Firm's financial solidarity related with two-year default probability. Z-score bankruptcy model for private firms

CWEPKP variable defines cooperation of firm with external partners enhancing knowledge of production, CWEPD presents the firm cooperation with external partners in distribution networks, CTRD defines the cooperation with external firms in R&D activities, CFE presents the company cooperation with other companies in exports and CWIU represents firm clustering with universities and/or research centers. PROP variable defines whether firm has property right relations (subsidiary or parent) with foreign companies with which it cooperates. It takes value one whether it has or zero otherwise. RISK variable is Z-score used as a measure evaluating firm risk and examining the relationship between innovation activity and firm survival (Murro, 2013). Z-score introduced by Altman (1968) measures firm's financial solidarity related with two-year default probability. Z-score bankruptcy model for private firms is given by the formula:

$$Z' = 0.717X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5, \quad (3)$$

where, X_1 = (Current Assets-Current Liabilities)/ Total Assets, X_2=Retained Earnings/Total Assets, X_3=Earnings before Interest and Taxes/Total Assets, X_4=Book Value of Equity/Total Liabilities and X_5=Sales/Total Assets. The higher the value of Z-score is, the smaller the probability of firm's default becomes.

4. RESULTS AND DISCUSSIONS

The first regression model used examining the relationship between innovation activity, cooperation and export orientation as well as other determinants of innovation activity of Greek manufacturing SMEs is:

$$\mathbf{INN}_{i,t} = \beta_{0\,i,t} + \beta_{1\,i,t}CFE_{i,t} + \beta_{2\,i,t}CWIU_{i,t} + \beta_{3\,i,t}CWEPKP_{i,t} + \beta_{4\,i,t}PROP_{i,t} + \beta_{5\,i,t}CWEPD_{i,t} + \beta_{6i,t}CTRD_{i,t} + \beta_{7i,t}RISK_{i,t} + \varepsilon_{i,t}\,, \quad (4)$$

where, subscripts i: represent firm observation, t: represents time (year) and ε_{it} denotes the error term of the equations.

In order to analyze the data, E-views 7 software package is used with panel data. The results indicate that the null hypothesis can be rejected so that the panel regression analysis can be used in this paper.

We also used Hausman test to verify whether we should choose the fixed or random effects method. The null hypothesis is associated with selection of random effects method and alternative hypothesis is associated with accepting the fixed effects method. Since the null hypothesis is not accepted the fixed effects method is accepted.

Table 2. Results of regression

Variable	*Coefficient*	*t-Statistic*
C	-0.1118 (0.0003)	-3.60962
CFE	0.102894 (0.000)**	10.08233
CWIU	0.104608 (0.000)**	11.02495
CWEPKP	-0.01289 (0.238)	-1.18088
PROP	0.33357 (0.000)**	9.52381
CWEPD	0.006801 (0.6069)	0.514767
CTRD	-0.02005 (0.0622)	-1.86735
RISK	0.003914 (0.0092)**	2.610729

*(Probability in parentheses, **: statistically significant at 1% level of significance)*

EGLS (Cross-section weights), Adj. R-squared=0.61029, F-statistic=177.51, Prob (F-statistic) = 0.000

In Table 2 it is observed that variables related to clustering with firms for exports, clustering with universities or/and research centers are highly significant and positively correlated with innovation activity of Greek SMEs. This is a very interesting result we've expected due to imbalances experiences Greek firms' in innovation matters.

In addition, firms that have property rights (parent or subsidiary) with foreign companies have better innovation performance indicating that foreign firms can increase diffusion of knowledge providing their know-how in innovation process. Cooperation with large and international firms increase innovation performance through new ideas and introduction of new products to the domestic market (Zeng et al., 2010) and SMEs that cooperate with foreign firms performed better in their innovation results than those that do not (Kang & Park, 2012).The results of this study also suggest that SMEs with innovation activity have smaller probability of default. Similarly, according to Murro (2013), innovative companies present less probability to default indicating that they are in competitive position.

5. CONCLUDING OBSERVATIONS/ POLICY IMPLICATIONS

Because of the economic turbulence that experiences Greece, innovation has received great interest in economic literature, since is correlated with firm survival, growth and competitiveness. This study using a data sample of Greek manufacturing firms, examines the impact of clustering on innovation and the impact of innovation on firm survival.

The results of the study indicating that clustering with universities/research centers and firms is significant factor enhancing innovation performance of Greek manufacturing SMEs. Hence, Greek SMEs should focus on clustering opportunities in order to increase their innovation capacity and be more competitive in a globalized market. Especially, in a period of economic turbulence, Greek firms should find ways in order to increase their market value and their market position in the international market, while domestic market is shrunken.

Another significant output of this study is the contribution of innovation in survival of Greek manufacturing firms. Innovative SMEs present lower probability of default, suggesting that innovation plays a significant role in their survival.

The successful results of the cooperation between firms and universities or research centers are in most cases granted. Therefore, policies that promote and enhance such relationships are of particular importance (Tödtling et al., 2009). As government policies strongly affect the efficiency of universities and research institutions, regarding innovation processes (Zeng et al., 2010), policy makers should establish policies that will strengthen the ties between universities and the private sector (Solleiro & Gaona, 2012), so as to create a solid basis for cooperation, through which mutual exchange of information among firms and universities will exist. Such an example is science parks. Thus, initiatives for upgrading the liaison offices of universities and research centers should be taken, in order for them to be gradually linked with science parks. In addition, science parks should be supervised by the same governmental organization, so as for strong bonds between them and the state to be developed (Villa & Antonelli, 2009).

Governmental support directly and indirectly affects innovation of a firm, as it enhances the internal R&D and promotes partnerships. Therefore, government policies that support firms with high innovation potential, by offering technical support and other incentives such as tax reliefs (Tödtling et al., 2009), tax deductions for R&D expenditures, subsidies for R&D costs (Kang & Park, 2012), regulation improvements especially for innovative firms, simplification of the existing legislation, grants for startup businesses and venture capitals (Herrmann & Kritikos, 2013) are necessary. Policies that promote private R&D are of major importance, as they not only favor firm's own R&D activities, but its ability to benefit from research network spillovers as well (Autant-Bernard et al., 2013).

In addition, the state should ensure the development of existing universities and research centers and the establishment of new research institutions of high quality. Especially for Greece, there should be initiatives for researchers not to leave the country, and reforms that aim at the strengthening of the education system (Herrmann & Kritikos, 2013). Moreover, in order for Greece to have a restructured national innovation system, new structures that allow private and public organizations to participate in voluntary communities of knowledge exchange should be established (Papadopoulos et al., 2013). Inter alia, governments should promote innovation targeting at policies that facilitate international connections, in order for partnerships to be established inside and outside a nation's borders and enhance SME clusters' innovation capabilities, by promoting open innovation in universities and research centers (Cai & Fan, 2011).

In the end, policymakers face a serious dilemma. On the one hand, they should facilitate innovation

development, which will lead to economy growth, but, on the other hand, they should introduce policies that don't cost much to the country (Papadopoulos et al., 2013).

Firms should promote their innovation cooperation with each other, and persuade government institutions of the importance of a greater commitment to innovation and competitiveness (Solleiro & Gaona, 2012). Moreover, business managers should be more extroverted and develop their social capital participating in international strategic alliances that aim at creating competitive advantages, exploiting the new technologies of informal communication on social networks, when distance is great. An additional proposal for business managers is the organization of their businesses in associations, through which interactions between them will be facilitated and their chances for cooperation will be enhanced (Felzensztein et al., 2014). Moreover, since capacity building is considered an important factor of success, staff training on innovation management and its related policies is necessary (Solleiro & Gaona, 2012).

Especially for small companies, characterized by heterogeneity, followed policies should be diversified, in relation to the weaknesses and risks each one faces, as well as ranked. This means that a small company that is unable to determine its strategic vision should –before anything else– implement strategic planning capacity-building policies, instead of taking measures to support its export activity (Hagen et al., 2012).

In reality, however, companies are reluctant to engage in partnerships that may not provide guaranteed significant benefits, or may endanger the future viability or disappoint their shareholders (Papadopoulos et al., 2013).

Nevertheless, "successful clusters are those connected on a voluntary basis driven by knowledge spillover and innovation" (Ben Letaifa & Rabeau, 2013). Governmental interventions and amenities form "artificial" clusters that rely on exogenous proximities (geographic, organizational, cognitive and institutional) rather than the endogenous social one, which "spontaneous" networks require from the beginning. Firms should learn to connect, in order to achieve innovation (Connell et al., 2014).

Generally, it seems that there are no ideal policies for clusters, since each network has its own needs. Though, in order for real economic growth to exist in collaborative networks, there is a need for frameworks that do more than indicating the requirements for the formation of a cluster. In other words, there is a need for policies that can lead clusters in a stable and sustainable growth (Aziz & Norhashim, 2008).

Global economic crisis has highlighted the need for innovation, in order for economies to diversify and for jobs to be created; clusters are seen as particularly attractive, from a political perspective, as they serve a dual purpose. They enhance the competitiveness of SMEs, through cooperation and business agglomeration and they build or revitalize targeted areas (Connell et al., 2014).

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PERSISTENT HIGH LIQUIDITY, OWNERSHIP STRUCTURE AND FIRM PERFORMANCE: INDIAN EVIDENCE

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Abstract

The paper investigates the characteristics and performance of the persistent high liquidity firms in India in the backdrop of ownership concentration. Empirical evidence reveals that the persistent high liquidity firms consistently post superior performance, have better growth prospect and resort to less debt financing. Ownership structure has no influence on the performance of such firms. Consistent with trade off theory we find that persistent cash holding as a policy beyond a certain period may hinder performance. Industry-and- size matched comparison firms with non-persistent liquidity tend to overinvest having a negative impact on performance. Ownership concentration adversely impacts performance of such firms.

Keywords: India, Persistent High Liquidity Firms, Ownership Structure, Firm Performance, Agency Theory, Concentrated Shareholding, Industry-And- Size-Matched Comparison Firms
JEL Classification: G 30, G 32

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1. INTRODUCTION

The paper investigates the characteristics and performance of the persistent high liquidity firms in India in the backdrop of ownership concentration for a five year period including one year prior to and one year succeeding the consistent high liquidity holding period.

Why some firms hold large amount of liquid assets in the form of cash and marketable securities is a matter of considerable debate and deliberation among the investors, analysts, economists and financial press. Does ownership structure play any role in high cash holding? The general argument in favour of high liquidity is – external financing is costlier than internal financing as such it is better to retain high liquidity for financing capital expenditure. But high liquidity gives rise to agency cost. Does high concentration of ownership mitigate (or enhance) agency cost of high liquidity firms? Capital expenditure of such firms is financed internally and thus the manager can avoid scrutiny of the external fund providers. This may prove costly as lack of monitoring may lead to overinvestment, wasteful expenditure and empire building.

Kim *et al.* (1998), Opler *et al.* (1999), Harford (1999), Ozkan and Ozkan (2004), and more recently Lee and Powell (2011) have documented firm characteristics and motives behind holding high liquidity. High liquidity is generally linked to trade off, agency and pecking order theories with the trade-off theory receiving more empirical support. In the US context Mikkelson and Partch (2003) observe that policy of persistent high cash holding supports investment without hindering performance. Lee *et al.* (2011) in Australian context find that 'transitory' excess cash firms earn higher risk adjusted return compared to 'persistent' excess cash.

Whatever little study that has been conducted - is based on the data set of developed market economies. In emerging market like India with features like collateral security and private agreement based debt finance being largely provided by the government controlled public sector banks, service sector contributing a major share in GDP, public sector undertakings (PSUs) still playing a crucial role in mining and heavy industry where the central government continues to remain the majority shareholder and so on, the consequence of holding substantial liquidity on firm performance is not known. Such study is important as it is found that some firms including index heavyweights and fortune 500 companies like Infosys, Hindustan Unilever (HUL) etc. persistently hold high liquidity in their balance sheet. Infosys holds over 50% of the total assets in cash and cash equivalents with the corresponding figure for HUL being 35%.

The current paper sought to investigate: i) the characteristics and determinants of firm's holding excess liquidity consecutively for 3 years or more in predominantly collateral security based negotiated bank finance system in India and ii) the performance of such persistent high liquidity firms in relation to industry and size matched comparison firms in the context of ownership structure as literature on corporate governance and agency documents significant role of shareholding pattern on financing decisions and firm performance (Schleifer and Vishny, 1986; Schleifer and Vishny, 1997; Cho, 1998; Demsetz and Villalonga, 2001, Harford *et al.*, 2008).

Our sample of 46 persistently high liquidity firms is taken from BSE 500 list of Bombay Stock Exchange after excluding banks and finance companies. BSE 500 consists of top 500 publicly traded firms in terms of free-float adjusted market capitalization. The persistent high liquidity firms refers to companies that maintain a ratio of cash and marketable securities exceeding 15% of the total assets at the end of each of the three fiscal years from 2008 to 2010. We compare sample firms' operating performance from 2007 through 2011 –that is one year prior to continuous high liquidity holding period till one year succeeding with the performance of the industry and sized matched firms. Our comparison is based on methodologies that control for the combined determination of high liquidity and operating performance. Based on our empirical results we also sought to explain the factors in the light of the motives and firm characteristics that may explain differences in performance of high liquidity firms.

Our results and analysis highlight that the operating performance of firms with high liquidity is consistently better than the performance of comparison firms matched by industry and size during our study period. When we control for variability of earnings, unexplained cash, past performance, size, capital expenditure, leverage, growth opportunities and ownership concentration that determine level of cash holding, we record no unusual characteristics of persistent high liquidity firms and our results are generally consistent with the trade-off theory. An interesting insight is - such firms perhaps find difficulty in meeting market expectation of growth. The performance of high liquidity firms is neither enhanced nor hindered by ownership concentration. Consistent with our argument, in a collateral security based negotiated bank finance system in India, we find that industry and size matched comparison firms with concentrated shareholding tend to overinvest that may hinder performance.

Based on our empirical results we can conclude that the persistent high liquidity does not impact operating performance adversely irrespective of ownership structure whereas comparison firms with concentrated shareholding tend to overinvest that impacts performance unfavorably. Despite suboptimal performance, the comparison firms meet the hindsight growth expectation of the investors.

The remainder of the chapter is organized as follows. Section 2 discusses literature and Indian perspective. Section 3 describes sample data. Section 4 details empirical results and Section 5 concludes with summary of findings.

2. REVIEW OF LITERATURE AND INDIAN PERSPECTIVE

2.1. Review of Literature

There are two significant divergent theoretical views as regards high liquidity. Myers and Majluf (1984) argue that in presence of information asymmetry, firms would hold high liquidity to finance future investment. On the other hand high liquidity is considered to have the potential of creating agency cost as argued by Easterbook (1984) and Jensen (1986).

Liquidity enables a firm to avoid floatation cost of equity comprising of underwriting, legal and other related expenses. If borrowing is resorted to then apart from upfront cost there is periodical interest cost. All these costs are direct costs. Smith (1977) and Mikkelson and Parch (1986) find significant direct cost of financing. According to Froot *et al.* (1993), firm value is found to be more in case of high liquidity as capital expenditure remains insulated from cash flow volatility. Indirect cost of debt finance consists of problem that arises from conflict of interest between bondholder and stock holder as pointed out by Jensen and Meckling (1976) and information asymmetry indicated by Myers and Majluf (1984). Armstrong *et al.* (2011) document a positive relation between information asymmetry and cost of capital in excess of standard risk factors when markets are imperfect. A firm can avoid these costs if there exists sufficient liquidity to finance capital expenditure. Blanchard *et al.* (1994) and Harford and Haushalter (2000) argue that managers employ high, transitory cash in a manner that enables to derive private benefit at the cost of stockholders' wealth. Kim *et al.* (1998) develop a model supported by empirical result that predicts liquidity as an increasing function of – cost of external financing, the variance of future cash flows and return on future investment opportunities. Harford (1999) documents that cash-rich firms are more likely to make value decreasing acquisitions. Thus high liquidity give rise to agency problem as it give liberty to the entrenched manager to spend money on costly perquisites, unproductive investment and so on because of lack of control by the fragmented individual shareholders. On broader level Dittamar and Mahrt – Smith (2007) record that the stockholders assign a lower value to an additional dollar of liquidity reserve when agency problems are likely to be greater. One way of addressing agency problem that may arise from surplus liquidity is through concentrated shareholding (Schleifer and Vishny, 1997). The interest of the large shareholders being more aligned, they can force the management to take such strategic decision in matter of liquidity so that their interest remains protected. Schleifer and Vishny (1986) suggest that block holders mitigate the free-riding problem, perform a monitoring function and reduce the scope of managerial opportunism. Alternatively, large shareholders can also act to promote self-interest (Shleifer and Vishny, 1997) or reduce managerial initiative (Burkart, *et al.*, 1997) or may cause under-diversification (Demsetz and Lehn,1985) – all may be value destroying. Ozcan and Ozcan (2004) record a significant relation between managerial ownership (used as proxy for ownership concentration) and cash holding for UK companies. We posit that ownership concentration may be related to high liquidity at two levels. In the first level there may exist relation between high liquidity and ownership concentration and then such relation may favourably or adversely impact firm performance. Harford, Mansi and Maxwell (2008) on relation between governance and profitability where ownership concentration is taken as a measure of managerial incentive - document that there exists limited evidence to suggest that excess cash alters the overall relation between the two.

2.2. Indian Perspective

In India, public sector commercial banks and financial institutions play a major role in providing short term

and long term finance to the private corporate sector and such financing is highly collateral security based. As collateral security leads to easier and cheaper access to finance, there is a scale effect. We expect inverse relation between liquidity and asset size. In such a system, the interest of the block shareholders being more aligned to firm – for bank borrowing they (block shareholders) either mortgage their personal property or property of the associate companies of which they are the principal shareholder-managers or stand guarantor for repayment of loan. This aspect reduces overall cost of debt as provision of adequate collateral security addresses agency conflicts between shareholders and debtholders (Jensen and Meckling, 1976) besides scale effect. As ownership concentration leads to easier access to external borrowing with reduced cost, the tendency of liquidity accumulation would be less. But the reduced cost of borrowing may also encourage the entrenched managers to overinvest leading to reduced liquidity with suboptimal performance. Our argument is consistent with the model of Kim *et al. (*1998) and 'managerial entrenchment' hypothesis.

There exists variations when it comes to selecting a proxy for measuring ownership concentration. In measuring concentration on firm performance, Demsetz and Lehn (1985) use fraction of shares held by the five largest shareholders as a measure of concentration of ownership structure as they are more likely to control professional management Morck *et al.* (1988) and Cho (1998) focus on fraction of shares owned by the management consisting of board members, CEO and top management as measure of concentration. In India from the control point of view shareholders are divided broadly into two distinct groups – promoters and non-promoters. According to the market regulator Securities Exchange and Board of India (SEBI), - the promoter has been defined as a person or persons who are in overall control of the company or persons, who are instrumental in the formulation of a plan or programme pursuant to which the securities are offered to the public and those named in the prospectus as promoters[7]. As per the companies law[8] of India - one equity share carries one vote. Over fifty percent holding of equity shares directly or indirectly through pyramidal holding or cross holding gives direct right to determine composition of board and legal control though cash flow right may be different. CEO and other executive directors of the firms may either be direct representatives of the promoters or acting merely in the professional capacity subject to the direction and control of promoters. Hence, shareholding by the promoters can be taken as proxy for concentration impacting liquidity. We explore the role of ownership concentration in Indian context at two levels – a) as a determinant of liquidity and 2) the performance of high liquidity vis-à-vis comparison firms with high ownership concentration.

3. SAMPLE AND DATA

We study the characteristics and performance of firms that appear to have a policy of holding high liquidity persistently. Our study period covers a 5 year period from fiscal year (FY) 2007 to 2011. We use Bloomberg database for collecting financial data of BSE 500 companies. For data on ownership structure we use *Prowess* database of CMIE (Centre for Monitoring Indian Economy). We exclude banking, finance and financial service companies from the sample and as we make a balanced panel having continuous data for 5 years, the sample size gets reduced to 263 firms. We define persistent high liquidity firms as those that maintain a ratio of cash and marketable securities exceeding 15% of the total assets at the end of each of the fiscal years from 2008 to 2010. Our definition leaves us with a sample of 46 persistent high liquidity firms out of 263 firms. Then we sought to find out how the cash is utilized subsequently in 2011-12. Further, when we consider 4 consecutive years from 2007 to 2010 we come across 41 firms having high liquidity. The set of high liquidity 41 firms is a subset of 46 sample firms of 2008-10 reinforcing our intuition that there are firms that maintain high liquidity perhaps as a matter of financial policy.

Our set of comparison firms is matched to 46 sample firms by size and industry classification according to ICB (Industry Classification Bench mark) not having persistent high liquidity. For each of sample firms, we identify comparison firm/s belonging to the same industry as per ICB, the total assets (proxy for size) of which at the end of 2010 are within 70% - 130% of the sample firms' total assets from 217 (263 *minus* 46) remaining firms. Following the process we identify 83 such size and industry matched firms not having persistent liquidity.

Table 1 shows that the median ratio of cash and marketable securities to operating asset (= Total Assets - Cash & Marketable Securities) of persistently high liquidity firms in 2008 is 42% and the same had gone up to 49% in 2010. Conversely the said ratio for industry and sized matched non-persistent cash firms (comparison firms) is 9% and has marginally gone down to 7% in 2010.

Using the data from Bloomberg we identify the main sources of high liquidity of the sample firms from 2008 to 2010. For the sample firms' source of liquidity comes mainly from cash inflow from operations. 79% of the total cash flow in 2008-10 of the persistent high liquidity firms is from operation and that of comparison firms is 46%. Table 1 reveals median value of inflow from operation of persistent cash firms is higher than that of comparison firms and the difference is statistically significant. Ratio of cash inflow from investment (net asset sales) to total cash flow is negligible – in total only 2% in case of persistent high liquidity firms and 0.02% for comparison firms in 2008-10. Proportion of cash flow from financing in 2008-10 for persistent high liquidity firms is 19% and that of comparison firm is 53%. Table 1 show that median value of proportion of cash inflow from financing for persistent high liquidity firm is lower than comparison firms and the difference is significant statistically. We posit that principal source of high liquidity of the sample firms come from operations and not from asset sales or financing. We also make an attempt to find the persistent high liquidity firms according to lines of business as classified by ICB. The percentage of liquidity holding is considerably high in case of industrial firms (26%), technology firms (24%), basic materials (19%) and consumer goods firms (13%).

[7] www.sebi.gov.in

[8] The Companies Act 1956

Table 1. Median Cash Holding and Sources of Cash Inflow with Persistent High Liquidity Firms Vis-à-Vis Non-Persistent Liquidity Size and Industry Matched Comparison Firms

Firm Characteristics (Median)	*Sample Firms*	*Comparison Firms*	*p*– value of statistical difference between Sample firms and Comparison Firms (Wilcoxon rank sum test)
	Firms Having Persistent High Liquidity during 2008-10 (n=46)	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size (n=83)	
Cash and marketable Securities/ Operating assets (Total Assets *minus* Cash and Marketable Securities) in 2008.	0.42	0.09	0.00*
Cash and Marketable Securities / Operating Assets in 2010	0.49	0.07	0.00*
Proportion of Cash Inflows from Operation in 2008-10	1.00	0.67	0.00*
Proportion of Cash Inflows from Investment (Asset Sales net off Asset Purchase) in 2008-2010	0.00	0.00	0.00*
Proportion of Cash Inflows from Financing in 2008-10	0.00	0.30	0.00*

** indicates significance at 1%*

The financial position including liquidity of the both persistent high liquidity and comparable firms at the end of 2010 and beyond is the result of cash accumulation from earlier years. We device and list possible determinants of liquidity in Table 2. They are size (operating assets), operating performance or profitability (operating income scaled by operating assets), riskiness of operating income (standard deviation of operating income scaled by operating assets), growth opportunities (market to book value of equity), leverage (long term debt scaled by operating asset), concentration of stock holding (promoters shareholding) institutional shareholding and diffuseness of shareholding (that is- non-promoter-non-institutional miscellaneous shareholding). We measure operating asset as total asset minus cash and marketable securities and operating income as earnings before interest and tax.

Table 2. Median of Financial Determinants and Ownership Structure of the Persistent High Liquidity and of size-and-industry matched comparison firms with non-persistent liquidity

Firm Characteristics (Median)	*Sample Firms*	*Comparison Firms*	*p*– value of statistical difference between Sample firms and Comparison Firms (Wilcoxon rank sum test)
	Firms Having Persistent high Liquidity during 2008-10 (n=46)	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size (n=83)	
Operating Assets in 2010 (Rs. million)	22342.45	27929.00	0.81
Average Operating Income/Operating Assets from 2007 to 2010	0.24	0.15	0.00*
Standard Deviation of Operating Income/ Operating Asset from 2007-10	0.05	0.03	0.00*
Market Value / Book Value of equity in 2010	3.98	2.02	0.00*
Long term Debt/ Operating Asset in 2010	0.01	0.22	0.00*
Promoters Stock holding in 2010	0.60	0.51	0.03
Institutional Stock holding in 2010	0.24	0.23	0.80
Misc. (non-promoters– non institutional) Shareholding 2010	0.14	0.22	0.00*

**and ** denote significance at 1% and 5% respectively*

Median values of profitability, riskiness of operating income, growth opportunities and promoters (insider) shareholdings of persistent high liquidity firms are higher than the median values of comparison firms and the difference is statistically significant. Median value of leverage is significantly lower for high liquidity firms. The results are intuitively appealing. The high value firms have superior operating income and at the same time variability of their earning is also more. Such firms have better growth prospects and take less debt. Size (operating asset) and proportion of institutional shareholding do not appear to play significant role in determining liquidity. Non-promoter shareholding representing diffuseness is more in case of comparison firms. The fact that high liquidity firms has higher median value of promoters shareholding is corroborated by the fact that 71% of the firms has promoters shareholding exceeding 50% whereas 50% of the comparison firms have promoters

shareholding exceeding 50%. In case of 30% (of 71%), the central government as promoter holds more than 50% of equity share capital indicating 21% of the high liquidity firms is government controlled whereas the corresponding percentage of comparison firms is 4%. Overall the firms with higher concentration of ownership have higher liquidity consistent with the finding of Harford *et. al.* (2008), and Ozkan *et. al.* (2004). Institutional shareholders are non-promoters as they do not participate in day-to-day management though their representatives may be there on the board as non-executive director.

Following the result of firm characteristics reported in Table 2, we formulate regression model by combining high liquidity sample firms and industry and size matched comparison firms. In the model cash and marketable securities scaled by total assets of 2010 is taken as measure of liquidity (endogenous variable) – and as financial determinant variables of liquidity natural log of operating asset (LNOA), average operating income scaled by operating assets 2007-10 (OI/OA) , standard deviation of operating income scaled by operating asset 2007-10 (STDOI), market-to- book value of equity (MV/BV), long term debt scaled by operating asset (LTD/OA), proportion of promoters shareholding (PSH), proportion of institutional and misc. shareholding (NPSH) have respectively been used as proxy independent variables for size, operating performance, operating risk, growth opportunities, leverage, concentration, and diffuseness of stock holding . Before conducting regression we report the correlation among the determinant independent variables in Table 3.

Table 3. Correlation Matrices Among Financial Determinants (Variables) of Liquidity

Determinants	*LNOA*	*OI/OA*	*STDOI*	*MV/BV*	*LTD/OA*	*PSH*	*NPSH*
LNOA	1						
OI/OA	-0.12	1					
STDOI	-0.17	0.70	1				
MV/BV	0.05	0.070	0.07	1			
LTD/OA	0.10	-0.36	-0.13	-0.19	1		
PSH	-0.10	0.05	0.16	0.30	-0.04	1	
NPSH	0.06	-0.05	-0.18	-0.30	0.04	-0.99	1

Table 3 reveals that there appears to exist a high correlation between operating income (OI/OA) and variability of income (STDOI) confirming the intuition that firms with high but variable income may tend to hold higher amount of cash and liquid financial assets. Further we find that there exists near- perfect negative correlation between promoters shareholding (PSH) and non-promoters shareholding (NPSH). Upon regressing PSH on all other independent variables we get a variance inflation factor (VIF) of 42.01 (maximum permissible being 10) revealing the severity of multicollinearity problem if both PSH and NPSH are included in the same regression model. Also, the coefficients between NPSH and other determinant variables are found to be almost same as the coefficients between those variables and PSH with the exception of having just opposite sign, as such, we only take promoters shareholding for estimating the impact of ownership concentration on cash holding in our regression models as we expect diffuseness will have just an opposite effect. However, later on we shall formulate a regression model considering diffuseness (NPSH) as determinant in measuring performance of comparison firms as robustness test of our model.

Though OI/OA and STDOI are highly correlated, VIFs (2.28 and 2.17 respectively) reveal that if both the variables are included in the same regression the results will not be adversely impacted by multicollinearity, nevertheless, we formulate two separate regression models to assess how operating income and variability of income separately impact liquidity holding behavior of the sample firms. In the first model (Regression 1) we exclude STDOI and in the second model (Regression 2) we exclude OI/OA.

Table 4. Regression 1 - Financial Determinants Other Than Standard Deviation of Operating Income on Cash Holding

Determinant	*Coefficient*	*t-statistics*
Constant	0.226	2.254**
Natural log of operating asset 2010	-0.019	-1.748***
Average Operating Income/ Operating Asset 2007-2010	0.547	6.494*
Market Value/ Book Value 2010	0.004	2.418**
Long Term Borrowing/Operating Asset 2010	-0.002	-0.033
Promoter Shareholding 2010	0.021	0.30
Adjusted R^2	0.319	
F- statistics	13.015	

, ** and * indicate significance at 1%, 5% and 10% level respectively*

Table 5. Regression 2 - Financial Determinants Other Than Operating Income scaled by Operating Asset on Cash Holding

Determinant	*Coefficient*	*t-statistics*
Constant	0.249	2,594*
Natural log of operating asset 2010	-0.013	-1.24
Standard Deviation of Operating Income/ Operating Asset 2007- 2010	1.394	7.339*
Market Value/ Book Value 2010	0.003	2.376**
Long Term Borrowing/ Operating Asset 2010	-0.099	-1.736***
Promoter Shareholding 2010	-0.032	-0.464
Adjusted R^2	0.364	
F- statistics	15.676	

, ** and * indicate significance at 1%, 5% and 10% level respectively*

The results of regression reported in table 4 and 5 are consistent with the univariate analysis of Table 2 in respect of all determinants except ownership structure. Regression results show that probably concentration and diffuseness of ownership have no direct role in determining liquidity when high liquidity and comparison firms matched by industry and size are combined together. The degree of explained variation in liquidity measured by R^2 is more in case of regression 2 (Table 5). The result is intuitively more appealing because variation of operating income should actually have a dominant role in following conservative liquidity policy. Also in respect of size and leverage the result is more consistent with univariate analysis reported in Table 2.

3. EMPIRICAL RESULTS

3.1. Operating Performance of High liquidity Firms

In Table 6 we report the operating performance of persistent high liquidity firms and size and industry matched comparison firms from 2007 through 2011 – that is one year prior to continuous high liquidity holding period till one year succeeding. In 2011 we find that 85% of the firms continue with high liquidity and only 6% firms have substantial reduced liquidity (cash and marketable securities being less than 10% of total assets) once again confirming our view that persistent high liquidity is adopted by certain category of firms across industry group as a matter of policy. Columns 2 and 3 of the table respectively represent the median of operating income scaled by operating assets of the persistent high liquidity firms and size and industry matched comparison firms.

Table 6. Median of operating income scaled by operating assets of firms with persistent high liquidity and of size-and-industry matched comparison firms with non-persistent liquidity

Fiscal Year	*Sample Firms*	*Comparison Firms*	p– value of statistical difference between Sample firms and Comparison Firms (Wilcoxon rank sum test)
	Firms Having persistent high Liquidity during 2008-10 (n=46)	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size (n=83)	
2007	0.217	0.131	0.00*
2008	0.223	0.121	0.00*
2009	0.212	0.983	0.00*
2010	0.186	0.113	0.00*
2011	0.185	0.117	0.00*

** indicates significance at 1%.*

Table 6 clearly demonstrates that high liquidity firms perform better than the comparison firms for all the years under study including a year prior to and a year subsequent to such persistent liquidity. But at the same time it is worth noting that the performance has steadily declined after 2008 perhaps indicating there is an optimality of liquidity at some point in time. The finding supports the 'trade off' theory of cash. The recurrent underperformance of the comparison firms compared to high liquidity firms probably indicates problem of overinvestment and 'empire building' of such firms. The over-investment may be attributable to easier access to finance because of private nature of negotiated financial arrangement with banks based on collateral security. In the next section we sought to analyze the impact of cash holding on performance more rigorously.

3.1. Effect of Unexplained Liquidity on Operating Performance of the Subsequent Period

In this section we make our analysis in two stages following the process suggested by Mikkelson and Parch (2003) though our choice of exogenous variables is not same. In the first stage we estimate the normal liquidity by regression 2 dropping promoters' shareholding from the model. More specifically the estimate of normal liquidity under the first stage regression is:

$$Cash\ \&\ Marketable Securities_i / Total Assets_i = \beta_1 + \beta_2 LNOA_i + \beta_3 STDOI_i + \beta_4 MV_i / BV_i + \beta_5 LTD_i / OA_i + \xi_i \quad (1)$$

The exogenous variables in the model have the same meaning as defined in earlier section.

The regression is estimated separately on the sample of high liquidity firms as well as the comparison firms matched by size- and industry.

In the second stage we regress the operating performance measured by operating income scaled by operating asset of 2011 on the residual or unexplained value of liquidity – that is prediction error obtained from first stage regression taking average operating performance 2007 – 2010 ($\frac{\overline{OI}}{OA}$) and promoters shareholding (PSH) as control variables. The second stage regression equation is:

$$OperaingIncome_i / operatingasset(2011)_i = \delta_1 + \delta_2 predictionerror_i + \delta_3 \frac{\overline{OI_i}}{OA_i} + \delta_4 PSH_i + \varepsilon_i \quad (2)$$

The results of the first and second stage regression are reported in Table 7.

Table 7. Two Stage OLS Regression Showing the Relation between Operating Performance and Unexplained Cash Holding

Variables	***Sample Firms***	***Comparison Firms***
	Firms Having persistent high Liquidity during 2008-10	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size
Panel A: Endogenous Variable :Cash & Marketable Securities/ Total Assets 2010 (First Stage)		
Constant	0.527 (4.193)*	0.099 (1.230)
Natural Log of Operating Assets 2010	-0.033 (-2.168)**	-0.003 (-0.369)
Standard Deviation of Operating Income/ Operating Asset 2007- 2010	0.816 (3.665)*	1.127 (3.906)*
MarketValue/Book Value 2010	0.001 (1.029)	0.003 (0.619)
Long Term Borrowing/ Operating Asset 2010	0.178 (1.497)	-0.068 (-1.384)
Adjusted R^2	0.326	0.184
F-Statistics	6.458	5.625
Panel B: Endogenous Variable : Operating Income/Operating Assets 2011(Second Stage)		
Constant	0.452 (0.971)	0.061 (2.477)**
Prediction error of Cash& Marketable Securities /Total Assets in 2010 from first stage regression	0.107 (0.917)	0.033 (0.419)
Average Operating Income/ Operating Asset 2007-10	0.707 (10.176)*	0.682 (9.091)*
Promoters Shareholding	-0.019(-0.290)	-0.067 (-1.561)
Adjusted R^2	0.699	0.499
F-Statistics	35.771	28.256

*Figures in the parentheses represent t value. * and ** indicate significance at 1% and 5% level respectively.*

The second stage OLS regression in panel B reveals that operating performance of 2011 has no relation with the unexplained cash holding obtained from the first stage regression both in case of persistent high liquidity firms and the comparison firms. Operating performance is related to that of prior period signifying continuance of performance for both categories of firms. The relation between operating performance and concentration of ownership is negative but statistically insignificant.

4.3. Impact of Cash Flow from Operation and Investment on subsequent operating performance of the Persistent High Liquidity Firms

Our next test on operating performance examines how cash flow form operation and capital expenditure impact subsequent performance of the high liquidity firms vis-à-vis the comparison firms and whether promoters' shareholding plays a role in such performance. Another important aspect in the analysis is whether actual performance meets the growth expectation of the high liquidity firms reflected in market-to-book value of the previous period. We develop a model where we regress operating performance of 2011 on average free cash flow 2007-10 and capital expenditure 2007-10 both scaled by operating assets, market-to book value 2010 as proxy for growth expectation, natural log of operating assets 2010 for size, average of cash & marketable securities scaled by operating asset 2007-10 and promoters shareholding 2011 as control variables separately on persistently high liquidity firms and industry and size matched comparison firms. The result is reported in Table 8.

Table 8 reveals that free cash flow and capital expenditure of prior period influence subsequent performance of both - persistent high liquidity firms and comparison firms matched by industry and size. Cash holding is negatively related with performance for high liquidity firm and in case of comparison firms though the sign is negative but statistically insignificant. The result suggests optimum cash holding and is consistent with 'trade off' theory. Size built up by cumulative capital expenditure over the past years at some point becomes negatively related with the performance of comparison firms indicating problem of overinvestment. The overinvestment may be attributable to weakness in governance. The finding is consistent with that of Harford *et. al.* (2008) who observes that the spending decisions of the poorly governed firms are suboptimal as they spend cash flow and cash reserves quickly rather than allowing it to accumulate to provide future flexibility. Market-to-book value of the persistent high cash

firms though positively related to subsequent performance but is statistically insignificant indicating performance does not justify hindsight growth expectation of the market. Market to book value of the comparison firms is positively related to subsequent performance and the result is statistically significant. Bliss and Rosen (2001) and Harford and Li (2007) document even if the poorly governed firms destroy value but stockholders' wealth increase after capital expenditure, acquisition and CEO compensation. Consistent with the findings we record that hindsight growth prospect of comparison firms generated by cash flow and capital expenditure have been met by subsequent modest performance as compared to superior performance of the high liquidity firms. In the regression promoters shareholding of comparison firms is negatively related to performance. Promoters having control over the corporate resources through voting rights may indulge in overinvestment, empire building and so on that might lead to underperformance as compared to cash rich firms. To check the robustness of the model we estimate a regression replacing promoters' shareholding by non-promoters shareholding.

Table 8. Regression Showing Subsequent Performance on Prior Operating Cash Flow, Capital Expenditure Market-to-Book Value, Size, Liquidity and Promoters Shareholding

Variables	***Sample Firms***	***Comparison Firms***
	Firms Having persistent high Liquidity during 2008-10	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size
Endogenous Variable : Operating Income/Operating Assets 2011		
Constant	0.136 (1.170)	0.272 (4.233)*
Natural log of operating asset 2010	-0.006 (-0.485)	-0.019 (-2.909)*
Average of cash & marketable securities/ operating assets 2007-10	-0.139 (-5.296)*	-0.078 (-1.492)
Average of capital expenditure/ operating assets 2007-10	1.129 (8.159)*	0.348(3.061)*
Average of free cash flow/operating assets 2007-10	1.035(9.138)*	0.423 (5.657)*
Market Value/ Book Value 2010	0.002(1.450)	0.013 (3.712)*
Promoters Shareholding	-0.092 (-1.198)	-0.098 (-2.177)**
Adjusted R^2	0.644	0.520
F-statistics	14.577	15.815

*Figures in the parentheses represent t value. * and ** indicate significance at 1% and 5% level respectively.*

Table 9. Regression Showing Subsequent Performance on Prior Operating Cash Flow, Capital Expenditure, Market-to-Book Value, Size, Liquidity and Non-Promoters Shareholding

Variables	***Sample Firms***	***Comparison Firms***
	Firms Having persistent high Liquidity during 2008-10	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size
Endogenous Variable : Operating Income/Operating Assets 2011		
Constant	0.0.046 (0.390)	0.153 (2.609)*
Natural log of operating asset 2010	-0.006 (-0.465)	-0.014 (-2.079)**
Average of cash & marketable securities/ operating assets 2007-10	-0.140 (-5.276)*	-0.08653 (-1.616)
Average of capital expenditure/ operating assets 2007-10	1.131 (8.142)*	0.394 (3.454)*
Average of free cash flow/operating assets 2007-10	1.036 (9.105)*	0.432 (5.699)*
Market Value/ Book Value 2010	0.002(1.405)	0.0134 (3.453)*
Non-promoters Shareholding	0.084 (1.063)	0.081 (1.421)
Adjusted R^2	0.641	0.539
F-statistics	14.418	14.857

*Figures in the parentheses represent t value. * and ** indicate significance at 1% and 5% level respectively.*

The result reported in Table 9 is consistent with that of Table 8. As expected non-promoters shareholding has a positive relation with performance for high liquidity and industry- and size matched comparison firms but the result is not statistically significant. Consistent with the prediction of Demsetz *et. al* (1985) the result further indicates an optimum concentration (dispersion) of shareholding for both categories - high liquidity and comparable firms - not impacting performance.

4.4. Uses of Fund in Subsequent Year

In this part we document how high liquidity and comparison firms used liquidity in the subsequent period – that is in 2011. We also compare the growth rates. We are interested in finding whether the sample high liquidity firms reveal a superior performance in their investment and financing behavior.

Row 1 of Table 10 reports the median ratio of all investment expenditure scaled by operating asset. Row 2 reports the main component of investment

expenditure – namely capital expenditure scaled by operating asset. Though R&D expenditure is considered an important component of investment outlay we find Indian firms spend very less on this item. 46% of high liquidity firms and 53% of comparison firms have no R&D expenditure at all in 2011. Mean R&D expenditure of high cash firms scaled by operating asset is 0.6% and that of comparison firms is 0.2% only as such we do not report R&D expenditure separately.

Row 3 shows the net outflow of fund for financing activities and row 4 shows dividend payout ratio. Row 5 and 6 reveal relative growth of revenue and operating assets in 2011.

Table 10. Median Measures of Cash Outflow of 2011 for Investment and Financing Activities

Firm Characteristics (Median)	*Sample Firms*	*Comparison Firms*	*p– value of statistical difference between Sample firms and Comparison Firms (Wilcoxon rank sum test)*
	Firms Having Persistent high Liquidity during 2008-10 (n=46)	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size (n=83)	
Cash Outflow for Investment Activities 2011:			
1.all investment expenditure/Operating Asset	0.09	0.08	0.75
2. Capital Expenditure/Operating Asset 2011	0.07	0.08	0.54
Cash Outflow for Financing Activities 2011:			
3. All financing outflow/operating assets 2011	0.02	0	0.00*
4. Dividend Payout Ratio	0.24	0.12	0.00*
Growth 2011			
5.Relative Change in Operating Assets	1.23	1.19	0.16
6.Relative Change in Revenue	1.22	1.55	0.00*
7. Relative Change in Operating Income	1.17	1.14	0.85

** indicates significance at 1%.*

The median investment expenditure to operating asset of high liquidity firms is 9% and that of comparison firms is 8%, the difference is not significant statistically. All financing outflow to operating asset of high liquidity firms is 2% and that of comparison firms is 0% and the difference is significant. Dividend payout of high liquidity firms is 24% and that of comparison firm is just half, that is 12% and the difference is significant. Revenue growth of high liquidity firms being less than that of comparison firms coupled with insignificant growth of operating income may be an early sign of suboptimal use of stockpile of liquidity. The result is also consistent with the declining operating income of 2011 and 2010 reported in Table 6.

Persistent high liquidity firms use cash in financing activities that include repayment of debt and returning cash to equity shareholders through higher dividend payout – though payout is quite modest by global standard (Datta *et. al.*, 2012). On the whole high liquidity firms appear to follow a conservative debt policy and its investment is not significantly different from comparison firms.

4. SUMMARY OF FINDINGS AND CONCLUSIONS

In the paper we examine characteristics and performance of firms that hold more than 15% of their total assets in cash and marketable securities for each of the three consecutive years from 2008 through 2010. We find that the operating performance of the firms having persistent high liquidity is superior to industry and size matched comparison firms from one year prior (that is 2007) till one year succeeding (2011) such high liquidity. High liquidity enables the firms to depend less on debt, insulate them from variability of performance, afford higher dividend payout and have greater growth prospects in terms of market-to book value ratio. These characteristics allow them to follow persistent high liquidity policy though at times actual performance may not meet the high growth expectation by the market of the firms. Expectation management of the investors of such firms may be a problem. Though univariate analysis reveals that the firms with concentrated shareholding tend to hold more liquidity, multivariate analysis does not seem to confirm the result. Ownership concentration does neither enhance performance of high liquidity firms because of better 'alignment of interest' nor hinder performance attributable to 'managerial optimism' as predicted in corporate governance literature. Overall we find that excess liquidity supports conservative financial policy without hindering performance for some time. In the succeeding year after continuous three years or more of high liquidity we find that performance of the sample firms is negatively related to liquidity at the beginning – this indicates continuous liquidity beyond a certain point hinders performance and the finding is consistent with trade off theory. Some of our findings are consistent with evidence of Mikkelson and Parch (2003), Opler *et al.* (1999) and Lee and Powell (2011). On the other hand we find that performance of control firms is negatively related to asset size and ownership concentration- perhaps this scale effect is due to overinvestment - an indication of poor governance. Consistent with our argument, we posit that in a bank dominated debt system – high ownership concentration leads to overinvestment probably due to easier access to negotiated bank finance- that in turn, might adversely impact performance. This, as well might indicate 'cronyism' as large shareholders having considerable influence in political circle - may procure finance from public sector banks with relative ease. Promotion of self-interest of large shareholders may create a scale effect that is not

economically efficient as compared to high liquidity firms but nonetheless performance of the firms may otherwise fulfil the hindsight growth expectation of the market reflected in high market to book value of the firms. The findings support Bliss and Rosen (2001) and Harford and Li (2007).

Future research may further throw light more precisely as to how high liquidity can specifically address riskiness of operation in presence of various other governance parameter like independent directors, board size, managerial compensation and so on in addition to ownership structure.

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ASSET LIQUIDITY, STOCK LIQUIDITY, AND OWNERSHIP CONCENTRATION: EVIDENCE FROM THE ASE

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Abstract

This paper examines how ownership concentration influences the relation between stock liquidity and asset liquidity. Liquid assets reduce uncertainty of assets in place and hence improve stock liquidity. However, liquid assets are less costly to turn into private benefits compared to other assets. Therefore, liquid assets may result in increasing the uncertainty of assets in place rather than reducing it. In this paper we examine the impact of asset liquidity on stock liquidity conditional on a company's ownership structure using the context of Jordan. Jordanian companies listed in the ASE are mostly characterized by highly concentrated ownership. In the absence of investor protection, concentrated ownership allows shareholders with large ownership stakes to exercise control over the firm and hence may result in increasing the uncertainty of assets in place. The uncertainty regarding the usage of liquid assets in cash-rich firms leads to greater uncertainty regarding the firm's cash flows and hence lower stock liquidity. The findings of this study show evidence that as ownership concentration increases asset liquidity becomes negatively related to stock liquidity.

Keywords: Stock Liquidity; Asset Liquidity; Ownership Concentration; Largest Shareholders; Jordan
JEL classification: G14; G31; G32

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1. INTRODUCTION

This paper examines the relation between asset liquidity and stock liquidity using a sample of firms listed on the Amman Stock Exchange (ASE). Specifically, it examines if the liquidity of a firm's assets carries to the liquidity of the financial claims on those assets. Liquid assets reduce the uncertainty of assets in place and hence improve stock liquidity (Gopalan et al., 2012). However, the extant literature assumes that the interests of the firm's agents are aligned and therefore a firm determines its liquid assets such that the value of the firm, through improvements in its stock liquidity, is maximized (Gopalan et al., 2012). In this study, we relax this assumption by looking at how ownership concentration affects the relationship between asset and stock liquidity. Specifically, we argue that excess liquid assets increase the scope of large shareholders' discretion and hence may result in increasing the uncertainty of assets in place rather than reducing it. Therefore, we expect that the sensitivity of stock liquidity to asset liquidity is negative for companies with concentrated ownership. To the best of our knowledge this is the first study to examine whether and how ownership concentration influences the relationship between asset and stock liquidity.

The literature on the impact of a firm's investment choices on stock liquidity is only recent with a small number of papers examining this issue (Gopalan et al., 2012; Chen et al., 2013; and Charoenwong et al., 2014). Gopalan et al. (2012) formalize a theoretical model that shows how managerial investment decisions can affect stock liquidity by converting liquid assets into illiquid ones. The authors hypothesize that more cash lowers valuation uncertainty associated with assets in place, and therefore more cash improves stock liquidity. This is consistent with the argument that liquid assets, such as cash and its equivalents, are subject to less information asymmetry and hence are easier to value than other assets such as fixed assets and growth options (Kothari et al., 2002 and Aboody and Lev, 2000). Therefore, firms with higher level of asset liquidity are expected to have lower valuation uncertainty and hence higher stock liquidity. Gopalan et al. (2012) find that for a panel data of all

Compustat firms during the time period 1962-2005 and after controlling for determinants of stock liquidity, there is a positive and significant relationship between the alternative measures of asset liquidity and those of stock liquidity. Charoenwong et al. (2014) report international evidence in 47 countries that supports the finding in Gopalan et al. (2012) of a positive impact of asset liquidity on stock liquidity. In addition, Chen et al. (2013) use the methodology in Faulkender and Wang (2006) to study the variation of the value of corporate liquid assets with that in stock liquidity. They find that excess returns are positively related to cash holdings and that the value of liquid assets increases for illiquid firms.

However, this study proposes that asset liquidity affects stock liquidity negatively when a firm's ownership structure is taken into account. Free cash flows increase managers', and by extension large-controlling shareholders', power due to the existence of more resources under their control (Jensen, 1986). In addition, it is less costly to turn liquid assets into private benefits compared to other assets (Myers and Rajan, 1998). Therefore, and in the absence of investor protection, large shareholders have incentives to appropriate cash holdings. The greater uncertainty over the usage and redeployment of cash and liquid assets entails greater uncertainty over the firm's future cash flows (Charoenwong et al., 2014). Traders anticipate this uncertainty of cash-rich firms controlled by large shareholders and therefore trade their stocks at a premium.

The direction of the relation between asset liquidity and stock liquidity, therefore, can be resolved empirically. In this paper, we examine this relation empirically using a sample of Jordanian nonfinancial firms listed in the ASE during the period 2001-2012. The dependent variable in our analysis is stock (ill) liquidity. To test our proposition, we employ different alternative measures of stock illiquidity and another measure of stock liquidity. The measures of stock illiquidity are: the implicit bid-ask spread proposed by Roll (1984) as estimated by Hasbrouck (2009); the proportion of zero trading days proposed by Lesmond et al. (1999); and the illiquidity measure proposed by Amihud (2002). Moreover, we employ the turnover ratio which is a measure of stock liquidity (Brennan et al., 1998; Datar et al., 1998; Chordia et al., 2001; and Avramov and Chordia, 2006). We follow Gopalan et al.'s (2012) methodology to construct the asset liquidity measures and we modify these measures to take into account short-term debt. Finally, we employ a set of control variables based on the empirical work on the determinants of the liquidity of individual assets (Demsetz, 1968; Tinic, 1972; Branch and Freed, 1977; Stoll, 1978; and Easley et al., 1987).

The main independent variable of interest in this paper is asset liquidity. The measurement of asset liquidity for the purposes of this study's empirical analysis follows closely the approach discussed in Gopalan et al. (2012). In order to construct the asset liquidity measures we rank a firm's assets based on their degree of liquidity and assign to each asset class a liquidity score between zero and one. Then, for each firm we compute a weighted average of the liquidity scores across the different asset classes. The weights are based on the proportion of each asset class scaled by the lagged value of total assets. As we will explain in details in the methodology section, we define three alternative measures of asset liquidity by varying the liquidity scores assigned to each asset class in the initial step. In addition, we propose another measure of asset liquidity based on the idea that investors take into account net cash position, cash minus short-term liabilities, when they assign a value to the firm's stock.

In our analysis, we control for variables that have been documented to affect stock liquidity in the literature. We include firm fixed effects to control for unobservable firm characteristics that affect stock liquidity. To test if our results are robust to controlling for endogeneity, we employ System Generalized Method of Moments (System-GMM) estimator proposed by Arellano and Bond (1991). Our initial findings show inconsistent evidence of a positive relation between asset liquidity and stock liquidity in the ASE. However, we obtain more consistent results when we introduce the interaction term between asset liquidity measures with the ownership concentration measure. The results show, in about half of our specifications, that asset liquidity measures are negatively and significantly related to illiquidity measures and positively and significantly related to the liquidity measure. These results indicate that asset liquidity is positively related to stock liquidity. The results also show that the interaction term is positively related to stock illiquidity measures and negatively related to the stock liquidity measure indicating that liquid assets in companies with (without) large shareholders reduce (enhance) stock liquidity. This result indicates that investors believe that excess cash in companies with large shareholders increase the scope of large shareholders' discretion which leads to greater uncertainty about future assets and hence lower stock liquidity. Therefore the sensitivity of stock liquidity to asset liquidity is negative for companies with high concentrated ownership.

Stock liquidity is an important field of study as liquidity is in itself a reduction in the cost of trading and an indicator of the degree of stock market development (Demirgüç-Kunt and Levine, 1996). In addition, the extant evidence shows that an increase in stock liquidity increases firm value by reducing its cost of equity (Amihud and Mendelson, 1986). However, there is little evidence on the impact of corporate investment decisions on the liquidity of stocks and virtually no evidence from the ASE. This research aims to fill this gap by studying whether and how the composition of firm assets of companies listed on the ASE influence their stock liquidity. Therefore, this study extends the US evidence presented in Gopalan et al. (2012) and the international evidence presented in Charoenwong et al. (2014). More importantly, this study contributes to the extant literature by providing the first evidence on the influence of ownership structure on the relationship between stock and asset liquidity. We find that in firms with large shareholders the sensitivity of stock liquidity to asset liquidity is negative. Overall, our findings indicate that ownership structure is an important determinant of the asset-stock liquidity relation.

The rest of the paper is organized as follows. The next section presents the literature related to the measurement of stock liquidity and asset liquidity. Section 3 presents the research model and data is described in Section 4. Results and analysis are discussed in Section 5 and the conclusion is presented in Section 6.

2. VARIABLE MEASUREMENT

2.1. Liquidity Measurement and Determinants

The literature suggests several variables that capture the stock liquidity. These variables are explained next.

2.1.1. Bid-Ask Spread

The bid-ask spread is the most popular measure of liquidity and is widely used to measure liquidity in the market microstructure literature (e.g. Amihud and Mendelson, 1986; Chordia et al., 2000; and Venkataraman, 2001 among others). Moreover, the bid-ask spread reflects three cost components: order processing costs, inventory costs, and information asymmetry costs. However, it is deemed a noisy measure, because large trades have a tendency to happen outside the spread and small trades have a tendency to happen inside the spread (Brennan and Subrahmanyam, 1996). According to the data availability, we calculate this measure and construct individual firm spread using daily data. This measure is computed in two stages. First we calculated a firm-specific quoted bid-ask spread and a proportional quoted spread, which is the quoted bid-ask spread divided by the midpoint of the quote for stock *i* in day *t* as follows:

$$qspr_{it} = ask_{it} - bid_{it} \quad (1)$$

$$pqspr_{it} = \sum_{i}^{j} (ask_{it} - bid_{it})/((ask_{it} + bid_{it})/2) \quad (2)$$

where, ask_{it} is the ask price for $stock_i$ at day_t, bid_{it} is the bid price for $stock_i$ at day *t*. Then, the average individual stock's quoted spread and proportional quoted spread is computed each year to construct a yearly liquidity series. The yearly liquidity series of quoted spread and proportional quoted spread is computed as follows:

$$QSPR_{it} = \left(1/N_i\right)\sum_{i}^{j}(ask_{it} - bid_{it}) \quad (3)$$

$$PQSPR_{it} = \left(1/N_i\right)\sum_{i}^{j}(ask_{it} - bid_{it})/((ask_{it}) + bid_{it}/2) \quad (4)$$

where, N_i is the number of trading days in a given year of stock *i*.

2.1.2. Zero Proportion of Trading Days

Lesmond et al. (1999) suggest a stock illiquidity measure derived from daily stock returns. Stock illiquidity measure called the Zero Proportion, is the proportion of trading days with zero returns for $stock_i$ during a year to the total trading days in a given year:

$$Zero_i = \frac{Trading\ Days\ with\ Zero\ Returns_i}{Total\ Trading\ Days} \quad (5)$$

2.1.3. Price Impact

The price impact (known as Kyle's lambda) is utilized as a proxy for liquidity in order to capture the depth dimension of liquidity which is the mean of the market's ability to absorb and execute large orders with a low price impact. We measure the price impact through illiquidity ratio, which is defined as the ratio of daily absolute stock returns over the trading value as proposed by Amihud's (2002). It can be interpreted as the daily price response associated with one dollar of trading volume, which is the opposite of the liquidity ratio that is used in the market microstructure literature (such as Cooper et al., 1985; Berkman and Eleswarapu, 1998). The main feature of this measure over other different measures of liquidity is that it requires just daily data to be computed and can be utilized to construct a series that could span a long time period. This measure is first calculated for each stock in the sample, that is, the price impact for stock *i* at day *t* is given as follows:

$$pimpact_{it} = \left|R_{it}\right|/TValue_{it} \quad (6)$$

where, R_{it} is the return for stock *i* at day *t* and $TValue_{it}$ is the trading value for stock *i* at day *t*. Then, the average of the individual stocks' price impact is computed each day to construct a yearly liquidity series as follows:

$$PIMPACT_{it} = \left(1/N_i\right)\sum_{i}^{j} pimpact_{it} \quad (7)$$

where, N_i is the number of trading days in a given year of stock *i*.

2.1.4. Trading Activity

Trading activity measures are widely accepted among researchers (see Brennan et al., 1998; Datar et al., 1998; Chordia et al., 2001; Avramov and Chordia, 2006 among others) because they are highly associated with the bid-ask spread and other measures of liquidity. We define the turnover ratio as the product of the division between the trading value and the market capitalization. Using daily data on this measure we construct an individual firm turnover ratio by computing the average individual stocks' turnover ratio as follows:

$$TOV_{it} = \left(1/N_i\right)\sum_{i}^{j} TValue_{it}/MV_{it} \quad (8)$$

where, $TValue_{it}$ is the trading value for stock *i* at day *t*, MV_{it} is the market capitalization for stock *i* at day *t*, and N_i is the number of trading days of stock *i*.

2.2. Asset Liquidity Measurement

The major independent variable in our study is asset liquidity. We follow Gopalan et al.'s (2012) methodology to construct asset liquidity measures. For a given firm, we rank its asset classes based on their degree of liquidity and assign a liquidity score between zero and one to each of them. Second, we calculate a weighted average of the liquidity scores across the different asset classes for each firm. The weights are based on the proportion of each asset class scaled by the lagged value of total assets. Depending on the liquidity scores assigned to each asset class in the first step, this methodology yields three alternative measures of weighted asset liquidity (*WAL*) score for each firm, explained next.

2.2.1. WAL1

The *WAL*1 measure is crude and assumes that assets other than cash have no liquidity. We then calculate *WAL*1 as follows:

$$WAL1_{it} = \frac{Cash\ \&\ Equivalents_{it}}{Total\ Assets_{it-1}} \times 1 + \frac{Other\ Assets_{it}}{Total\ Assets_{it-1}} \times 0 \quad (9)$$

In addition, we modify $WAL1_{i,t}$ into two ways as follows:

$$WAL1A_{it} = \frac{Cash\ \&\ Equivalents_{it} - Bank\ Debt_{it}}{Total\ Assets_{it-1}} \times 1 + \frac{Other\ Assets_{it}}{Total\ Assets_{it-1}} \times 0 \quad (10)$$

$$WAL1B_{it} = \frac{Cash\ \&\ Equivalents_{it} - Short\ Term\ Debt_{it}}{Total\ Assets_{it-1}} \times 1 + \frac{Other\ Assets_{it}}{Total\ Assets_{it-1}} \times 0 \quad (11)$$

where, bank debt and loans refer to short term maturity bank debt and short term maturity loans. This modification takes into account the practice among Jordanian firms to borrow in the short run as a mean of cash management. Firms subject to sudden cash shortages borrow from banks using credit lines or delay payment to their suppliers. This practice in essence turns short-term debt into negative cash.

2.2.1. WAL2

We assign a liquidity score of one to cash and cash equivalents and 0.5 to non-cash current assets because non-cash current assets are the second most liquid assets after cash. All other assets are assigned a score of zero. We calculate *WAL*2 as follows:

$$WAL2_{it} = \frac{Cash\ \&\ Equivalents_{it}}{Total\ Assets_{it-1}} \times 1 + \frac{Non\ Cash\ CA_{it}}{Total\ Assets_{it-1}} \times 0.5 + \frac{Other\ Assets_{it}}{Total\ Assets_{it-1}} \times 0 \quad (12)$$

2.2.3. WAL3

The third weighted asset liquidity *WAL*3 measure looks further into long-lived assets. Long-lived assets can be classified into tangible and non-tangible assets. We assign a liquidity score of one to cash and cash equivalents, 0.75 to non-cash current assets, 0.5 to tangible fixed assets, and zero to non-tangible assets. We then compute *WAL*3 as follows:

$$WAL3_{it} = \frac{Cash\ \&\ Equivalents_{it}}{Total\ Assets_{it-1}} \times 1 + \frac{Non\text{-}Cash\ CA_{it}}{Total\ Assets_{it-1}} \times 0.75 + \frac{Tangible\ Fixed\ Assets_{it}}{Total\ Assets_{it-1}} \times 0.5 + \frac{Other\ Assets_{it}}{Total\ Assets_{it-1}} \times 0 \quad (13)$$

3. STUDY METHODOLOGY

The aim of this study is to examine the relation between asset liquidity and stock liquidity using a sample of Jordanian firms. In addition, we condition the relation between asset liquidity and stock liquidity on the level of ownership concentration. To examine these relations we empirically test the following equation:

$$(IL)LIQ_{jit} = \lambda WAL_{kit} + \gamma \mathrm{Largest}_{it} + \theta \mathrm{Largest}_{it} \times WAL_{kit} + \sum_{m}^{1} \delta_j \mathrm{X}_{mit} + \nu_i + u_{it} \quad (14)$$

where, $(IL)LIQ_{jit}$ are our measures of illiquidity/liquidity which include: the quoted spread, proportional spread, proportion of zero trading days, price impact and finally turnover ratio; WAL_{kit} are our measures of asset liquidity; $\mathrm{Largest}_{it}$ represent the sum of the percentage ownership of the largest three shareholders owning 5% and more; $\mathrm{Largest}_{it} \times WAL_{kit}$ is our main variable of interest that represents the interaction between ownership concentration and the measures of asset liquidity; X_{mit} is a vector of control variables that includes the firm's size, MTB ratio, firm's profitability and price inverse. Following Stoll (2000) and Charoenwong et al. (2014) we include the following control variables. We include MV, defined as the log of total market capitalization, to control for the firm's size effect. We include market to book ratio (MTB) to control for growth opportunities. In addition, we include return on assets to control for the firm's operating performance. We also include the inverse of the stock price to control for the discrete tick size effect. The Operational definitions of the variables discussed so far are presented in Table 1.

Equation 14 is estimated using two alternative models: fixed (within) effects and System-GMM. The fixed effect (within) model deals with unobservable firm-specific effects ν_i, which, change across firms but is fixed for a given firm through time (Wooldridge, 2002). However, asset liquidity and stock liquidity are likely to be endogenous as firms with growth opportunities may have high asset liquidity and stock liquidity (Gopalan et al., 2012). Failing to control for this source of endogeneity will lead to biased estimators. To deal with this issue we employ the System Generalized Method of Moments (GMM) estimator proposed by Arellano and Bond

(1991). This procedure uses lagged values to instrument for asset liquidity and estimates the regression using the GMM procedure.

Table 1. Summary of Variable Definitions

Variables	***Proxy***
Quoted Spread	The differences between ask price and bid price.
Proportional Spread	The quoted bid-ask spread divided by the midpoint of the quote.
Zero	The proportion of trading days with zero returns to total trading days in a given year.
Price Impact	The impact of order flows on prices calculated as a ratio of absolute return to trading value.
Turnover Ratio	Turnover measure of trading activities, which is calculated by dividing trading value over the market capitalization.
WAL1	A measure of asset liquidity that assigns a liquidity score of one to cash and cash equivalents multiplied by a weight equal to the proportion of cash and cash equivalents scaled by the lagged value of total assets.
WAL1A	A measure based on *WAL*1 but that deducts short term bank debt from cash.
WAL1B	A measure based on *WAL*1 but that deducts short term debt from cash.
WAL2	A measure of asset liquidity that assigns a liquidity score of one to cash and cash equivalents and 0.5 to non-cash current assets and zero score to all other assets. Each score is multiplied by a weight computed as the proportion of each asset class scaled by the lagged value of total assets.
WAL3	A measure of asset liquidity that assigns a liquidity score of one to cash and cash equivalents, 0.75 to non-cash current assets, 0.5 to tangible fixed assets, and zero to non-tangible assets. Each score is multiplied by a weight computed as the proportion of each asset class scaled by the lagged value of total assets.
Largest	The percentage of shares held by the largest three owners who hold 5% or more of outstanding shares.
Size	The logarithm of total market capitalization (*MV*).
MTB	Market to book value ratio (MTB) defined as book value of total assets minus book value of equity plus market value of equity divided by book value of assets.
Profitability	Earnings before interest and tax (EBIT) divided by total assets.
Price Inverse	The inverse of the closing price.

4. DATA DESCRIPTION

This paper uses a sample of non-financial Jordanian companies that are publicly traded on the Amman Stock Exchange (ASE) over the period 2002-2012. The data is collected from three sources. Data on stock trading are obtained from the ASE's Trading Files and data on financial items are obtained from the ASE's Company Guides. Trading Files compile market and trading related data and is published by the ASE at the end of each trading day. The Company Guide compiles financial data items obtained from financial statements of firms listed in the ASE and is published by the ASE at the end of each fiscal year. Data on ownership is collected manually from the Corporate Guides for the period 2002-2007 and from the firm's annual reports thereafter. It is mandated that listed firms on the ASE disclose the names of owners with a stock holding equal or above 5%, the numbers of declared shares and the corresponding percentage of ownership for each owner. The trading, financial and ownership data are matched using the firm's identifier. The next table presents some descriptive statistics of the key variables in the study.

Table 2. Summary Statistics

Table 2 reports descriptive statistics for a sample of nonfinancial Jordanian firms listed in the ASE over the period 2002-2012. Trading data is collected from the Trading Files issued by the ASE. Financial data is collected from the Corporate Guides issued by the ASE. Ownership data is collected from the Corporate Guides for the period 2002-2007 and from the financial statements of listed companies thereafter.

Variables	Mean	Median	SD	Min	Max	Skewness	Kurtosis
Quoted Spread	0.365	0.181	0.467	0.017	3.370	2.847	13.826
Proportional Spread	0.248	0.141	0.267	0.013	1.295	1.542	4.813
Zero	0.403	0.382	0.215	0.080	0.843	0.267	1.930
Price Impact	0.000088	0.000041	0.000142	0.0000013	0.001238	4.387	28.092
Turnover Ratio	0.001	0.000	0.002	0.000	0.013	3.535	17.864
WAL1	0.062	0.028	0.096	0.000	0.587	3.035	13.691
WAL1A	0.010	0.008	0.145	-0.543	0.587	0.297	7.174
WAL1B	-0.100	-0.087	0.196	-0.837	0.509	-0.270	4.393
WAL2	0.262	0.253	0.147	0.013	0.770	0.662	3.377
WAL3	0.575	0.581	0.165	0.067	1.099	-0.424	3.776
Largest	53.566	53.00	18.475	7.9	98.38	0.106	2.684
Size	16.419	16.331	1.266	12.972	22.011	0.435	4.426
MTB	1.367	1.230	0.558	0.481	3.782	1.333	5.262
Profitability	0.040	0.040	0.071	-0.309	0.360	-0.096	7.119
Price Inverse	0.661	0.500	0.566	0.023	4.000	2.703	12.974

Table 3. Correlation Matrix

Table 3 shows the correlation between the variables used in the study. The sample consists of nonfinancial Jordanian firms listed in the ASE over the period 2001-2012. Variable definitions are presented in Table 1. [a], [b], and [c] indicate significance at the 1%, 5%, and 10% respectively.

	QSpread	PSpread	Zero	Price Impact	Turnover Ratio	WAL1	WAL1A	WAL1B	WAL2	WAL3	Largest	Size	MTB	Profitability	Price Inverse
QSpread	1														
PSpread	0.767[a]	1													
Zero	0.424[a]	0.450[a]	1												
P. Impact	0.148[a]	0.361[a]	0.350[a]	1											
Turnover	-0.12[b]	-0.028	-.338[a]	-0.16[a]	1										
WAL1	0.242[a]	0.066	0.104[b]	-0.017	-0.024	1									
WAL1A	0.197[a]	0.079[c]	0.124[b]	0.007	-0.060	0.791[a]	1								
WAL1B	0.091[c]	0.009	0.032	0.030	-0.038	0.378[a]	0.510[a]	1							
WAL2	0.184[a]	0.109[b]	0.007	-0.007	0.026	0.650[a]	0.366[a]	0.073	1						
WAL3	0.092[b]	0.064	0.018	-0.021	-0.040	0.434[a]	0.200[a]	0.002	0.845[a]	1					
Largest	0.068	-0.16[a]	-0.027	-0.18[a]	-0.361[a]	0.098[b]	0.107[b]	0.158[a]	-0.108[b]	-0.060	1				
Size	0.596[a]	0.420[a]	0.238[a]	0.053	-0.185[a]	0.251[a]	0.161[a]	0.098[b]	0.179[a]	0.168[a]	0.455[a]	1			
MTB	0.202[a]	-0.026	0.120[b]	-0.14[a]	-0.262[a]	0.264[a]	0.207[a]	0.058	0.202[a]	0.167[a]	0.365[a]	0.334[a]	1		
Profit.	-0.30[a]	-0.14[a]	-0.20[a]	0.062	0.273[a]	-0.18[a]	-0.120[b]	-0.055	-0.19[a]	-0.14[a]	-0.364[a]	-0.38[a]	-0.48[a]	1	
P.Inverse	0.043	0.151[a]	0.213[a]	0.098[b]	-0.202[a]	0.070	0.107[b]	-0.019	0.067	0.082[c]	0.127[b]	0.160[a]	0.101[b]	-0.14[a]	1

Table 4. Fixed Effects Model

*Table 4 reports estimation results of the stock liquidity model using firm fixed effects. The sample consists of nonfinancial Jordanian firms listed in the ASE over the period 2001-2012. Variable definitions are presented in Table 1. t-statistics are in parentheses. ***, **, * indicate significance at the 1%, 5%, and 10% respectively.*

	Quoted Spread	Proportional Spread	Zero	Price Impact	Turnover	Quoted Spread	Proportional Spread	Zero	Price Impact	Turnover
WAL1	-0.0423** (-2.04)	-0.0538** (-2.24)	0.0116** (2.47)	-0.0961*** (-3.46)	-0.0226 (-0.80)	- -	- -	- -	- -	- -
WAL1A	- -	- -	- -	- -	- -	0.116 (0.55)	0.386 (1.59)	0.0796 (1.62)	-0.587** (-2.00)	-0.153 (-0.52)
Largest	0.00929** (2.17)	0.00327 (0.66)	0.0057*** (5.81)	0.0257*** (4.42)	-0.0396*** (-6.70)	0.00956** (2.26)	0.00312 (0.64)	0.00557*** (5.74)	0.0256*** (4.41)	-0.0388*** (-6.67)
MV	0.234*** (2.68)	-0.0825 (-0.82)	-0.0402** (-2.04)	0.0595 (0.51)	-0.394*** (-3.32)	0.211** (2.43)	-0.0727 (-0.73)	-0.0396** (-2.02)	0.0388 (0.33)	-0.385*** (-3.27)
MTB	0.703*** (5.94)	0.733*** (5.36)	0.0816*** (3.04)	0.25 (1.56)	-0.236 (-1.46)	0.746*** (6.33)	0.747*** (5.53)	0.0838*** (3.15)	0.25 (1.58)	-0.253 (-1.58)
Profitability	-1.125* (-1.89)	-2.454*** (-3.57)	-0.123 (-1.00)	-0.672 (-0.92)	0.131 (0.18)	-1.481** (-2.59)	-2.815*** (-4.29)	-0.104 (-0.89)	-1.179* (-1.68)	0.0798 (0.11)
Price Inverse	-0.479*** (-4.64)	-0.223* (-1.87)	0.0284** (2.01)	0.459*** (5.50)	-0.481*** (-5.68)	-0.426*** (-4.28)	-0.210* (-1.84)	0.0277** (1.99)	0.464*** (5.57)	-0.488*** (-5.83)
Observations R^2	448 0.3844	448 0.1695	489 0.1122	489 0.1484	489 0.2157	440 0.3713	440 0.1681	481 0.1031	481 0.1361	481 0.2132
Table 4. Continued										
WAL2	-0.0217 (-0.32)	-0.1 (-1.30)	0.018 (1.18)	-0.251*** (-2.78)	-0.00461 (-0.05)	- -	- -	- -	- -	- -
WAL3	- -	- -	- -	- -	- -	-0.0343 (-0.37)	-0.0585 (-0.55)	0.0342 (1.60)	-0.300** (-2.36)	-0.0997 (-0.78)
Largest	0.00953** (2.25)	0.00298 (0.61)	0.00559*** (5.75)	0.0255*** (4.42)	-0.0389*** (-6.67)	0.00946** (2.23)	0.00289 (0.59)	0.00567*** (5.83)	0.0247*** (4.27)	-0.0391*** (-6.71)
MV	0.207** (2.39)	-0.086 (-0.86)	-0.0402** (-2.05)	0.0366 (0.32)	-0.382*** (-3.25)	0.204** (2.33)	-0.0882 (-0.88)	-0.0370* (-1.88)	0.0139 (0.12)	-0.394*** (-3.32)
MTB	0.747*** (6.31)	0.759*** (5.58)	0.0783*** (2.93)	0.311* (1.96)	-0.247 (-1.54)	0.750*** (6.29)	0.751*** (5.47)	0.0746*** (2.77)	0.328** (2.05)	-0.228 (-1.41)
Profitability	-1.461** (-2.54)	-2.718*** (-4.11)	-0.124 (-1.04)	-0.857 (-1.21)	0.0744 (0.10)	-1.468** (-2.56)	-2.794*** (-4.24)	-0.121 (-1.02)	-1.026 (-1.46)	0.134 (0.19)
Price Inverse	-0.433*** (-4.30)	-0.239** (-2.07)	0.0286** (2.03)	0.445*** (5.35)	-0.486*** (-5.78)	-0.434*** (-4.31)	-0.226* (-1.96)	0.0293** (2.09)	0.448*** (5.37)	-0.493*** (-5.86)
Observations R^2	448 0.3709	448 0.1661	489 0.1002	489 0.1443	489 0.2126	448 0.371	448 0.1627	489 0.1029	489 0.1396	489 0.2139

5. RESULTS AND ANALYSIS

To begin our empirical analysis we test whether on average there is a positive or a negative relation between asset liquidity and stock liquidity by estimating a fixed effects model as specified in equation 1. In order to account for the impact of other variables we estimate the relation between asset liquidity and stock liquidity including a set of control variables. We don't report the estimation results using the variable *WAL*1*B* to save space, however, the results are qualitatively similar to ones using *WAL*1*A*. We employ the 20 different combinations of asset liquidity and stock liquidity measures. Since four measures of stock liquidity, namely quoted spread, proportional spread, zero ratio and price impact, are in fact measures of stock illiquidity the sign of the relation between asset liquidity and stock liquidity is opposite to the sign of the coefficient. However, the turnover ratio is a measure of stock liquidity and hence the sign of the relation between asset and stock liquidity is similar to the sign of the coefficient. We report the results of the base model in Table 4 (See page 55).

Each column in Table 4 reports the estimation result using an alternative measure of (ill) liquidity. Each five columns in Table 4 report the estimation results for a different measure of asset liquidity: *WAL*1; *WAL*1*A*; *WAL*2; and *WAL*3. The results of the model estimates using the variable *WAL*1*B* are not reported to save space, however, they are qualitatively similar to the results using *WAL*1*A*. In case the dependent variable is *Quoted Spread*, *Proportional Spread* and *Price Impact*, the sign of the coefficients of asset liquidity measures reported in Table 4 are negative (with two exceptions). However, they are positive in case the dependent variable is *Zero*. On the other hand, in case the dependent variable is *Turnover* the sign of the coefficients of asset liquidity measures are negative. The signs of the coefficients of stock liquidity when using *Quoted Spread*, *Proportional Spread* and *Price Impact* as the dependent variable indicate that asset liquidity is positively related to stock liquidity. However, the signs of the coefficients of stock liquidity when using *Zero* and *Turnover* indicate asset liquidity is negatively related to stock liquidity. The only specifications where the coefficients of asset liquidity measures are consistently significant are when the dependent variable is *Price Impact*. However, the coefficients of asset liquidity measures are significant when using *Quoted Spread*, *Proportional Spread* in one specification, using *WAL*1, and when using *Zero* in one specification, when using *WAL*1. The coefficients on the asset liquidity measures are insignificant in case of using *Turnover* in all specifications.

Overall, the results reported in Table 4 are mixed. These mixed results call for further examination as they indicate that two effects may coexist due to the influence of another variable on the asset-stock liquidity relation. One particular variable of interest that can influence the asset stock liquidity relation is the firm's ownership structure. More liquid assets imply more discretion for agents controlling the firm which leads to greater uncertainty about future assets and hence lower stock liquidity. Therefore, the average relation between asset liquidity and stock liquidity may be subject to the influence of a firm's ownership structure. In order to examine the possible influence of a firm's ownership structure on the asset stock liquidity relation, we include an interaction term between the firm's ownership concentration, approximated by the ownership of the largest three shareholders, and its stock liquidity measure. We report the results of the modified model in Table 5.

The estimations reported in Table 5 reveal some interesting results. First, the sign of the coefficients of asset liquidity measures are negative (with little exceptions) in specifications using illiquidity measures as their independent variable and positive in specifications using the liquidity measure. These results indicate that on average asset liquidity is positively related to stock liquidity. Second, the average positive impact of asset liquidity on stock liquidity is reversed when considering the firm's ownership structure. The interaction term between *Largest* and each of the asset liquidity measures, carry a positive sign (with little exceptions) in specifications using illiquidity measures as their independent variable and a negative sign in specifications using the liquidity measure. Specifications where the coefficients of the interaction term are consistently significant are when the dependent variable is *Price Impact*. The coefficients of asset liquidity measures are significant when using *Zero* in one specification, and when using *Turnover* in another specification. These results show evidence that although the average impact of asset liquidity on stock liquidity is positive; the impact becomes negative in firms with large ownership concentration.

To deal with the endogeneity between asset liquidity and stock liquidity we employ the System Generalized Method of Moments estimator proposed by Arellano and Bond (1991). This procedure uses lagged values to instrument for asset liquidity and estimates the regression using the GMM procedure. We report the results in Table 6. The results are similar to the ones reported in Table 5. The sign of the coefficients of asset liquidity measures are negative (with little exceptions) in specifications using illiquidity measures as their independent variable and positive in specifications using the liquidity measure, which indicates that on average asset liquidity is positively related to stock liquidity. In addition, the interaction term between *Largest* and each of the asset liquidity measures is positive (with little exceptions) in specifications using illiquidity measures as their independent variable and negative in specifications using the liquidity measure. The coefficients of the interaction term are mostly significant when using *Turnover*, and more often than not significant when using *Quoted Spread*, *Proportional Spread*, and *Price Impact*. However, the coefficients of asset liquidity measures are significant when using *Zero* in one specification. These results supports the notion that the average impact of asset liquidity on stock liquidity is positive, however, the impact becomes negative in firms with large ownership concentration.

Table 5. Stock Liquidity and Asset Liquidity Conditional on Ownership Concentration: Firm Fixed Effects

*Table 5 reports estimation results of the stock liquidity model including an interaction term between Largest and each of the asset liquidity measures. The sample consists of nonfinancial Jordanian firms listed in the ASE over the period 2001-2012. Variable definitions are presented in Table 1. t-statistics are in parentheses. ***, **, * indicate significance at the 1%, 5%, and 10% respectively.*

	Quoted Spread	***Proportional Spread***	***Zero***	***Price Impact***	***Turnover***	***Quoted Spread***	***Proportional Spread***	***Zero***	***Price Impact***	***Turnover***
WAL1	-0.0612 (-1.22)	-0.104* (-1.80)	-0.0091 (-0.80)	-0.324*** (-4.84)	0.150** (2.18)	- -	- -	- -	- -	- -
WAL1*Largest	0.0004 (0.41)	0.0011 (0.96)	0.0004** (1.99)	0.0049*** (3.72)	-0.0037*** (-2.75)	- -	- -	- -	- -	- -
WAL1A	- -	- -	- -	- -	- -	-0.384 (-0.52)	-0.37 (-0.44)	0.0502 (0.30)	-2.165** (-2.20)	0.969 (0.98)
WAL1A*Largest	- -	- -	- -	- -	- -	0.0094 (0.70)	0.0142 (0.93)	0.0006 (0.19)	0.0300* (1.68)	-0.0213 (-1.19)
Largest	0.0112* (1.78)	0.0083 (1.15)	0.0078*** (5.40)	0.0491*** (5.78)	-0.0572*** (-6.59)	0.0100** (2.34)	0.0038 (0.78)	0.0056*** (5.68)	0.0273*** (4.65)	-0.0401*** (-6.78)
MV	0.236*** (2.70)	-0.0766 (-0.76)	-0.0372* (-1.89)	0.0921 (0.80)	-0.418*** (-3.54)	0.215** (2.48)	-0.0659 (-0.66)	-0.0395** (-2.01)	0.0474 (0.41)	-0.391*** (-3.32)
MTB	0.702*** (5.92)	0.730*** (5.34)	0.0800*** (3.00)	0.231 (1.48)	-0.223 (-1.39)	0.743*** (6.30)	0.743*** (5.50)	0.0837*** (3.14)	0.244 (1.54)	-0.248 (-1.55)
Profitability	-1.112* (-1.86)	-2.419*** (-3.52)	-0.102 (-0.83)	-0.436 (-0.60)	-0.0482 (-0.07)	-1.441** (-2.50)	-2.753*** (-4.18)	-0.101 (-0.85)	-1.005 (-1.42)	-0.0438 (-0.06)
Price Inverse	-0.480*** (-4.64)	-0.227* (-1.90)	0.0295** (2.10)	0.472*** (5.74)	-0.491*** (-5.83)	-0.431*** (-4.31)	-0.217* (-1.89)	0.0275* (1.97)	0.454*** (5.45)	-0.481*** (-5.73)
Observations R^2	448 0.3847	448 0.1718	489 0.1214	489 0.1787	489 0.2312	440 0.3722	440 0.1702	481 0.1031	481 0.1424	481 0.2161
Table 5. Continued										
WAL2	-0.052 (-0.39)	-0.169 (-1.10)	-0.0071 (-0.24)	-0.836*** (-4.75)	0.368** (2.04)	- -	- -	- -	- -	- -
WAL2*Largest	0.0006 (0.26)	0.0015 (0.52)	0.0006 (0.96)	0.0128*** (3.85)	-0.0082** (-2.40)	- -	- -	- -	- -	- -
WAL3	- -	- -	- -	- -	- -	0.147 (0.73)	0.145 (0.63)	0.0439 (0.96)	-0.820*** (-3.04)	0.0477 (0.17)
WAL3*Largest	- -	- -	- -	- -	- -	-0.0033 (-1.01)	-0.0037 (-0.99)	-0.0002 (-0.24)	0.0098** (2.18)	-0.0028 (-0.61)
Largest	0.0106* (1.78)	0.0055 (0.80)	0.0065*** (4.73)	0.0474*** (5.90)	-0.0529*** (-6.43)	0.0067 (1.32)	-0.0002 (-0.04)	0.0055*** (4.72)	0.0331*** (4.78)	-0.0415*** (-5.92)
MV	0.206** (2.38)	-0.0877 (-0.88)	-0.0410** (-2.09)	0.0199 (0.17)	-0.371*** (-3.17)	0.211** (2.41)	-0.0802 (-0.80)	-0.0367* (-1.85)	-0.0069 (-0.06)	-0.388*** (-3.26)
MTB	0.746*** (6.27)	0.755*** (5.54)	0.0769*** (2.87)	0.280* (1.80)	-0.227 (-1.42)	0.756*** (6.33)	0.757*** (5.51)	0.0749*** (2.77)	0.312* (1.96)	-0.224 (-1.38)
Profitability	-1.444** (-2.49)	-2.682*** (-4.03)	-0.111 (-0.92)	-0.55 (-0.78)	-0.122 (-0.17)	-1.537*** (-2.66)	-2.871*** (-4.32)	-0.125 (-1.04)	-0.796 (-1.12)	0.0688 (0.10)
Price Inverse	-0.435*** (-4.31)	-0.242** (-2.09)	0.0284** (2.02)	0.441*** (5.40)	-0.484*** (-5.78)	-0.425*** (-4.21)	-0.216* (-1.86)	0.0294** (2.09)	0.442*** (5.31)	-0.492*** (-5.83)
Observations R^2	448 0.3710	448 0.1667	489 0.1024	489 0.1762	489 0.2243	448 0.3728	448 0.1651	489 0.1031	489 0.1501	489 0.2146

Table 6. Stock Liquidity and Asset Liquidity Conditional on Ownership Concentration: System-GMM

*Table 6 reports estimation results of the stock liquidity model including an interaction term between Largest and each of the asset liquidity measures and using System-GMM. Variable definitions are presented in Table 1. z-statistics are in parentheses. ***, **, * indicate significance at the 1%, 5%, and 10% respectively. [a] indicates significance at the 1%.*

	Quoted Spread	***Proportional Spread***	***Zero***	***Price Impact***	***Turnover***	***Quoted Spread***	***Proportional Spread***	***Zero***	***Price Impact***	***Turnover***
WAL1	-0.298*** (-3.19)	-0.342*** (-3.05)	-0.0232 (-0.97)	-0.506*** (-3.80)	0.268* (1.94)	- -	- -	- -	- -	- -
WAL1*Largest	0.0038** (2.11)	0.0045** (2.09)	0.00085* (1.82)	0.0097*** (3.74)	-0.0068** (-2.53)	- -	- -	- -	- -	- -
WAL1A	- -	- -	- -	- -	- -	-1.869 (-1.55)	-2.017 (-1.46)	0.165 (0.59)	-3.038* (-1.87)	-0.0644 (-0.04)
WAL1A*Largest	- -	- -	- -	- -	- -	0.0397* (1.73)	0.0517** (1.96)	-0.0031 (-0.58)	0.0531* (1.72)	0.0061 (0.20)
Largest	0.0506*** (3.88)	0.0357** (2.28)	0.0115*** (3.41)	0.0838*** (4.48)	-0.0659*** (-3.39)	0.0200** (2.31)	0.0269*** (2.71)	0.007*** (3.47)	0.0354*** (3.03)	-0.0336*** (-2.93)
MV	0.276** (2.01)	0.0473 (0.29)	-0.0774** (-2.16)	0.0799 (0.40)	-0.613*** (-2.96)	-0.543*** (-3.99)	-0.747*** (-4.78)	-0.160*** (-4.94)	-0.787*** (-4.21)	0.338* (1.84)
MTB	1.095*** (4.80)	1.273*** (4.66)	0.0496 (0.84)	0.724** (2.21)	0.146 (0.43)	1.468*** (8.62)	1.329*** (6.79)	0.266*** (7.03)	1.064*** (4.87)	-1.123*** (-5.24)
Profitability	0.805 (0.57)	3.634** (2.14)	-1.128*** (-3.08)	-5.121** (-2.52)	3.912* (1.86)	-0.143 (-0.11)	-1.199 (-0.84)	-0.342 (-1.25)	-3.989** (-2.53)	2.084 (1.34)
Price Inverse	-0.428** (-2.00)	0.305 (1.19)	0.0849** (2.05)	0.806*** (3.51)	-1.076*** (-4.52)	-0.642** (-2.50)	-0.365 (-1.24)	0.0395 (0.71)	0.549* (1.70)	-0.345 (-1.09)
Observations ***Arellano-Bond*** ***Sargan Test***	448 -1.53 60.65	448 -1.01 51.58	489 -0.47 64.90	489 -0.41 117.75[a]	489 0.12 83.92[a]	440 -0.88 53.01	440 -0.98 56.43	481 -0.65 101.91[a]	481 0.21 82.15[a]	481 -0.01 130.92[a]
Table 6. Continued										
WAL2	-0.227 (-1.14)	0.190 (0.87)	-0.0646 (-1.25)	-0.219 (-0.78)	0.611** (2.12)	- -	- -	- -	- -	- -
WAL2*Largest	-0.0012 (-0.40)	-0.0076 (-1.28)	0.0007 (0.94)	0.0032 (0.76)	-0.00998** (-2.31)	- -	- -	- -	- -	- -
WAL3	- -	- -	- -	- -	- -	-0.0908 (-0.33)	0.363 (1.19)	0.0060 (0.08)	-0.315 (-0.76)	0.307 (0.72)
WAL3*Largest	- -	- -	- -	- -	- -	-0.0036 (-0.90)	-0.0104 (-1.38)	-0.0002 (-0.20)	0.0034 (0.58)	-0.0059 (-0.97)
Largest	0.0188* (1.71)	-0.0039 (-0.32)	0.0063** (2.21)	0.0329** (2.13)	-0.0223 (-1.41)	0.0059 (0.67)	-0.0036 (-0.37)	0.0013 (0.56)	0.0107 (0.82)	0.0004 (0.03)
MV	0.318** (1.97)	0.190 (1.06)	-0.0544 (-1.27)	0.331 (1.43)	-0.497** (-2.09)	0.0791 (0.69)	-0.153 (-1.21)	-0.0307 (-0.97)	-0.0703 (-0.41)	-0.396** (-2.25)
MTB	0.978*** (4.74)	0.905*** (3.96)	0.0827 (1.54)	0.223 (0.77)	0.0718 (0.24)	1.241*** (6.05)	1.273*** (5.62)	-0.0049 (-0.09)	0.550* (1.82)	0.34 (1.10)
Profitability	-1.079 (-0.77)	-1.157 (-0.74)	-0.739** (-2.00)	-2.688 (-1.34)	1.003 (0.49)	-2.129* (-1.75)	-2.042 (-1.52)	-1.070*** (-3.26)	-6.958*** (-3.88)	4.012** (2.19)
Price Inverse	-0.675** (-2.37)	-0.522* (-1.65)	0.131*** (3.13)	0.892*** (3.94)	-0.787*** (-3.38)	-0.876*** (-3.58)	-0.392 (-1.45)	0.136*** (3.02)	0.940*** (3.82)	-0.831*** (-3.30)
Observations ***Arellano-Bond*** ***Sargan Test***	448 -1.14 80.34[a]	448 -0.99 74.74[a]	489 -0.54 97.61[a]	489 0.02 165.34[a]	489 0.47 160.54[a]	448 -1.12 85.60[a]	448 -1.18 71.12	489 -0.48 87.78[a]	489 -0.18 126.19[a]	489 0.45 121.64[a]

As for the control variables, we find strong evidence that ownership concentration is negatively related to liquidity. The variable *Largest* is positively and significantly related to our proxies of illiquidity measures, except for *Proportional Spread*, and negatively and significantly related to our liquidity measure, *Turnover*. This result indicates *Largest* is negatively related to liquidity. In addition, we find that the firm's market value *MV* is positively and significantly related to *Quoted Spread* and negatively and significantly related to *Turnover*, indicating that *MV* is negatively related to liquidity. This result is consistent with the evidence reported in Gopalan et al. (2012). However, *MV* is significantly and negatively related to Zero, indicating that MV is positively related to MV. This result supports the findings reported in Charoenwong et al. (2014). We also find that MTB is positively and significantly related to *Proportional Spread*, *Quoted Spread* and *Zero*. These findings indicate that *MTB* is negatively related to liquidity. The firm's profitability, *Profitability*, when significant, is negatively related to measures of stock liquidity and positively related to the measure of stock liquidity indicating that the firm's profitability is positively related to liquidity. Finally, *Price Inverse* is negatively related to trading costs especially *Quoted Spread*. However, it is positively related to other illiquidity measures, *Zero* and *Price Impact* and negatively related to *Turnover*.

6. CONCLUSION

This paper investigates the impact of asset liquidity on stock liquidity using a sample of firms listed on the ASE during the period 2001-2012. In this study, we examine how ownership concentration affects the relationship between asset and stock liquidity. Excess liquid assets increase the scope of large shareholders' discretion and hence may result in increasing the uncertainty of assets in place rather than reducing it. Free cash flows increase large-controlling shareholders' power due to the existence of more resources under their control. In addition, it is less costly to turn liquid assets into private benefits compared to other assets. Therefore, in the absence of investor protection, large shareholders may have incentives to appropriate liquid assets. The uncertainty regarding the usage of liquid assets in cash-rich firms leads to greater uncertainty regarding the firm's cash flows and hence investors trade the stocks of cash-rich firms controlled by large shareholders at a premium. Therefore, the sensitivity of stock liquidity to asset liquidity is expected to be negative for companies with concentrated ownership.

The results show some evidence that asset liquidity measures are negatively related to trading costs, price impact and the proportion of zero trading days and positively related to the turnover ratio. These results indicate that on average asset liquidity is positively related to stock liquidity. In addition, the results indicate that the interaction between asset liquidity measures with the ownership concentration measure is positively related to illiquidity measures (negatively related to the turnover ratio). This result indicates that liquid assets in companies with (without) large shareholders reduce (enhance) stock liquidity. Excess cash in companies with large shareholders increase the scope of large shareholders' discretion which leads to greater uncertainty about the firm's future cash flows. Therefore the sensitivity of stock liquidity to asset liquidity is negative for companies with concentrated ownership. The evidence presented in this paper, although inconclusive, is important as it shows that ownership structure influences the relationship between stock and asset liquidity. Future research can re-examine this issue by investigating other economies with varying degrees of investor protection.

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EFFICIENCY, VALUE ADDITION AND PERFORMANCE OF US BANK MERGERS

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Abstract

There is little consensus regarding the overall performance of mergers and acquisitions in the banking industry. The goal of this paper is to investigate the change in operating performance, efficiency, and value addition of US bank mergers and acquisitions after GLBA. We extend the previous research by combining all the previous methodologies used in mergers and acquisitions studies and add a new methodology, namely Expected EVA improvement. We will test whether these performance metrics yield similar results or if the performance of mergers varies depending on the measurements. We will also examine the factors that have significant impact on changes in bank performance. Our empirical results lead to the conclusion that the industry-adjusted operating performance of merged banks increases significantly after a merger. This finding is consistent with the findings of Cornett et al. (2006).We also find that the acquirer expected EVA improvement increases significantly after a merger. Revenue enhancement opportunity appears to be more profitable if there exists more opportunity for cost cutting such as geographically focused and diversified mergers. Product diversification mergers increase the industry adjusted performance more than product focused mergers. The efficiency or profitability of targets have either a positive or no effect on acquirer performance.

Keywords: Merger and Acquisitions, Diversification, EVA, DEA, Performance, US Banks
JEL Classification: G21, G28, G30, G34

1. INTRODUCTION

Bank mergers and acquisitions (M&A) have been a trend in the US since the mid-1980s. This bank consolidation process was accelerated with the passing of the Riegle-Neal Interstate Banking and Branch Efficiency Act (1994) and the Gramm-Leach-Bliley Act of 1999 (GLBA), or Financial Service Modernization Act. These acts removed the restrictions on interstate banking and the barriers between depository institutions and securities and insurance firms. The GLBA presented US banks the opportunity to shift away from lending activities toward broader financial services and opened the way for full financial integration, or universal banking. According to most practitioners and academics, the process of banking integration is far from complete; this trend is expected to continue and become more comprehensive[9]. Berger et al. (1999) argue that M&A are banks' strategic answer to a regulatory environment. This consolidation is largely motivated by the fact that the acquirer can improve performance through economies of scale and scope, revenue enhancement, cost reduction, cost and profit efficiency, increased market power, and reduced earnings volatility. Although the number and size of mergers within the banking industry have steadily increased, there is little consensus regarding the impact of consolidation on industry performance. These mixed findings reflect the different methodologies used in previous studies, but the high incidence of contradictory findings results from the differences in the time period being studied. Much of the extant literature examines M&A data at early stages in the industry consolidation process, mainly from the mid-1980s through the mid-1990s, and consequently may have been observing disequilibrium or pre-equilibrium phenomena (DeYoung, Evanoff, & Molyneux, 2009). This raises the question of whether all bank M&A have a significant impact on bank performance or whether it is possible to differentiate the types of M&A that lead to significant gains from those that do not add value. The goal of this paper is to investigate the change in operating performance, efficiency, and value addition of bank M&A after the GLBA. Following prior research, we will examine the operating performance and efficiency of bank mergers. Then we will add a new measure, the Expected Economics Value added (EVA) Improvement, which will interest both academic researchers and practitioners. We will test whether these performance metrics have similar results or the performance of mergers varies depending on the measurements. We will also examine the factors that significantly affect the change in the banks' performance. As there is little consensus regarding the overall performance of M&A, we will also extend our analysis to address the impact of activity- and geographically focused mergers versus activity- and geographically diversified mergers.

[9] Source: Mishkin (1998) observes that regulatory and technological changes will allow banks to expand, and in twenty years, the number of banks will be less than half the current number.

In this paper, we will take a very simple route and define activity-focused mergers as when the two-digit standard industrial classification codes (SIC) of the target and the acquirer are the same. If both the target and the acquirer are from the same state, we will call this type of merger a geographically focused merger. There appears to be a significantly different set of goals between a focused and a diversified merger. While cost savings are anticipated from focused mergers, revenue growth is usually the goal of diversified mergers. For example, in the year 2000, when Chase Manhattan Bank, a bank, acquired JP Morgan, a non-bank financial firm, the CEOs of both companies claimed the merger was driven more by *revenue growth potential* than by cost reduction (Cornett, McNutt, & Tehranian, 2006). This merger added diversification to Chase's business in the form of equity underwriting, equity derivatives, and asset management—areas Chase had been trying to build by itself. Less than four years later, JP Morgan Chase acquired Bank ONE for almost twice the deal value of its earlier acquisition and claimed the combined entity was anticipating an annual cost savings of $2.2 billion[10].

The financial gain from M&A can come from improving either market power or operating performance and efficiency. We will directly test the merger-induced operating performance and efficiency by comparing pre- and post-merger levels of financial ratios and non-parametric efficiency measures, namely input-oriented efficiency and output-oriented efficiency. To test if mergers create value for shareholders, we will compare pre- and post-merger expected EVA improvement. In addition, while it is not simple to determine if mergers attract two firms with similar activities, we can easily differentiate between banks whose last two-digit SIC codes are different. For example, the SIC code is 6000 for depository institutions, 6100 for non-depository credit unions, and 6200 for securities and commodities brokers. Due to financial deregulation, the US banking industry is steadily shifting away from traditional sources of revenue, that is, loan making, toward non-traditional activities that generate fee income, service charges, trading revenue, and other types of noninterest income. Some of the reasons that commercial banks acquire non-banks are regulatory changes, capital adequacy requirements, an increase in cost efficiency, revenue growth, and managers' personal incentives.

Finally, we will test the relationship between the change in bank-performance and merger-related factors, along with other firm-level control variables that are found to be significant in affecting performance. Our merger data was collected after the GLBA was passed; hence, our entire merger sample will have a similar regulatory effect. We will consider a merger if the target size measured by total assets is greater than $100 million. Most of the literature on the US bank merger study sample periods falls between two regulatory regimes. For example, examining the sample period of mergers from 1996 to 2004 will provide biased results due to the differences in merger motivation before and after the GLBA. Our paper will overcome this issue. To our knowledge, no other study has explored the value addition of bank mergers by the expected EVA improvement methodology. This will be the main contribution of this research.

The rest of the paper is organized as follows. Section Two summarizes the literature review and highlights the main findings in this area. Section Three describes our data and methodology. Section Four analyzes our results, and Section Five concludes the paper.

2. LITERATURE REVIEW ON MERGERS AND ACQUISITIONS

Extensive research has been done on consolidations in the banking industry. Overall, these studies provide mixed evidence, and many fail to show a clear relationship between M&A and performance. In this section, we review the portion of the literature most relevant to our work. Interestingly, some empirical evidence suggests that M&A operations in the US banking industry have not improved performance (DeLong & DeYoung, 2007; Amel et al., 2004; Berger, Demsetz, & Strahan, 1997). Beccalli and Frantz (2009) investigated the effects of M&A on the performance of banks and explored the sources of merger-induced changes in performance. They used a sample of 714 deals involving European Union (EU) acquirers and targets throughout the world from 1991 to 2005. Their results showed that M&A slightly deteriorate performance measured by return on equity, cash flow return, and profit efficiency, while improving performance measured by cost efficiency. They attributed these changes in performance directly to M&As' operations and argued that the changes would not have occurred in the absence of M&A. Hagendorff and Keasey (2009) found some evidence for a cost-cutting and revenue-enhancing strategy that entails an increase in both on- and off-balance sheet activities for US mergers during the three years after a merger of European banks. They also discovered that a European merger resulted in an increase of small performance gains for the acquirer during the post-merger period, while a US merger did not result in any performance changes. Considering the impact of M&A on cost X-efficiency (Vander Vennet, 1996, 2002; Altunbas, Molyneux, & Thornton, 1997); the impact on profitability ratios such as ROE and ROA (Vander Vennet, 1996; Altunbas and Ibáñez, 2004); and the impact on profit X-efficiency (Huizinga et al., 2001; Vander Vennet, 2002), a handful of literature on M&As in the EU banking industry also seems to conclude that M&A seldom improve performances. By using a hybrid translog cost function, Altunbas, Molyneux, and Thornton (1997) found limited opportunities for cost savings from big-bank mergers. An increase in total costs appeared more likely. By using a sample of 492 M&A operations related to EU banks from 1988 to 1993, Vander Vennet (1996) showed that domestic mergers among equal-sized partners significantly increase the accounting profitability of the merged banks, while improvements in cost efficiency are observed only for cross-border acquisitions, not for domestic operations.

Another study by Cornett, McNutt, and Tehranian (2006) found a contrasting result showing that industry-adjusted operating performance of merged banks increases significantly after a merger. They used 134 samples of US bank mergers from 1990 to 2000 to examine the changes in overall industry-adjusted operating performance and long-

[10] Source: Harjoto, Yi, and Chotigeat, 2012.

run stock returns of commercial bank mergers. They also found that large bank mergers produce greater performance gains than small bank mergers, activity-focusing mergers produce greater performance gains than activity-diversifying mergers, and geographically focusing mergers produce greater performance gains than geographically diversifying mergers. The performance gains were even larger after the implementation of full nationwide banking in 1997 via the Riegle-Neal Act. The improved performance results from both revenue enhancement and cost reduction activities.

DeLong (2001) examined the wealth effect of bank mergers by distinguishing between types of mergers according to their focus or diversification along the dimensions of activity and geography rather than differentiating among various organization types. She found diversifying mergers to have a low correlation between the stock return of the bidder and the target at the time of the merger announcements. Her results showed that bank mergers that focus both on geography and activity are value-increasing, whereas diversifying mergers do not create value. Cornett et al. (2006) used the same methodology to test the post-merger performance of diversifying mergers. They found that large bank mergers produce greater performance gains than small bank mergers, activity-focusing mergers produce greater performance gains than activity-diversifying mergers, and geographically focusing mergers produce greater performance gains than geographically diversifying mergers. They also showed that the improved performance comes from revenue enhancement and cost reduction activities. Revenue enhancement opportunities appear to be most profitable in those mergers that offer the greatest opportunity for cost-cutting activities, such as activity-focusing and geographically focusing mergers. Johnston and Madura (2000) examined market valuation at the announcement of the Citicorp-Travelers Insurance Group merger on April 6, 1998, and found favorable share price responses for commercial banks, insurance companies, and brokerage firms. Their evidence supports the argument that mergers between banks and non-bank financial services will facilitate cross-selling and efficiencies. However, their review of market reactions was based on the announcement of only one event, the Citicorp and Travelers Insurance Group merger.

Another way banks can achieve potential economies of scale is through geographical diversification, because once the basic infrastructure is in place, organizations can expand the system elsewhere at a potentially reduced cost. Benefits of geographical diversification include better access to capital markets in other regions or countries, which potentially leads to reduced cost of capital (Deng and Elyasiani, 2008), greater market power (Iskandar-Datta and McLaughlin, 2005), and reduced tax liabilities because geographically diversified banks can transfer resources from high-tax to low-tax areas. Gleason et al. (2006) examined market reaction to mergers between banks and non-banks and joint ventures from 1980 to 1998. They discovered that, in both cases, the market responds favorably and product market expansion provides value-enhancing opportunities to US banks.

Harjoto, Yi, and Chotigeat (2010) demonstrated that, when a bank merges with a non-bank, subsequent annualized stock returns are diminished by 2%, but the same choices do not significantly produce abnormal returns during the two days before and two days after the announcement dates. This finding was consistent with those of previous studies (DeLong, 2001; 2003), which found that focusing mergers among banks are more value enhancing to shareholders than diversifying mergers.

Altunbaş and Marqués (2008) showed improvements in performance after a merger particularly in cross-border M&A's; broad similarities between merging partners are also conducive to improved performance. Berger (2000) and Hughes et al. (1999) argue that most of the efficiency gains from mergers are on the revenue side, arising through asset diversification. Value creation from market-related considerations has also been reported in US markets. Kane (2000) found that mergers are likely to generate value when the target bank is a large deposit institution and when both firms are headquartered in the same US state.

Some explanations for this puzzling evidence are the following:

- The absence of best-practices guidelines for planning and executing increasingly large and complex acquisitions (DeLong & DeYoung, 2007),
- Failure to consider the mean-reversion behavior in industry-adjusted performance (Knapp et al., 2006),
- The longer time (up to five years) needed to realize efficiency gains, leading to more favorable prices for consumers (Focarelli & Panetta, 2003),
- The difficulties of integrating broadly dissimilar institutions (Marques-Ibanez & Altunbas, 2004; Vander Vennet, 2002),
- Increased costs associated with changes in post-merger risk profiles, and
- Business strategies (Demsetz & Strahan, 1997; Hughes et al., 1999).

Nevertheless, all the above studies refer to the overall change in performance by comparison in a dynamic analysis (according to the definition by Berger, 1998 and 1999) of the post-M&A performance with the pre-M&A performance. However, some of this difference could be due to a continuation of firm-specific performance before the merger or economy-wide and industry factors, as stated by Healy et al. (1992).

3. DATA AND METHODOLOGY

3.1. Sample Description

The data set was obtained by combining three sources: Thomson ONE Banker M&A for data on M&A operations, Bankscope for balance sheet and income statement of the banks involved in M&A operations (M&A sample), and the CRSP/Compustat database for market-level data. Our sample comprises M&A deals announced between 1/1/1999 and 31/12/2009 in which the acquirer is a US public Bank Holding Company (BHC) and the target is a bank operating in the US. The initial M&A sample refers to 1,264 mergers. To be included in our sample, the M&A must fulfill the following criteria:

1. The merger should not involve any federal government assistance.
2. The target banks must have at least $100 million dollars in asset book value at the time of the merger announcement. That reduces our sample from 1,264 to 555 mergers.

3. The acquirer and target bank can be involved in no other merger in the year before and after the merger in questions, which leaves 311 mergers.
4. We match the acquirer and target from the Bankscope database; 134 mergers remain.
5. We eliminate those merger samples for which we had missing values either for acquirer or target. Finally, we were left with 79 mergers in our sample.

3.2. Performance Measure

One of the measures we use to evaluate the M&A performance is the operating profitability of an average asset. Healy et al. (1992), Cornett et al. (2006), and Hagendorff and Keasey (2009) used similar metrics as pre-tax operating cash flows divided by the book value of each asset. Conversely, accounting measures relying on return on asset (ROA) and return on equity (ROE) will include general interest expenses, which are influenced by both the method of accounting (pooling vs. purchasing)[11] and takeover finance (cash vs. equity)[4]. Those measures will allow limited inferences about the changes in economic performance[4]. Hence, we use the EVA method which overcomes the limitations of using operating profitability to estimate performance.

Although accounting ratios are useful performance indicators, they have been criticized for not accurately reflecting real changes of the firm in the long run, especially when they are subject to manipulation (DeYoung, 1997; Bauer et al., 1998; Berger et al., 1999; and Kohers et al., 2000). The rapid evaluation of both parametric and non-parametric efficiency methodologies have made the traditional techniques obsolete in the study of bank performance. Despite the intense research effort, there is no consensus on which method is the best. Regardless of the method used to estimate efficiency scores, it should be consistent in its efficiency levels and ranking. The method should be able to identify the best and worst firms and be consistent over time and with competitive market conditions. Following Al-Sharkas, Hassan, & Lawrence (2008), we choose to use the non-parametric Data Envelopment Analysis (DEA) methodology to estimate input- and output-oriented efficiency.

3.2.1. Accounting Measure

We use operating profitability over average asset to measure accounting performance. The benefit of using this measure is that it excludes the effect of interest on debt used as capital financing by the bank. To measure pre-merger pro forma performance, we combine the operating performance of target and acquirer. Following Cornett et al. (2006), the performance of the combined banks is the weighted average of values for the target and acquirer, where the weights are the relative sizes of the two firms at the end of the year before the merger. Following the same method, we also obtain the industry-adjusted operating performance for both the target and the acquirer. Then we compute the difference between the year-end operating profitability of the acquirer one year after the merger and the operating profitability of the pre-merger pro forma year-end operating performance one year before the merger.

3.2.2. Economic Value Added

Sirower and O'Byrne (1998) developed the Economic Value Added equation (EVA) methodology for forecasting and evaluating post-acquisition *operating* performance both for corporate practitioners and researchers. From a performance evaluation perspective, when an acquirer takes over a target, the past essentially becomes irrelevant. Performance should be forward looking. Even a firm with a stellar past can lose market value if it fails to meet market expectations. Hence, the main challenge would be to develop a post-acquisition benchmark to determine what level of performance the market was expecting before the transaction was announced (Sirower and O'Byrne, 1998). The main idea behind their methodology was to separate the known components of market value from the expectational components. They broke the total market value of the firm into its known and expected components as follows:

$$MV_0 = Cap_0 + \frac{EVA_0}{c} + \left[\frac{(1+c)}{c}\right] * \sum_{t=1}^{\infty} \frac{\Delta EVA_t}{(1+c)^t} \qquad (1)$$

where, MV_0 is the market value of the firm (sum of the market value of the equity, book value of preferred stock, minority interest, and interest-bearing debt) at the end of Period 0, Cap_0 is the book capital (total assets minus total non-interest-bearing current liabilities) at the end of Year 0, EVA_0 is the EVA for Year 0, c is the weighted average cost of capital, and ΔEVA_t is the expected EVA improvement in Year t. The sum of the first two terms is referred as current value of operation and the third term, which is the capitalized present value of the expected annual EVA improvements, is called future growth value (FGV). To measure the future growth value (FGV) that is the capitalized present value of the expected annual EVA improvements in Equation 1, we will rewrite that as:

$$FGV_t = MV_0 - Cap_0 - \frac{EVA_0}{c} \qquad (2)$$

The EVA_0 is derived as follows:

$$EVA_0 = NOPAT_0 - c * CAP_{t-1} \qquad (3)$$

where, $NOPAT_0$ is the net operating profit after tax at the end of Year 0 and CAP_{t-1} is the book capital at the beginning of Year 0. The cost of capital is derived as:

$$c = w_d * k_d(1-T) + (w_e * k_e) \qquad (4)$$

where, w_d is the weight of debt, w_e is the weight of equity, k_d is the cost of debt before tax, T is the tax rate, and k_e is the cost of equity derived from the Capital Asset Pricing Model (CAPM).

$$CAPM: k_e = r_f + (r_m - r_f) * \beta_i \qquad (5)$$

where, r_f is the risk-free interest rate, r_m is the market return, and β_i is the beta of the firm.

Investors expect a cost of capital return on the total market value of the firm, which is the sum of the cost of capital return on current value of operation and the cost of capital return on future growth value (FGV). However, the EVA will only provide a cost of

[11] Source: Healy, Palepu, & Ruback (1992).
[4] Source: Cornett et al. (2006)

capital return on current operation value; the EVA improvement is required to earn a cost of capital return on the FGV. The cost of capital return on FGV or the expected EVA improvement must satisfy the following equation:

$$\Delta EVA_1 + \frac{\Delta EVA_1}{c} + \Delta FGV_1 = c * FGV_0 \quad (6)$$

where, EVA_1 is actual *EVA* improvement, $\frac{\Delta EVA1}{c}$ is the capitalized actual *EVA* improvement, ΔFGV_1 is the change in *FGV,* and $c*FGV_0$ is the cost of capital return on *FGV*.

To provide a total value of $c*FGV_0$, the substantial ΔEVA is required to satisfy the following:

$$\Delta EVA_1 * \frac{(1+c)}{c} = c * FGV_0 \quad (7)$$

or,

$$\Delta EVA_1 = \left[\frac{(c*c)}{(1+c)} * FGV_0\right] \quad (8)$$

where, $\frac{(c*c)}{(1+c)} * FGV_0$ is the actual expected EVA improvement. The actual improvement is compared to the expected EVA improvement to get the excess EVA improvement for post-merger periods. Positive excess EVA improvement indicates that the return is above what was expected in the operating performance of the firm after the merger and acquisition, whereas negative excess EVA improvement indicates the return is below what was expected.

3.2.3. Efficiency Measurement

We use the non-parametric Data Envelopment Analysis (DEA) method to compute the efficiency of merged banks. DEA has become very popular in measuring efficiency and is based on the pioneering work of Farrell (1957), proposing the frontier function to measure efficiency. DEA is a non-parametric linear programming technique used to compare the input and output data of decision-making units (DMUs) to measure and evaluate the relative performance of DMUs. Charnes et al. (1978) extended Farrell's model to a multiple input-output pattern and employed mathematical programming to develop an efficient frontier and to estimate the efficiency score (the CCR model). But the CCR model is limited to constant returns to scale (CRS) and the convexity of the production possibility set. However, the CRS assumption is only appropriate when all DMUs are operating at an optimal scale. When all DMUs are not operating at optimal scale, the use of the CRS specification results in measures of technical efficiency being confounded by scale efficiencies. Banker et al. (1984) suggested an extension of the CRS CCR model to account for variable returns to scale (VRS) situations. In this paper, we will employ VRS technology to compute the two types of efficiency, namely input-oriented efficiency and output-oriented efficiency. The input-oriented technical efficiency measure addresses the question "How much can input quantities be proportionally reduced without changing output quantities?" Alternatively, the output-oriented technical efficiency measure addresses the question "How much can output quantities be proportionally expanded without altering input quantities?"

The main reasons to choose the DEA method over the parametric stochastic frontier are that, unlike stochastic models that require a large sample size and proper functional form of the frontier to make reliable estimations, the DEA demands relatively less data and does not require knowledge of the proper functional form of the frontier, error, and inefficiency structures (Evanoff & Israilevich, 1991; Grifell-Tatje & Lovell, 1997; Bauer et al., 1998; Wheelock & Wilson, 1999). The DEA is based on the individual firm, so it is easy to analyze efficiency by firm, which is particularly convenient for studying scope economies. The DEA technique measures the performance of each bank in the industry relative to best practice-efficient frontiers consisting of the dominant banks in the industry. Efficiency scores vary between 0 and 1, with fully efficient banks having efficiencies equal to 1 and inefficient firms having efficiencies between 0 and 1. Technical efficiency for a given firm is defined as the ratio of the input usage of a fully efficient firm producing the same output vector as the input usage of the firm under consideration. Technical efficiency can be achieved if the firm operates on the production frontier. We use the following input and output variables to compute efficiency.

Input vectors:

(1) Labor: Measured by staff costs (the number of full-time employees on the payroll);

(2) Fixed capital: Measured by costs of premises and fixed assets; and

(3) Customer and short-term funding: Measured by the sum of deposit (demand and time) and non-deposit funds as of the end of the respective year.

Output vectors:

(1) Total loan: Both short-term and long-term loans;

(2) Other earning assets: Loans to special sectors (directed and specialized loans), inter-bank funds sold, and investment securities (treasury and other securities); and

(3) Off-balance sheet items: Guarantees and warranties (letters of guarantee, bank acceptances, letters of credit, guaranteed pre-financings, endorsements, and others), commitments, foreign exchange and interest rate transactions, as well as other off-balance sheet activities.

3.3. Regression Analysis

To analyze the effect of a merger on performance, we will empirically test the following model:

Δ performance = β_0 * Constant
+ β_1 * Year
+ β_2 * Relative size
+ β_3 * Transaction value
+ β_4 * Same state (dummy)
+ β_5 * Same SIC (dummy)
+β_6* Post-merger performance acquirer loan loss reserve over grossloan
+ β_7 * Post-merger acquirer net interest margin
+ β_8 * Post-merger acquirer cost-to-income ratio
+ β_9 * Target performance

- *Relative size:* Relative size is measured as the ratio of target to acquirer assets. For domestic mergers, a positive relation with relative size and change in performance will indicate that relatively

larger targets may offer more opportunities to realize post-merger cost efficiencies. But post-merger performance will be weaker in a "merger of equals" because of internal power struggles and conflict in the integration process.

- *Transaction value:* Transaction value is the amount the acquirer paid to acquire the target. If the acquirer assumes the target is more valuable and would like to pay a higher price for it, we would expect a change in performance to be positively related to the transaction value. Conversely, post-merger performance may be weaker because of the increased complexity of the higher values of the merger and acquisition (Akhavein et al, 1997). Here, we use the natural logarithm of transaction value.
- *Same State:* This is a dummy variable to capture the effect of geographic diversification. If both the acquirer and target are from the same state, we assign a value of 1; otherwise, we designate the variable as 0. Banks considering entering a market via acquisition would select the best target banks. Hence, increasing market shares might increase their profitability. However, Berger and DeYoung (2001) found that the greatly increased geographic footprint of US bank holding companies due to industry consolidation can cause managerial difficulties that will reduce efficiency.
- *Same SIC:* This dummy variable captures the effect of product diversification. If a depository institution/non-depository merges with another depository institution/non-depository, it would likely to increase its interest income, which we call product diversification. However, if a depository institution merges with another non-depository institution, we call it product diversification as its income will come from both interest and non-interest income.
- *Acquirer post-merger strategy:* The post-merger performance of the acquirer will mostly depend on the strategy taken by the acquirer. To control for other non-merger-related factors, we use loan loss reserve/gross loan to measure the credit risk of the acquirer, which would be negatively related to performance. We also use the net interest margin (NIM) as an indicator of acquirer lending efficiency and cost-to-income ratio (CI) as an indicator of operating expenses. We expect NIM would be positively related and CI would be negatively related to performance.
- *Target performance:* Finally, to capture the impact of target performance on acquirer performance, we include return of average asset (ROAA) of target and efficiency of target as a control variable. Acquiring more profitable and more efficient targets may lead to increased operating profit. However, acquiring more efficient targets may increase or decrease the efficiency of the acquirer.

4. RESULTS AND MAIN FINDINGS

The descriptive statistics in Table 1 indicate that, in terms of size as measured by total assets, the acquirer banks on average are five and a half times larger than the targets. Operating profits of the acquirer banks on average are 5.36 times, and net income on average is 5.16 times, higher than the target banks. Post-merger acquirer size measured by total assets is on average 1.36 times higher than pre-merger. Also the total profitability on average increases by 1.14 times. The initial results of our descriptive statistics show that mergers increase the size and profitability of the acquirer.

Table 1. Descriptive Statistics of merger and acquisitions

The descriptive statistics of Table 1, Panel A refer to acquirer pre- and post-merger and target pre-merger total asset, total equity, accounting profitability, and expenses. Panel B shows the relative size of the target at the time of announcement and transaction value. Our sample period contains merger data from the years 1999 to 2009.

Descriptive Statistics	*N*	*Mean*	*Std.*	*Minimum*	*Maximum*
		(thousands)			
Target					
Total Assets	79	10635080	43456415	108345	326563000
Operating Profit	79	194716	732292	-5257	4390000
Equity	79	1021969	3818731	7855	23419000
Net Income	79	132412	520475	-5410	3535000
Net Interest Income	79	319801	1214825	2857	8149000
Non-Interest Expenses	79	368414	1458107	2574	9777000
Personnel Expenses	79	178843	704234	1224	4765000
Pre-merger Acquirer					
Total Assets	79	59186734	175065568	230215	1110457000
Operating Profit	79	1045195	3163862	-5405	21221000
Equity	79	4871808	14112894	22015	99645000
Net Income	79	681097	2119410	-2703	14143000
Net Interest Income	79	1630496	4592780	6936	28797000
Non-Interest Expenses	79	1696815	4781928	6982	27027000
Personnel Expenses	79	868525	2449545	3646	13473000
Post-merger Acquirer					
Total Assets	79	80924147	249135616	378690	1459737000
Operating Profit	79	1194229	4513879	-2687385	30681374
Equity	79	7596313	22699747	31134	135272000
Net Income	79	789769	3102187	-2113000	21133000
Net Interest Income	79	2047382	5837679	13046	34591000
Non-Interest Expenses	79	2279533	6682827	9862	35549000
Personnel Expenses	79	1137116	3419809	5844	18255000
Relative Size	79	0.33	0.43	0.003	3.244
Transaction Value	79	2489.87	9481.15	8.53	58663.15

Mean and median profitability and expense and asset quality ratios of the target and acquirer before and after merger are reported in Table 2. Profitability measured by return on average asset (ROAA), return on average equity (ROAE), and net interest margin (NIM) indicates that, before a merger, acquirers were on average more profitable than their target. The ROAA and ROAE of the acquirer were significantly higher than the industry average before a merger, while the ROAA and ROAE of the target were about the same as the industry average. The NIM of the target and acquirer before the merger were significantly lower than the industry average. However, the ROAA and ROAE of the acquirer after merger were lower than the pre-merger ROAA and ROAE. They were not significantly different from the industry average. Acquirers were more cost efficient than their targets measured by cost-to-income ratios. Acquirer non-interest expenses were a little higher than that of their targets. After a merger, acquirer cost-to-income ratios go up, and non-interest expense-to-average-asset goes down. We can also see that both the acquirer before- and after-merger and target expense ratios were below the industry average.

Table 2. Profitability, Expense, and Asset Quality Ratios

Table 2 shows various profitability expense and asset quality ratios of targets and acquirers from 1998 to 2009. Industry Mean Difference is computed as the difference between the performance of merging banks (target and acquirer) and the industry. Data are for the years 2000 to 2009. We use a non-parametric Pearson sign test to evaluate the significance of median. indicates significance at 10%, ** indicates significance at 5%, and ***indicates significance at 1%.*

Variables	*Median*	*Mean*	*Std.*	*Mean Ind. Difference*
Profitability Ratio				
Target Return on Average Assets (ROAA)	0.908	0.883	0.76	-0.03
Target Return on Average Equity (ROAE)	10.653	9.513	8.84	0.60
Target Net Interest Margin	3.612	3.689	0.83	-0.30***
Pre-merger Acquirer (ROAA)	1.153	1.121	0.46	0.21***
Pre-merger Acquirer (ROAE)	12.031	11.594	5.04	2.68***
Pre-merger Acquirer Net Interest Margin	3.716	3.737	0.76	-0.25***
Post-merger (ROAA)	1.014	0.822	0.88	-0.09
Post-merger (ROAE)	9.145	7.894	9.95	-1.02
Post-merger Acquirer Net Interest Margin	3.596	3.681	0.73	-0.31***
Expense Ratio				
Target Cost-to-Income Ratio	63.56	66.892	16.91	-0.35
Target Non-interest Exp./Avg. Asset	2.7	2.888	1.12	-0.38***
Target Non-interest Exp./Gross Rev.	63.56	66.888	16.91	-0.13
Pre-merger Acquirer Cost-to-Income Ratio	62.216	60.603	13.15	-6.64***
Pre-merger Acquirer Non-interest Exp./Avg. Asset	2.84	2.797	0.82	-0.47***
Pre-merger Acquirer Non-interest Exp./Gross Rev.	62.2	60.602	13.15	-6.42
Post-merger Acquirer Cost-to-Income Ratio	63.355	63.075	16.45	-4.16**
Post-merger Acquirer Non-interest Exp./Avg. Asset	2.77	2.767	0.94	-0.50**
Post-merger Acquirer Non-interest Exp./Gross Rev.	63.36	63.075	16.45	-3.95**
Asset Quality				
Target Net Loans/Total Assets	68.919	67.456	12.99	1.83
Target Loans/Customer Deposits	91.06	94.826	25.31	9.20***
Target Net Loans/Customer & ST Funding	86.111	86.319	21.71	6.55***
Target Loan Loss Reserve/Gross Loans	1.173	1.254	0.69	-0.16**
Pre-merger Acquirer Net Loans/Total Assets	67.966	66.404	11.17	0.77
Pre-merger Acquirer Loans/Customer Deposits	96.8	98.664	18.80	13.04***
Pre-merger Acquirer Net Loans/Customer & ST Funding	85.82	87.994	18.82	8.22***
Pre-merger Acquirer Loan Loss Reserve/Gross Loans	1.249	1.246	0.38	-0.17***
Post-merger Acquirer Net Loans/Total Assets	69.049	67.216	10.04	1.59
Post-merger Acquirer Loans/Customer Deposits	98.41	99.989	16.03	14.37***
Post-merger Acquirer Net Loans/Customer & ST Funding	88.632	88.335	14.18	8.56***
Post-merger Acquirer Loan Loss Reserve/Gross Loans	1.204	1.284	0.45	-0.13**

We report the differences between these various profitability, expense, and asset quality ratios in Table 3. On average, the after-merger ROAA and ROAE decrease more significantly than the combined banks' pre-merger ROAA and ROAE. However, we did not find any evidence that the expense ratio and asset quality of the acquirer bank changes more significantly after a merger than the pre-merger combined banks' expense ratios and asset quality. So far we found that, post-merger, the profitability of the acquirer as measured by ROAA and ROAE decreases more significantly than in a pre-merger combined firm. However, this measure could be manipulated.

Table 4 shows the correlation coefficients between various changes in performance metrics. Interestingly, changes in ROAA, ROAE, and unadjusted operating profit over total average assets are highly positively correlated and significant. When we look at the correlation between changes in industry-adjusted operating profitability, ROAA, and ROAE, they are significantly negatively correlated. We did not find any significant correlation between a change in efficiency and other performance change metrics.

Table 3. Acquirer Changes in Pre- and Post-merger Accounting Ratios

*Table 3 shows the average change in various accounting ratios for the acquirer before and after a merger. Data are for the years 2000 to 2009. * indicates significance at 10%, **indicates significance at 5%, and ***indicates significance at 1%.*

Variable	*Mean*	*Std.*
Change in ROAA	-0.2633***	.8135
Change in ROAE	-3.6053***	9.4621
Change in Net Interest Margin	-.0246	.4431
Change in Cost-to-Income Ratio	1.5808	13.8587
Change in Non-Interest Expense/Average Assets	-.0221	.5671
Change in Net Loans to Total Assets	.8994	5.8895
Change in Loans to Customer Deposits	1.7937	12.0151
Change in Net Loans to Customer/ST Funding	.9320	10.4721
Change in Non-Interest Expense/Gross Revenues	1.5818	13.8589

Table 4. Correlation Coefficient of Various Performance Metrics

*Table 4 shows the correlations between various performance metrics. Data are for the years 2000 to 2009. *indicates significance at 10%, **indicates significance at 5%, and ***indicates significant at 1%.*

	Δ in Eff. Input	*Δ in Eff. Output*	*Δin Ind. Adjusted Eff. Input*	*Δin Ind. Adjusted Eff. output*	*Δ in Unadj. ROAA*	*Δ in Unadj. ROAE*	*Δ in Unadj. in Op. Profit*	*Δ in Ind. Adjusted Op. Profit*
Δin Eff. Input	**1.000**							
Δ in Eff. Output	0.258**	**1.000**						
Δ in Ind. Adj. Eff. Input	0.960***	0.265**	**1.000**					
Δ in Ind. Adj. Eff. Output	0.148	0.968***	0.206*	**1.000**				
Δ in Unadj. ROAA	-0.043	-0.057	0.032	0.002	**1.000**			
Δ in Unadj. ROAE	-0.035	-0.056	0.036	0.003	0.98***	**1.000**		
Δ in Unadj. Op. Profit	-0.020	-0.071	0.057	-0.004	0.95***	0.9134***	**1.000**	
Δ in Ind. Adj. Op. Profit	0.036	0.053	-0.033	-0.004	-0.97***	-0.999***	-0.889***	**1.000**

The performance of the merged banks was computed one year before and one year after the merger. We examine the operating profitability, efficiency, and EVA of the target and acquirer before and after the merger as well as the weighted average of combined banks one year before the merger. The operating cash flow measure is deflated by the book value of the average asset to yield the normalized measure of performance. We also compare the performance based on product- and geographically focused mergers versus diversifying mergers. Changes in pre- and post-merger operating profitability and efficiency are examined on both an unadjusted and industry-adjusted basis. Industry-adjusted comparisons will allow us to examine the performance of merged banks regardless of industry-wide changes that might affect performance. The change in unadjusted performance may reflect some factors other than the bank merger.

Following Cornett et al. (2006), we identify industry banks as all banks that were not involved in a merger in the year before and after the merger in question. However, rather than forming four groups, we form eight groups.

- Group 1 has less than $100 million in assets; as our target filter size is $100 million, we never used this group.
- Group 2 asset size lies between $100 million and $300 million.
- Group 3 asset size is between $300 million and $600 million.
- Group 4 asset size is between $600 million and $1 billion.
- Group 5 asset size encompasses $1billion to $5billion.
- Group 6 asset size comprises $5 billion to $10 billion.
- Group 7 asset size is between $10 billion and $50 billion.
- Group 8 has assets of more than $50 billion.

If the merger bank asset size is $1.5 billion, then industry banks will include all the banks in the group. Matching the merged banks to their respective group will allow us to compare their characteristics with their most similar competitors.

To identify the sources of changes in performance, we also evaluate their other profitability, operating efficiency, and asset quality indicators. There is collinearity between some of the specific ratios, for example, return on asset and return on equity. Hence, change in performance results from common elements. We use t-statistics to test the change in performance by using the following formula:

$$t = \frac{\left(\sum_{t=1}^{n}\left(P_{post} - P_{pre}\right)\right)}{\left(\frac{\sigma}{\sqrt{N}}\right)} \quad (9)$$

where, P_{Post-} means the post-merger performance, and P_{Pre-}means the pro-forma, pre-merger performance of the combined banks. N is the number of merged banks, and σ is the standard deviation of the

distribution. Finally, we run a regression analysis to the find the impact of mergers on change in performance.

Panel A of Table 5 represents the unadjusted operating profitability of the target and acquirer before and after the merger as well as the combined banks' pre-merger profitability. On average, the unadjusted operating profitability of the acquirer was 1.63%, compared to the target's 1.245%. The post-merger operating profitability was 1.178%, compared to pre-merger combined banks' 1.147%. The difference between pre-and post-merger operating profitability is .03%; however, it is not significantly different from zero.

Table 5. Average Change in Pre-and Post-merger Operating Profit

*Table 5, Panel A shows the average change in pre- and post-merger acquirer unadjusted operating profit/average asset. Panel B shows the average change in pre- and post-merger acquirer industry adjusted operating profit/average asset. Mean industry adjusted difference is calculated as the difference between operating profit/average asset of merging banks and their corresponding peers average operating profit/average asset. Data are for the years 2000 to 2009. We use the non-parametric Pearson sign test to evaluate the significance of the median.*indicates significance at 10%, **indicates significance at 5%, and ***indicates significance at 1%.*

Panel A. Average Change in Pre-and Post-merger Acquirer Unadjusted Operating Profit/Average Asset

	Median	Mean	Std.
Target Op. Profit/Avg. Asset	1.2300	1.2453	1.0674
Acquirer Pre-merger Op. Profit/Avg. Asset	1.6600	1.6318	0.7043
Unadjusted Pre-merger Pro-forma Op. Profit/Avg. Asset	1.0504	1.1470	0.5952
Acquirer Post-merger Op. Profit/Avg. Asset	1.3500	1.1775	1.1989
Change in Op. Profit/Avg. Asset	0.3123**	0.03042	1.1516

Panel B. Average Change in Pre-and post-merger Acquirer Unadjusted Operating Profit/Average Asset

	Median	*Mean*	*Std.*
Target Industry Adjusted Op. Profit/Avg. Asset	-0.3200***	-0.3698***	0.9600
Pre-merger Acquirer Ind. Adjusted Op. Profit/Avg. Asset	-0.0800	-0.0581	0.6678
Pre-merger Proforma Ind. Adjusted Op. Profit/Avg. Asset	-0.6721	-0.5933***	0.5301
Post-merger Acquirer Ind. Adjusted Op. Profit/Avg. Asset	-0.0300***	-0.0887	0.9417
Change in Ind. Adjusted Operating profit	0.6442***	0.5046***	0.8610

To account for the contemporaneous effect, we also report the industry-adjusted operating performance in Table 5, Panel B. On average, the acquirer industry-adjusted performance is -0.058%, while the target industry-adjusted operating performance is -0.37%. Both the acquirer and target operating profitability were below their industry-matched performance, but the difference between their performance and the industry did not differ significantly from zero. Moreover, the pre-merger pro-forma performance was also lower than the post-merger performance. On average, a merger increased the industry-adjusted operating performance by 0.50%, an increment not significantly different from zero. So, like Cornett et al. (2006), merged banks perform similar to others in the industry before a merger. However, a merger did not increase the operating profitability of the merged banks.

Table 6 shows the efficiency scores of the merged banks. Panel A reports the unadjusted efficiency of the target, pre-and post-merger acquirer, and pro-forma combined banks. The median of target input-oriented efficiency was about 13% higher than the acquirer, while the mean of the target input efficiency was 12% higher than acquirer pre-merger efficiency scores. However, the median and mean of the target output efficiency were lower than the acquirer by about 1% and 4% respectively. Post-merger input efficiency of the acquirer significantly decreased by 8%; output efficiency significantly increased by 6.7%. The resulting median change in input-oriented efficiency is about -4.0% and is significant at the 1% level, while the median change in output-oriented efficiency is 0.7% and is insignificant.

Panel B, Table 6, shows the industry-adjusted input- and output-oriented efficiency scores. Both the target and acquirer median and mean input-oriented efficiency scores were significantly below the industry. While the median output-oriented efficiency scores of the target and acquirer were not different from their industry, mean output-oriented efficiency was significantly higher than the industry. Consistent with unadjusted efficiency scores, we find that, after a merger, the industry-adjusted mean input-oriented efficiency decreased significantly by 2.7%, which was lower than unadjusted input-oriented efficiency. The mean output-oriented efficiency increased significantly by about 9%, which is more than the unadjusted change in output-oriented efficiency. We can conclude that mergers on average increase efficiency if the efficiency of the acquirer is higher than the target, though many studies have concluded that potential efficiency gains from a merger and acquisition are seldom realized. Peristiani (1997), and Berger (1998) find little or no cost-efficiency improvement in mergers. Apparently, managerial inefficiencies of the acquiring banks or integrating systems have offset the potential gains from consolidation.

Table 6. Average Change in Acquirer Various Pre-and Post-merger Acquirer Efficiency Scores

*Table 6, Panel A shows the average change in pre- and post-merger acquirer unadjusted efficiency scores. Panel B shows the average change in pre- and post-merger acquirer industry-adjusted efficiency scores. Mean industry-adjusted difference is calculated as the difference between efficiency of merging banks and their corresponding peers' average efficiency scores. Data are for the years 2000 to 2009. We use a non-parametric Pearson sign test to test the significance of median.*indicates significance at 10%, ** indicates significance at 5%, and *** indicates significance at 1%.*

Panel A. Unadjusted Values of Efficiency

Variable Name	*Median Eff. Input*	*Mean Eff. Input*	*Median Eff. Output*	*Mean Eff. Output*
Target	0.2108	0.2906	0.0274	0.1435
Acquirer Pre-merger	0.0798	0.1743	0.0359	0.1800
Premerger Pro-forma	0.1044	0.1984	-0.0452	0.0861
Acquirer Post-merger	0.0551	0.1171	0.0297	0.1529
Change in Efficiency	-0.0452***	-0.0812***	-0.0072	0.067**

Panel B. Comparison of Industry-Adjusted Values of Efficiency

Variable Name	*Median Eff. Input*	*Mean Eff. Input*	*Median Eff. Output*	*Mean Eff. Output*
Target Ind. Adjusted	-0.1202**	-0.0338	-0.0159	0.0734***
Acquirer Pre-merger	-0.2353***	-0.1500***	-0.0110	0.1109***
Pre-merger Pro-forma	-0.2002***	-0.1259***	-0.0015	0.0159***
Acquirer Post-merger	-0.2518***	-0.1880	-0.0062	0.1092***
Change in Ind. Adjusted Efficiency	-0.0270***	-0.0620***	-0.0039	0.0933***

Now we examine the product and geographic focus merger versus the product and geographic diversification merger. Theoretically, for a focus merger, improved performance and market value of the combined firm come from economy of scale, while for a diversified merger such improvements come from enhancing the income-generating capacity of the combined institution and lowering the operating costs through operational synergies such as economies of scope. If a specialized bank is already minimizing its costs, it can also improve its performance by economies of scope- a diversified merger. But a diversified merger can incur agency costs due to the complexity of the conglomerate organization. Therefore, it is unclear whether the potential benefits of activity diversification outweigh the costs.

Moreover, from a theoretical perspective it is uncertain which type of merger reduces risk—focused or diversified. Standard portfolio theory predicts that the combined cash flows from non-correlated revenue sources should be more stable than the constituent parts. Securities and insurance activities can decrease conglomerate risk, but the effect largely depends on the type of diversifying activities that bank holding companies undertake (Kwan & Laderman, 1999). Moreover, if the acquirer does not know the true status of the credit risk of the target loan, then after the merger it might increase the credit risk and the allowance for loan loss ratios.

Apart from the activity focus-diversified motive, bank mergers are also motivated by geographic focus and diversification. Because the financial service industry is highly regulated and different locations have different regulatory environments, a bank's location plays a vital role in the market for corporate control, the activities in which the bank may engage, and the bank loan portfolio. The main goal of this paper is to investigate the impact of bank M&A on performance and find what kind of merger significantly affects firm efficiency, value addition, and long-run performance.

Delong (2003) found that mergers between partners that focus their geography and activity enhance value more than any other type. This study is similar in spirit but differs from Delong (2001) in several aspects. First, Delong (2001) looked at the cumulative abnormal returns (CARs) of the stock market. The main reason to rely on abnormal stock market returns is the efficient capital market hypothesis. If the market efficiency incorporates the expected future gains of the firm, there should be no abnormal return in the long term. The capital market studies have not been able to identify whether the gains from M&A are due to market inefficiency or real economic gain (Healy, Palepu, & Ruback, 1992). Stock prices that reveal the market's expectations of future cash flows may differ from actual performance.

Table 7. Average Performance Metrics of Geographic and Product Focus Versus Geographic and Product Diversification

*Table 7, Panel A shows mean performance metrics of geographic and product focus versus geographic and product diversification. If the merging banks' headquarters are in the same state, then the merger is considered a geographically focused merger; otherwise, it is a geographically diversified merger. A product- or activity-focused merger happens when the two-digit SIC code of the merging banks are the same. Mean industry-adjusted difference is calculated as the difference between merging banks and their corresponding peers' average. Data are for the years 2000 to 2009. *indicates significance at Δ10%, **indicates significance at 5%, and ***indicates significance at 1%.*

	Focus		*Diversification*	
Variable Name	**Geographic**	**Product**	**Geographic**	**Product**
Δ in Unadjusted Operating Profit	0.20*	0.04	-0.29	-0.03
Δ in Ind. Adjusted Operating Profit	0.73***	0.49***	0.08	0.64***
Δ in Eff. Input	-0.09***	-0.09***	-0.07**	-0.03**
Δ in Eff. Output	-0.01	0.07**	0.22***	0.06
Δ in Ind. Adjusted Efficiency Input	-0.07***	-0.07***	-0.05	-0.02
Δ in ind. Adjusted Efficiency output	0.01	0.10***	0.25***	0.07

Table 7 reports the results of a focus versus diversification merger. We found significant evidence that a geographically focused merger increases the operating profitability of the banks; there was no significant evidence that a geographically diversified merger has any impact on operating profitability. Compared to the overall industry-adjusted performance, a geographically focused merger increases the operating performance by 0.20%. Both product-focused and product diversification mergers increase operating profitability; however, product diversification increases the operating profitability by 0.15% more than a product-focused merger. Regardless of product or geographic focus and diversification, mergers overall lowered the input efficiency and increased the output efficiency of product-focused and geographically diversified mergers.

So far, we have compared post-acquisition with pre-acquisition measures of operating performance and efficiency like most academic studies. Now we will use the EVA methodology developed by Sirower and O'Byrne (1998) for forecasting and evaluating post-acquisition operating performance, which should be of interest to both corporate practitioners and researchers. The EVA method uses the market values of both acquirer and target before the merger and the merger premium to determine the future levels of annual operating performance that are necessary to justify the investment in the merger. When an acquirer takes over a target, the acquirer pays an up-front price that virtually always includes a substantial premium. These premiums should include the expectation on the part of the acquiring bank that it will successfully make improvements to the target bank's future performance and exploit other synergies between the two banks. To create value for shareholders, the present value of the performance gains of the merging banks must be higher than the stand-alone expectations to recapture the premium.

M&As are complex processes that possess unique features. Just by comparing operating performance one year before and one year after an M&A, we cannot find its true effect. Sirower and O'Byrne (1998) identified some benchmark problems, such as:

1. Acquisitions are a capital investment decision that the shareholders of the acquirer can essentially make on their own—just by buying the shares of other companies—without paying either premiums or integration expenses.

2. Unlike any other capital investment decision, an acquisition requires paying all the money up front, including the acquisition premium, before any improvements can begin.

3. Paying the acquisition premium creates an additional business problem—achieving performance gains above those already reflected in the share prices of the two stand-alone firms.

As we have documented in Table 7, the sample of our merger shows significant improvement in operating profitability and output-oriented efficiency. The following table shows that, before the merger, the acquirer had a negative EVA improvement, and the target had a positive EVA improvement. The pro-forma EVA improvements of the combined firms were also less than zero. However, after the merger, the mean expected EVA improvement of the acquirer was $.76 million, and the acquirer on average improved its expected EVA by $31.09 million, which is significantly different from zero.

Table 8. Changes in Economics Value Added

*Table 8 shows the expected EVA improvement analysis of merging banks. Data are for the years 2000 to 2009. *indicates significance at Δ10%, ** indicates significance at 5%, and *** indicates significance at 1%.*

	Median	***Mean***	***Std.***
Target			
Target EVA	-4555.49	2699.39	248862.33
Target Capitalized EVA	-302528.43	-512099.12	14255298.53
Target Value of Operation	428902.89	13689209.92	44285334.17
Target FGA	254786.39	-1080679.85	13677941.19
Target Expected Return on FGA (FGA*WACC)	3274.15	-25313.23	265266.81
Target $1 EVA Improvement Contributes (1/wacc)	60.84	68.16	47.06
Target EVA Improvement	67.09	-501.43	5247.21
Acquirer Pre-merger			
Acquirer Pre-merger EVA	-15321.50	10578.19	1178333.16
Acquirer Pre-Merger Capitalized EVA	-789619.64	22439055.12	160410187.8
Acquirer Pre-merger Present Value of Operation	8299012.96	93651973.51	270414456.9
Acquirer Pre-merger FGA	-8299012.963	-81157081.22	240579486.8
Acquirer Pre-merger Expected Return on FGA (FGA*WACC)	-100926.27	-889620.60	2366630.46
Acquirer Pre-merger $1 EVA Improvement Contributes (1/wacc)	62.84	66.13	29.94
Acquirer Pre-merger EVA Improvement	-1361.789	-12110.77	30238.19
Acquirer Post-Merger			
Post-merger EVA	-29038.28	-592686.15	2232707.178
Post-merger Capitalized EVA (EVA/WACC)	-1173216.23	-20843341.25	128081665.2
Post-merger Present Value of Operation	3772040.78	81137455.24	243754450.2
Post-merger FGA (Present Value of Expected EVA Improvement)	1776829.63	22178676.18	117092422.3
Post-merger Expected Return on FGA (FGA*WACC)	30159.71	576094.37	2050448.95
Post-merger $1 EVA Improvement Contributes (1/wacc)	55.52	65.00	28.78
Acquirer Post-merger EVA Improvement	698.24	20484.79	76493.32
Change in Performance			
Pre-merger Pro-forma EVA Improvement	-1005.25	-10614.57	27760.04
Change in EVA Improvement	2740.26	31099.36**	91777.07

To identify the factors contributing to the change in performance, we ran a regression analysis. Panel A, Table 9 shows the changes in operating profitability as a function of merger-related variables and other firm-level control variables. Consistent with previous findings, we find that geographically focused mergers increase the unadjusted operating profitability significantly (Regression 1a). A product-focused merger does not significantly affect the change in unadjusted operating profit. Consistent with Cornett et al. (2006), we also find that, the bigger the target bank size relative to the acquirer, the greater the improvement in performance around the merger. We also find that a 1% increase in target input-oriented efficiency and output-oriented efficiency will increase the unadjusted operating profitability significantly by 0.9% and 0.83%, respectively. Panel B shows the relationship between change in industry-adjusted operating profitability around the merger and other variables. Here, only the deal size and geographically focused merger have a significant, positive relationship with change in industry-adjusted operating profitability. However, when we control for other variables, industry-adjusted performance target efficiency has no significant impact on change in operating profitability. The relative size of the target has a significant positive impact on change in operating profitability and has positive but not significant impact on change in unadjusted operating profitability.

Table 9. Results of the Regression Analysis-Accounting Performance

*Table 9 shows the results of the regression analysis. The dependent variable in Panel A is the change in operating profit/average asset. Model A includes Target ROAA as an independent variable while Model B and C include the target's input- and output-oriented efficiency scores. In Panel B, the dependent variable is the change in industry-adjusted operating performance. Data are for the years 2000 to 2009. * indicates significance at 10%, ** indicates significance at 5%, and *** indicates significance at 1%.*

	Panel A: Dependent Variable: Change Unadjusted in Operating Profit		
	A	**B**	**C**
Constant	197.098**	143.104	138.286
Merger Year	-0.098**	-0.071	-0.069
Relative Size	0.369*	0.409**	0.358*
Log (Transaction Value)	0.028	0.092*	0.029
Same-state Dummy	0.356*	0.312	0.326
Same-SIC Dummy	0.006	-0.168	-0.131
Post-Merger Acquirer Loan Loss Reserve/Gross Loans	-0.985***	-1.085***	-1.158***
Post-merger Acquirer Net Interest Margin	0.369***	0.4***	0.408***
Post-merger Acquirer Cost-to-Income Ratio	-0.022***	-0.023***	-0.022***
Target ROAA	0.067	N/A	N/A
Target Efficiency Input	N/A	0.904***	N/A
Target Efficiency Output	N/A	N/A	0.828**
R square	0.651	0.683	0.676
Adj. R-square	0.605	0.641	0.634
	Panel B: Dependent Variable: Change in Ind. Adjusted Operating Profit		
	A	**B**	**C**
Variables	**Coefficients**	**Coefficients**	**Coefficients**
(Constant)	-195.464**	-196.988**	-192.368**
Merger Year	0.098**	0.098**	0.096**
Relative Size	0.231	0.246	0.231
Log (Transaction Value)	0.046	0.086*	0.065
Same-state Dummy	0.511***	0.459**	0.463**
Same SIC Dummy	0.077	-0.008	0.018
Post-Merger Acquirer Loan Loss Reserve/Gross Loans	-0.428**	-0.459**	-0.462**
Post-merger Acquirer Net Interest Margin	0.344***	0.354***	0.351***
Post-merger Acquirer Cost-to-Income Ratio	-0.023***	-0.023***	-0.023***
Target ROAA	0.141	N/A	N/A
Target Ind. Adjusted Eff. Input	N/A	0.302	N/A
Target Ind. Adjusted Eff. Output	N/A	N/A	0.181
R-Square	0.539	0.534	0.53
Adjusted R-Square	0.479	0.473	0.469

Finally, Table 10 shows that the larger the deal, the higher the improvement in efficiency. Geographically focused mergers decrease output-oriented efficiency. This result is consistent with our previous findings and economy of scale hypothesis.

Table 10. Results of the Regression Analysis-Efficiency Scores

*Table 10 shows the results of the regression analysis. Dependent variable is the change in industry adjusted and un adjusted efficiency scores. Change in industry adjusted efficiency scores are calculated as the difference between efficiency scores of merging banks and their corresponding peers average efficiency scores. Data are for the years 2000-2009. * significant at 10%; ** significant at 5%; *** significant at 1%.*

Dependend Variables	***Change in Eff. Input***	***Change in ind. Adjusted Eff. Input***	***Change in Eff. Output***	***Change in ind. Adjusted Eff. Output***
Variables	**Coefficient**	**Coefficient**	**Coefficient**	**Coefficient**
Constant	-47.106**	-35.361**	-46.135**	-11.955
Merger Year	0.023**	0.018**	0.023**	0.006
Relative size	0.032	0.026	-0.071	-0.081*
Log (Transaction Value)	0.018*	0.021**	0.087***	0.087***
Same state Dummy	-0.024	-0.016	-0.099**	-0.083*
Same SIC Dummy	-0.014	-0.014	0.074	0.083
Post-Merger Acquirer Loan Loss Reserve/ Gross Loans	0.026	0.03	0.062	0.074
Post-Merger Acquirer Net Interest Margin	-0.014	-0.021	-0.018	-0.023
Post-Merger Acquirer Loans/Customer Deposits	-0.001	-0.001	0.001	0.001
Post-Merger Acquirer Operating Profit/Average Total Assets	0.024	0.03	0.044	0.046*
Target Eff. Input	-0.107	N/A	N/A	N/A
Target ind. adjusted Eff. Input	N/A	-0.063	N/A	N/A
Target Eff. Output	N/A	N/A	-0.145**	N/A
Target ind. adjusted Eff. Output	N/A	N/A	N/A	-0.12
R-square	0.234	0.217	0.663	0.682
Adjusted R-Square	0.121	0.102	0.614	0.635

5. CONCLUSION

In this paper, we examine bank performance around mergers after the passage of the GLBA. While previous research in this area has examined the performance of banks around a merger and changes in short-term and long-term operating performance, this paper extends the previous research by combining all the previous methodologies used in merger and acquisition studies and adding a new methodology, namely Expected EVA improvement. Our empirical results conclude that the industry-adjusted operating performance of merged banks increases significantly after a merger. This finding is consistent with the recent findings of Cornett et al. (2006). We also find that the acquirer-expected EVA improvement increases significantly after a merger. The revenue enhancement opportunity appears more profitable if there exists more opportunity for cost-cutting, such as geographically focused and diversified mergers. A product diversification merger increases the industry-adjusted performance more than a product-focused merger.

Finally, in the United States, regulation has constrained the ability of banks to expand geographically and increase various product lines. Our paper shows that eliminating these constraints through the adoption of intrastate and interstate banking laws has helped US banks improve their operating performance and efficiency through merger and acquisition.

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AGENCY CONFLICTS AND OPERATING PERFORMANCE IN AN EMERGING MARKET

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Abstract

The study examines the relationship between post-IPO performance of 306 Indian firms and the changes in insiders' ownership around their IPOs? The results illustrated a curvilinear relationship between ownership and performance. Whereas the negative relationship was found for low and very high ownership level and positive relationship was found for intermediate level. This is an attention-grabbing outcome as it contrasts with earlier studies on curvilinear relationship between ownership and performance, where the negative relationship was found for intermediate level and positive relationship was found for both very low and very high ownership level.

Keywords: Initial Public Offerings, Emerging Market, India, Post IPO Performance, Ownership, Panel Data Analysis
JEL codes: G00, G10, G20, G30, G32

1. INTRODUCTION

In the corporate governance literature, there is a continuous debate about the basic relationship between the insiders'[12] shareholding/ownership and the performance of firms[13]. While numerous studies empirically confirmed a positive relationship between changes in the insiders' ownership and the performance of firms as was proposed by Jensen and Meckling (1976), an equal number of studies evidenced a negative relationship between them as was propounded by the Fama and Jensen (1983). Hence, a consensus is lacking regarding the exact relationship between the changes in the insiders' ownership and the performance of firms.

In recent years a few researchers have studied the above relationship in context of going public decision of business firms[14]. Jain and Kini (1994) pioneered the research initiatives in the above direction by investigating the relationship between the ownership level of insiders in the post-IPO period and the post-IPO performance of firms with the help of a sample of 682 US public firms. They found a linear positive relationship between them. Subsequently, Mikkelson et. al. (1996) and Kim et.al. (2002) investigated the above relationship with their samples of firms derived from UK and Thailand, respectively. Mikkelson et. al. (1996) argued against any significant relationship between the changes in the levels of insiders' ownership of firms at the time of IPOs and their post-IPO performance. Kim et.al. (2002) evidenced a curvilinear relationship between them. While they found a positive relationship for firms with very low and very high levels of insiders' ownership, they discovered a negative relationship for firms with intermediate levels of insiders' ownership. Apparently no consensus has emerged, from the limited number of empirical studies done so far, regarding the nature of relationship between the changes in the levels of insiders' ownership of firms at the time of IPOs and their post-IPO performance.

The present study contributes to the existing IPO literature in many ways. First, there is a dearth of empirical studies conducted to examine the nature of relationship between the changes in the levels of insiders' ownership of firms at the time of IPOs and their post-IPO performance. Although literature on corporate governance is full of studies where relationship between ownership and performance is analyzed, we find very few studies where the changes in ownership around IPO were examined. IPO leads to changes in the concentration of ownership of insiders. Hence IPO should offer an optimum time where the consequence of changes in insiders' ownership concentration on performance of firms can be studied.

Second, even in the already sparse empirical literature, most existing studies are in context of developed countries, and evidence in context of emerging countries[15] is rare and far in between. Indian companies differed from developed country companies, with respect to ownership structure and controls, in many ways. First, most of the largest firms in India are still under the control of founding family. One of the possible reasons could be weak institutional environment prevailing in the Indian market, as compare to active institutional environment in developing countries, that refrain family owned firms from converting into a professional managed firms (Peng and Health,1996 and Yeung, 2006). Another reason could be the controls that founder of companies do not want to

[12] In this paper, the terms 'insiders', 'promoters', 'managers' are used interchangeably to refer to the promoters of the firm.
[13] See DeAngelo H. and L. DeAngelo, (1985), Demsetz, H. and K. Lehn (1985), Shleifer, A. and R. Vishny (1986),Brickley, J. and C. James (1987), Grossman, S. and O. Hart (1988), Stulz, R. (1988), Gordon, L. and J. Pound (1990), McConnell, J. and H. Servaes (1990), Hermalin, B. and M. Weisbach (1991),Chang, S. and D. Mayers (1992), Song, M. and R. Walkling (1993), Dhillon, U. and G. Ramirez (1994), Gertner, R. and S. Kaplan (1996), La Porta et al. (1999), Short and Keasey (1999), Dharwadkar et al. (2000), Zhou, X. (2001), Tan et. al. (2001),, J. Fan and L. Lang (2002), Adams, R. and J. Santos (2004), Filatotchev (2005), etc.
[14] See Pagano, 1993; Jain and Kini, 1994; Zingales, 1995; Mikkelson, W., Partch, M., Shah, K., 1997; Stoughton and Zechner, 1998; Chemmanur and Fulghieri, 1999; etc.
[15] Kim et. al. (2002) and Wang (2005) investigated the relationship between the changes in the levels of insiders' ownership of firms at the time of IPOs and their post-IPO performance with their sample of firms derived from emerging market of Thailand and China respectively.

lose over their firm and hence do not like to dilute their concentration of ownership.

Second, concentrated or dominant ownership is one of the common characteristics of Indian companies. As discussed above one of the key reason is weak institutional environment. Institutional environment ideally should provide legal safeguards to protect the interest of both insiders and outside investors. But since the institutional environment is weak, the founders of companies do not want to disclose sensitive information to outside investors. The firms typically hire only members of the in-group or family (Fukuyama, 1995; Yeung, 2006). This makes the transition of dominant to dispersed ownership more difficult. This is true for most of the emerging countries companies. The second reason is the ineffective role of board of directors in monitoring and control. Unlike developed countries the board of directors in emerging countries lacks the institutional support and hence is less effective in controlling top managers and as a result more emphasis is placed on internal control mechanisms.

Finally, the India specific focus of this study makes it especially useful for the ever increasing pool of investors interested in the Indian Primary market. Growing interest of investors into the Indian primary market is evidenced by the recent buoyancy in the IPO activity of the Indian companies (Table 1). A clear understanding of post-IPO performance of the Indian public firms and its relationship, if any, with the changes in the levels of insiders' ownership at the time of IPOs is useful for the prospective IPO issuers, the security market regulator, the IPO investors and the finance researchers.

The remaining of this paper is organized as follows. Section 2 provides a brief review of the relevant theoretical and empirical studies. Section 3 describes the methodology used in this paper. Section 4 specifies the data sources and the sampling technique used. Section 5 presents the results and Section 6 makes the concluding remarks.

2. REVIEW OF LITERATURE AND HYPOTHESIS DEVELOPMENT

Literature review section is divided into two sections. First, the theories dealing with relationship between ownership structure and performance of firms are discussed. Next, the empirical studies carried out on the theme of this study are reviewed.

2.1. Theories[16]

The relationship between insiders' ownership and performance of firms has received considerable attention in both economics and finance. Beginning with Smith (1776), Berle and Means (1932) and Jensen and Meckling (1976) a growing number of theoretical papers investigated this relationship. However, the exact nature of this relationship still remains a debatable issue.

Elements from agency theory formed the premise for most of the arguments on the nature of relationship between insiders' ownership and performance of firms (Jensen and Meckling, 1976; Fama and Jensen, 1983; Shleifer and Vishny, 1986; La Porta et al., 1999; Thomsen and Pedersen, 2000; Dharwadkar et al., 2000 etc.). Jensen and Meckling (1976) defined agency relationship as a contract under which principal (one or more persons that determine the work) engage the agent (one or more persons that undertake that work) to perform services on their behalf which involves delegating some decision making authority to the agent. The very concept of maximization of utility[17] by both the parties is enough to give the impression that agent will not always act in the best interest of the principal. The non-alignment of interests of both the parties creates costs for the firms, which are known as the agency costs[18].

Clearly, the relationship between shareholders and managers of a firm fits very well into the framework of agency theory. Therefore, agency theory can be applied to understand the relationship between the changes in the levels of insiders' ownership at the time of IPOs and their post-IPO performance. In the IPO literature, the application of agency theory to the above relationship is viewed from three different perspectives

2.2. Alignment of Interests Argument

As per the first perspective, the interests of owners-managers and shareholders are generally aligned and therefore, the firm performance improves with the increase in the level of ownership of owner-managers and vice versa. In a way, relationship between the level of owner-managers' ownership and firm performance is expected to be positive.

Jensen and Meckling (1976) explained this argument on the basis of relationship between manager's expenditure on non-pecuniary benefits[19] and firm value. In a firm completely owned by managers, all costs incurred to provide non-pecuniary benefits to managers are borne by the owner-managers themselves[20]. Therefore, 100 percent owner-managers of firm tend to avoid all extra costs required to be incurred to provide themselves with any non-pecuniary benefits. Hence, the firm value would be maximized when managers completely own a firm as any extra costs incurred to provide non-pecuniary benefits is to be fully born by owner-managers themselves.

In a situation, where owner-manager has sold (say α) portion of ownership to the shareholders, the cost of extra expenditure on non-pecuniary benefits would be born by both the owner-manager and the buyer or shareholder. The cost[21] would be now shared

[16] While several theoretical studies have been propounded and empirically tested regarding the relationship between the changes in the levels of insiders' ownership at the time of IPOs and their post-IPO performance, yet Demsetz (1983) holds different views on this issue. Author asserted that the ownership structure of an organization is an endogenous outcome that is an optimal response to company specific advantages and disadvantages. Therefore there should not be any debate on outcome of this structure because an organization would only have that structure which would be maximizing the profit of firm. Studies like Bergstrom and Rydqvist (1990), Denis and Denis (1994), Kole (1996) and Loderer and Martin (1997) empirically showed non significant relationship between the ownership structure and the operating performance of firms.

[17] Jensen and Meckling (1976) consider this situation as Pareto optimal situation where one can only be better off by making someone worse off.

[18] Jensen and Meckiling (1976) identified and categorized a public firm's agency costs to be the sum total of: monitoring costs, bonding costs and residual losses.

[19] Firms' managers extract two types of benefits: (i) pecuniary benefits (e.g. wages, dividend, interest), and (ii) various non-pecuniary benefits (e.g. facilities and amenities in the office, respect, the purchase of production inputs from friends etc.). Firms bear the costs of providing the pecuniary as well as non-pecuniary benefits to the managers.

[20] The slope of line representing relationship between costs incurred to provide non-pecuniary benefits and firm value for 100 percent owner-manager firm is -1 i.e. with a unit increase in non-pecuniary costs the value of firm decreases by same unit.

[21] Jensen and Meckling (1976) assumed the presence of information asymmetry between owner- manager and shareholders and therefore stated that shareholders would not be aware of the expenditures done by owner-manager on non-pecuniary benefits.

by both the parties but the benefits would be enjoyed by only owner-manager. Therefore, the expenditure on non-pecuniary benefits by owner-manager would be more likely to increase with the degree of diffusion of ownership[22].

Another supporting argument is that with the fall in managers' ownership, the managerial drive to devote their endeavours for creative wealth maximizing activities such as searching out new profitable ventures comes down significantly. They may rather avoid such creative wealth maximizing activities simply because it requires too much effort on their part. Avoidance of these efforts can also result in the value of firm being substantially lower than it otherwise could be.

2.3. Entrenchment Argument

As per the second perspective, a high level of managerial ownership in a high information asymmetry environment allows managers to pursue such decisions (actions) that may only suit their personal objectives and hence, may go contrary to the firm's objectives. Such actions may include rapid self-promotion, personal enrichment or avoidance of stress and competitive conflict both within and in the firm's product markets. In a way, a high level of owner-managers' ownership can be counter productive to the firm performance and value (Fama and Jensen, 1983; Morck, Shleifer and Vishny, 1988 etc.).

Fama and Jensen (1983) explained that in large organizations the decision managers who initiate and implement decisions are not the major residual claimants and therefore do not bear a major share of the wealth effects of their decisions. The number of residual claimants in such organizations is large and dispersed and the decision controls are limited to only few agents/managers. As the level of ownership of these decision managers increases, their control (voting power) over the firm also increases. With high level of ownership these agents also enjoy the benefits of lack of monitoring and control by dispersed residual claimants. With enough voting power and without effective control procedures, such decisions managers are more likely to take actions that deviate from the interests of residual claimants. Such actions give rise to agency problems which result in lower value of output. The loss in output in terms of agency costs leads to low firm value. Therefore, Fama and Jensen (1983) conjectured a negative relationship between the level of owner-managers' ownership and firm value i.e. with increase in ownership of agent/manager the value of firm decreases and vice versa.

2.4. Curvilinear argument

Morck et. al. (1988) argued a curvilinear relationship (rather than a simple linear relationship) between the level of owner-managers' ownership and firm performance. Their argument was that the 'entrenchment effect' dominates the 'alignment of interest effect' for medium levels of owner-managers' ownership. This is so because for low levels of managerial ownership it might not be reasonable to think that the managers are entrenched at all since their ownership stake is too small to permit them a complete freedom over their decision making. Furthermore, for very high levels of managerial ownership it seems reasonable to assume that there is high degree of alignment between the firm value and managerial wealth. Therefore, at high levels of managerial ownership, the relationship between level of owner-managers' ownership and firm performance is expected to be positive. As a result, the entrenchment effect will have a pre-dominant impact on firm performance only at the changes in the middle ranges of managerial ownership.

2.5. Review of empirical studies

Jain and Kini (1994) investigated the nature of relationship between the levels of ownership retained by the insiders of firms after the IPOs and their post-IPO performance with a sample of 682 U.S. firms that went public between 1976 and 1988. They found that the median of most of the operating performance measures declined after IPO. They also found that Sales and Capital expenditure increased after IPO and hence the decline in operating performance could not be attributed to any adverse impact on sales growth or capital expenditure after IPO. The industry adjusted performance measures followed the same trend and hence they rejected the presence of any industry effect. Further, to investigate the nature of relationship between changes in ownership and performance of firms around their IPOs, they divided their sample firms into two groups using the median ownership of firms two year after IPO as the cut-off point --- one with high ownership and the other with low ownership. Then the performance trend for both the group was determined. They found a linear positive relationship between the levels of ownership retained by the insiders of firms after the IPOs and their post-IPO performance. It was observed that firms with low ownership exhibited more decline in performance compared to the firms with high ownership. Their results supported the alignment of interest hypothesis.

Mikkelson et al. (1997) studied the operating performance of 283 U.S. firms which completed their IPOs between 1980 and 1983. The 'operating returns on assets'[23] was used as the proxy for the firm's operating performance. Each firm's operating return on assets was adjusted by subtracting the median contemporaneous operating return of a group of matched publicly traded firms. The study reported that operating performance declined sharply within the one year after IPO to a level that was below the performance of matched firms. However, performance did not decline appreciably further during the second through tenth years of public trading. Management ownership declined significantly after IPO. The median ownership of firms' officers and directors fell from 67.9% just before the firms' IPOs to 43.7% immediately following the completion of the firms' IPOs. Their stake further fell down to 28.6% and 17.9% after five and ten years, respectively, of going public. However, contrary to Jain and Kini (1994), the study did not find any relationship between the ownership and performance of firms in post IPO period. The study explained that

[22] The slope of line representing the relationship between non-pecuniary expenditure and firm value was found to be – α i.e. with a unit increase in non-pecuniary expenditure the firm value reduces by – α. Based on this relationship it can be said that with increase in α (or decrease in owner-manager ownership (1- α)), the value of firm decreases and vice versa.

[23] operating income before depreciation, interest, taxes, and extraordinary items, divided by end-of-year assets

changes in equity ownership after IPO did not lead to change in incentives that could affect operating performance negatively. Managers' and other stockholders' interests are closely aligned because officers and directors continue to hold substantial ownership stakes in the first years of public trading. In addition, after becoming publicly traded, alternative forces, such as compensation linked to stock price, potentially substitute for the incentive benefits of large ownership stakes of managers. The decline in performance was suspected to be consequence of other factors rather than changes in ownership.

Kim et al. (2002) conducted a study on the sample of 133 Thai firms that went public between 1987 and 1993. They documented a decline in operating performance for Thai firms in post IPO period. Further, they demonstrated a curvilinear relationship (alignment-entrenchment-allignment) between the level of owner-managers' ownership and firm performance as was conjectured by Morck et.al. (1988). Kim et al. (2002) found that firms, where managerial ownership levels changed within a range of 0% to 31% and 71% to 100%, experienced comparably less post-IPO performance decline than firms, where managerial ownership levels changed within a range of 31% to 71% i.e. firm's with low and very high ownership experienced the alignment of interests hypothesis whereas firms with intermediate level of ownership experienced entrenchment hypothesis.

Balatbat, Taylor and Walter (2004) conducted his study on 313 Australian firms that went public between 1976 and 1993. They also found a decline in operating performance for Australian firms in post IPO period. They examined the relationship between ownership and performance up to five years after IPO. They found no significant relationship between ownership and decline in operating performance for first three years after IPO but found a significant positive relationship for 4th and 5th year. They argued that for first three years the decline could be because of other dominant factors like earning manipulation. The impact of ownership on performance is visible only after 4th or 5th years after IPO.

Wang (2005) carried out his study on 747 Chinese firms which completed their IPOs between 1994 and 1999. Majority of Chinese listed firms are transformed from state-owned enterprise (SOEs), and each firm has several types of shares. Shares of a typical SOE are split into state, legal-entity, and tradable shares at the time of IPO. State shares are those owned by the central or local government. Legal-entity shares are those held by domestic institutions such as listed firms, financial institutions, etc., most of which are partially owned by central or local government. Tradable shares are the only class of shares that can be traded on domestic stock exchanges. The study found a sharp decline in post-issue operating performance, measured by return on assets, ratio of operating income to assets and sales to assets. State and individual ownership were unrelated to the performance changes. For legal-entity ownership and non-state ownership, a curvilinear relationship similar to Kim et. al. (2002) was found, i.e. firms with low and high levels of legal-entity ownership (concentration of non-state ownership) exhibited positive relations between ownership (concentration of non-state ownership) and performance changes, while firms with intermediate levels of legal entity ownership (concentration of non-state ownership) experienced negative relations between ownership (concentration of non-state ownership) and performance changes.

Goergen & Renneboog (2007) investigated the relationship between ownership concentration and post IPO profitability for 764 U.K and 98 German firms that went public between 1981 to 1988. The analysis based on panel data regression denied any impact of ownership concentration on profitability as measured by the cash flow to total assets and the cash flow to market value.

Other than Kim et. al. (2002), we could not find any other article establishing curvilinear relationship between ownership and performance for IPO firms. However most of the research on general firms[24] specially in US and UK market (Short, H. and Keasey, K., 1999; Faccio & Lasfer, 2000; McConnell and Servaes ,1990 etc.) supported the argument given by Morck et.al. (1988) i.e. alignment of interest at low and very high ownership levels and entrenchment at intermediate levels for general firms. However Christina (2005) argued for an opposite curvilinear relationship between ownership and performance. His study was based on family owned firms of China. He proved that for Chinese firms the entrenchment effect was present for low and very high ownership level whereas alignment of interest effect was present for intermediate level.

On the basis of above discussion it can be said that there are very few studies that investigated the research issue taken up by the present study. There are only two studies done with samples from within the emerging markets (Thailand and China), and so far no similar study has been in context of IPOs by the Indian companies. The nature of curvilinear relationship between ownership level and performance is also a matter of debate. Hence the present study aims to add to the literature by empirically investigating the theories, discussed above, in context of Indian market.

Table 1. Number of IPOs and Amount raised by Indian Companies from 2002 to 2012

Year	*No. of Issues*	*Amount (Rs. Cr)*
2002-03	6	1,039
2003-04	28	17,807
2004-05	29	21,432
2005-06	102	23,676
2006-07	85	24,993
2007-08	90	52,219
2008-09	21	2,034
2009-10	44	46,941
2010-11	57	46,182
2011-12	36	23,982
2012-13	44	34,313

Source: Prime Database

3. METHODOLOGY

The following two firm specific financial ratios (defined in Table 2) are used as proxies for measuring the operating performance of individual firms: (i)

[24] Present study is analyzing the operating performance of firm around their IPO therefore we named our sample of firms as IPO firms and used same convention for studies with similar sample. By general firms we meant firms not necessarily public firms. And even if the firms were public the data period was not taken considering their IPO date. Since our study is based on IPO firms we have not included detailed literature review on the relationship between ownership and performance for general firms.

operating return on total assets (*PBDIT/TA*); and (ii) cash flow from operating activities divided by total assets (*CF/TA*). Operating return on total assets is used as a measure of efficiency of assets utilization. Cash flow from operating activities are a primary component in net present value (NPV) calculations used to value a firm, therefore *CF/TA* provides an alternative way to measure operating performance of a firm (Kim et al. (2002).

To assess the relationship between changes in insiders' ownership and operating performance of firms around their IPOs following alternative panel data models are estimated.

$$Performance_{i,t} = \alpha_i + \beta_1 PROM_{i,t} + \beta_2 CURR_{i.t} + \beta_3 D/E_{i,t} + \beta_4 GRW_{i,t} + \beta_5 CAPEX_{i,t} + w_{i,t} \quad (1)$$

$$Performance_{i,t} = \alpha_i + \beta_1 PROM_{i,t} + \beta_2 PROM_{i,t}^2 + \beta_3 CURR_{i.t} + \beta_4 D/E_{i,t} + \beta_5 GRW_{i,t} + \beta_6 CAPEX_{i,t} + w_{i,t} \quad (2)$$

$$Performance_{i,t} = \alpha_i + \beta_1 PROM_{i,t} + \beta_2 PROM_{i,t}^2 + \beta_3 PROM_{i,t}^3 + \beta_4 CURR_{i.t} + \beta_5 D/E_{i,t} + \beta_6 GRW_{i,t} + \beta_7 CAPEX_{i,t} + w_{i,t} \quad (3)$$

where, i = 1,2,..... 204
t = IPO-1, IPO, IPO+1, IPO+2

The above equations depict the basic fixed effect models. These models conjecture the changes observed in firms' performance around their IPOs to be a function of the changes in the insiders' ownership and changes in the controlling variables. The performance variable is either the change in *PBDIT/TA* or the change in *CF/TA*. *PROM*^{2} and *PROM*^{3} represent the quadratic and cubic forms, respectively. The controlling variables are selected according to previous literature on relationship between ownership and performance particularly Short and Keasey (1999) and Kim et. al. (2002).

Liquidity is a general measure of financial stability and hence included as a determinant of performance by study like Hall (1995). We expect a positive relationship between liquidity and performance. Our study included Current ratio (*CURR*) to measure the liquidity of firms. Previous research (such as Rajan,1992; Pagano et al., 1998 and Kim et al.,2002) included proportion of debt to control for capital structure changes. In the present study Debt-Equity ratio (*D/E*), calculated as ratio of total borrowings and net worth, is taken as controlling variable. Debt creates discipline and contributes to less agency conflicts inside a firm. Hence according to agency theories, the relationship of performance with debt should be positive. Pecking order however argues for a negative relationship. Hence the exact relationship is a matter of debate. In order to capture firm's growth, studies like Short and Keasey (1999) and Kim et. al. (2002) included growth in sales to as a determinant of performance. In the present study percentage growth in sales in last three years (*GRW*) is used as a controlling variable. A positive relationship is expected between growth and performance. Morck et al. (1988), McConnell and Servaes (1990) and Kim et. al (2002) included capital expenditure to show level of investment as a controlling variable for firm performance. In the present study also, capital expenditure (*CAPEX*) is included as a proxy for level of investment as a controlling variable. We expect a positive relationship between level of investment and performance (for the calculation and definition of variables see table 2).

Table 2. Definitions of firm-specific variables used in this study and their expected relationship with performance in multivariate analysis (model 1, 2 & 3)

Variables	*Definition*	*Expected relationship*
CF/TA	Ratio of cash flow from operations and total assets. Cash flow from operations indicates cash generated through the main operations of the company. Total assets include value of fixed assets, investments and current assets.	
PBDIT/ TA	Ratio of profit before depreciation interest and tax and total assets. Total assets include value of fixed assets, investments and current assets.	
SALES	By sales we meant income generated from main business activities like sale of goods and services, fiscal benefits, trading income. It also includes internal transfers.	
CURR	Current ratio is a measure of the short-term liquidity position of a company. This ratio is calculated by dividing current assets by current liabilities of a company.	+
D/E	Debt-Equity ratio is a measure of the financial leverage of a company. This ratio is calculated by dividing total borrowings of a firm by net worth.	+/-
GRW	Sales growth is a measure of growth potential of a company. This variable is measured by calculating annual percentage increase in sales	+
CAPEX	This is the capital expenditure or new fixed assets creation in the firm. It is measured as the ratio of expenditure in purchase of new fixed assets to gross fixed assets.	+
PROM	A promoter is a person(s) who are in control of the company, or a relative of the promoter'. Promoters' ownership is calculated as shares held by promoters (in percentage) including foreign promoters and persons acting in concert as a percent of the total outstanding shares of the firm.	+/-

Table 3. Summary statistics of variables

Variable	Time Window	n	Mean	Median	S.D.
CF/TA	Y-1	306	0.034	0.005	0.126
	Y+0	306	0.012	0.006	0.166
	Y+1	306	-0.056	-0.009	0.301
	Y+2	306	-0.019	0.02	0.760
PBDIT/TA	Y-1	306	0.133	0.129	0.114
	Y+0	306	0.143	0.127	0.124
	Y+1	306	0.109	0.106	0.110
	Y+2	306	0.090	0.095	0.114
SALES	Y-1	306	242.247	72.65	557.854
	Y+0	306	349.481	112.02	753.346
	Y+1	306	518.161	142.5	1128.159
	Y+2	306	603.426	180.86	1360.771
CURR	Y-1	306	4.690	1.65	17.246
	Y+0	306	4.618	1.945	9.827
	Y+1	306	5.674	2.18	29.884
	Y+2	306	4.295	2.02	16.260
D/E	Y-1	306	0.938	0.75	9.914
	Y+0	306	1.685	0.515	14.463
	Y+1	306	0.672	0.347	2.038
	Y+2	306	0.823	0.45	1.977
GRW	Y-1	306	0.320	0.074	0.951
	Y+0	306	0.815	0.278	2.452
	Y+1	306	0.510	0.284	1.233
	Y+2	306	0.201	0.140	0.565
CAPEX	Y-1	306	0.866	0.000	4.828
	Y+0	306	1.474	0.02	7.761
	Y+1	306	2.634	0.172	7.956
	Y+2	306	2.203	0.132	15.132
PROM	Y-1	306	57.294	58	18.365
	Y+0	306	54.902	55.56	18.056
	Y+1	306	52.971	54.22	18.335
	Y+2	306	51.553	53.85	19.161

Models 1, 2 and 3 shows fixed effects estimation, where i represents each company and t represents each time period (with t = IPO-1 to IPO+2). Fixed effects regressions preserve the time series variation, but ignore most of the cross-sectional differences among the firm. In order to study the cross-sectional differences a dummy variable for each time period was added in the form of combined fixed and time effect regression model. This combined firm and time effect model eliminates an omitted variable bias arising from unobserved variables that are constant over time and from unobserved variables that are constant across firms. Hence the relationship between dependent and independent variables are estimated by fixed effect and fixed and time effect regression estimators. The evidence of firm and time effects is found by performing F-test (see table 4 & 5). Breusch-Pagan Lagrange Multiplier test and the Hausman test confirm that the suitable model should be the fixed effects model and not the random effect model (see table 4 & 5). Further Wald test confirm the presence of time effect. Hence the study used both fixed effect model and fixed effect and time effect model.

3.1. Data sources and sample

The sample for the study was derived from 542 firms that went public between 2002 and 2012. Security Exchange Board of India (SEBI) has made the disclosure of information related to promoter's ownership mandatory after 2001. Therefore the data related to promoters' ownership for the firms that went public before 2001 was not readily available. While collecting the data it was found that for some firms the values were missing for some of the variables. These firms were dropped from the sample. For some firms the values were not available for all the time windows. These firms were also dropped from the sample. The methodology required data from one year before IPO to two years after the IPO. Therefore firms that went public after 2012 were also dropped from the sample as for them the data for next two years would not be available. The final sample of this study consisted of 306 firms. The sample selection process eliminated 215 firms.

4. RESULTS AND DISCUSSION

4.1. Summary statistics

The annual trend in the number of IPOs and capital raised by Indian firms through IPOs are shown in table 1. Year 2005-06 received the maximum number of IPOs in our sample followed by an equivalent optimism by investors and issuers in following two years. The peaking up of boom was followed up by burst during 2008-09 wherein all major stock markets suffered huge losses the summary statistics of firm specific variables are reported in table 3. The summary statistics are reported for: one year prior to IPO (Y-1), IPO Year (Y+0), one year after IPO (Y+1), and two years after IPO (Y+2). The mean scores of *CF/TA* decreased consistently, starting from one year before IPO year to +1 and +2 years after the IPO year. The mean score for the time windows are 0.034, 0.012, -0.056 and -0.019. The mean score in Y+1 and Y+2 time windows are in negative, which means a negative operating cash flow. The median score for the same time windows are 0.005, 0.006, -0.009 and 0.02. The mean and median score in Y+2 is slightly better as

compare to Y+1, however the score is less as compare to Y-1.

Mean operating return on assets (*PBDIT/TA*) of the firms before IPO is 0.133. It increases to 0.143 in the IPO year and then decreases to 0.109 and 0.090 in +1 and +2 year after IPO, respectively. The median score increased from 0.127 before IPO to 0.129 in the IPO year and then decreases to 0.106 and 0.095 in one and two years after the IPO.

The liquidity position of firms, as calculated by their current ratios (*CURR*), appears to follow an unsteady trend. The mean score decreased slightly from 4.690 in IPO-1 year to 4.618 in the IPO year. The mean score is maximum in IPO+1 year and then decreased to 4.295 which is lesser than IPO-1 and IPO year. The mean score of leverage of firm calculated by Debt-Equity ratio (*D/E*) decreases from 0.938 in IPO-1 year to 0.823 in IPO+2 year. However the mean score of (D/E) achieves its peak in IPO year. The median score also decreased from 0.75 in IPO-1 to 0.515 in IPO year. The mean and median score for another two controlling variables growth in sales (*GRW*) and capital expenditure (*CAPEX*) showed huge increase from IPO year to one year after IPO.

The high growth in capital expenditure indicates that IPOs by the Indian companies are primarily done to meet the existing financing needs. In order to analyze the Sales of companies in post IPO period variable (*SALES)* was examined for the same time windows. The mean and median score of *SALES* zoomed from pre IPO to post IPO time windows. Where the mean score increased from 242.247 to 603.426, median score increased from 72.65 to 180.86. The immediate boost in sales indicates that companies do not lack Sales opportunities in post IPO period. The similar trend in capital expenditure and sales points to the fact that the decrease in performance in post IPO period doesn't seems to be because of lack of sales and investment opportunities or cutback in capital expenditure in post IPO period.

Mean score for promoters' ownership (*PROM*) decreased after IPO. The mean score for ownership fell from 57.294 percent before the IPO to 51.553 percent in +2 year after the IPO. The median promoters' ownership followed a similar trend.

4.2. Insiders' Ownership and Performance

To assess the relationship between changes in insiders' ownership and operating performance of firms around their IPOs the alternative panel data models, stated as equations (1), (2) & (3) in the methodology section, are estimated. The standard methods of panel estimation are fixed effects or random effects. The basic assumption behind random effect model is that company specific effects are not correlated with the other explanatory variables. A Hausmann specification test can evaluate whether this independence assumption is satisfied.

The test statistics rejects the null hypothesis at any significance level for all the models and for both the performance variables (see tables 4 & 5) which indicates that the fixed-effects model should be used. Test statistics for F-test confirms the appropriateness of fixed effect model at any significance levels. Test statistics of Wald test confirms the presence of time effect however test statistics of Lagrange multiplier test rejects the chances of random effect with time effect. Hence the models are estimated with fixed effect and fixed effect and time effect model. In order to take care of any possibility of cross-sectional heteroskedasticity, a robust estimation technique was used. The coefficients are the same with and without the robust estimation technique; however the robust estimator produces larger standard errors. Results for both fixed effect and fixed and time effect are presented in Tables 4 & 5.

Table 4. Regression results on the change in CF/TA

	Fixed Effects Firm Model (Robust Estimation)			***Fixed Effect Firm and Time Model (Robust Estimation)***		
variables	***Model 1***	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model3***
Constant	.053 (.06)	.063 (.15)	.818 (.37)	.085 (.06)	.113 (.16)	-.797 (.37)
PROM	-0.595 (1.05)	-0.960 (5.36)	-0.526** (.021)	-0.873 (1.07)	-1.876 (5.41)	-0.538** (21.47)
PROM²		3.07 (44.41)	.977** (.383)		8.427 (44.57)	1.012*** (383.6)
PROM³			-5.526** (2.147)			-5.757*** (2148.9)
CURR	-8.911*** (1.82)	-8.909*** (1.82)	-9.001*** (1.80)	-8.925*** (1.82)	-8.920*** (1.82)	-9.017*** (1.80)
D/E	-3.483 (5.05)	-3.458 (5.07)	-3.05 (5.02)	-3.96 (5.06)	-3.903 (5.08)	-3.551 (5.02)
GRW	3.842** (1.69)	3.852** (1.70)	4.01** (1.68)	3.623** (1.70)	3.647** (1.71)	3.786** (1.69)
CAPEX	-0.363 (1.17)	-0.367 (1.17)	-0.691 (1.17)	-0.143 (1.18)	-0.153 (1.18)	-0.457 (1.18)
n	1199	1199	1199	1199	1199	1199
R-Squared	0.03	0.03	0.09	0.03	0.03	0.01
Hausman test	2.17 (0.00)	2.60 (0.00)	2.56 (0.00)			
F-test	1.50 (0.00)	1.50 (0.00)	1.50 (0.00)			
Wald test	5.50 (0.01)	5.57 (0.01)	5.50 (0.01)			
LM test	22.42(0.00)	22.30 (0.00)	22.26 (0.00)			

Table 5. Regression results on the change in PBDIT/TA

	Fixed Effects Firm Model (Robust Estimation)			*Fixed Effect Firm and Time Model (Robust Estimation)*		
variables	*Model 1*	*Model 2*	*Model 3*	*Model 1*	*Model 2*	*Model3*
Constant	0.092 (0.02)	0.061 (0.03)	0.121 (0.04)	0.192 (0.02)	0.167 (0.03)	0.217 (0.04)
PROM	0.497 (0.41)	1.823* (1.33)	-4.135* (3.05)	-0.534 (0.42)	0.520 (1.31)	-4.618* (2.98)
PROM²		-0.012 (0.01)	0.126** (0.06)		-0.009 (0.01)	0.110** (0.06)
PROM³			-0. 910** (0. 42)			-0.001** (0.00)
CURR	-0.559*** (0.17)	-0.545*** (0.17)	-0.545*** (0.17)	-0.593*** (0.17)	-.582*** (0.17)	-0.582*** (0.17)
D/E	-0.129 (0.34)	-0.130 (0.34)	-0.104 (0.34)	-0.211 (0.33)	-0.212 (0.33)	-0.188 (0.33)
GRW	7.40*** (2.08)	7.288*** (2.08)	7.524*** (2.08)	6.617*** (2.02)	6.53*** (2.03)	6.743*** (2.03)
CAPEX	0.068 (0.31)	0.083 (0.31)	0.105 (0.31)	0.188 (0.30)	0.200 (0.30)	0.217 (0.30)
n	1199	1199	1199	1199	1199	1199
R-Squared	0.35	0.37	0.26	0.43	0.47	0.89
Hausman test	3.21 (0.00)	3.61 (0.00)	8.24 (0.00)			
F-test	3.48 (0.00)	3.47 (0.00)	3.50 (0.00)			
Wald test	50.19 (0.00)	49.75 (0.00)	48.65 (0.00)			
LM test	263 (0.00)	261.03 (0.00)	260.48 (0.00)			

Tables 4 & 5 presents the estimation of the panel data used to examine the relationship between change in ownership and performance of firms around IPO. Performance was measured by two variables, as dependent variable: *CF/TA* and *PBDIT/TA*. The influence of insiders' ownership on performance was analyzed by having promoters' ownership as one of the independent variables in the model. In model 1 a linear relationship was tested. The study further tried exploring the cubic and quadratic relationship by including square and square and cube of ownership in model 2 and 3 resp. In addition four controlling variables viz., *CURR*, *D/E*, *GRW* and *CAPEX* were also included in the model. The changes were measured by observing the data for following four time periods: (i) one year before IPO (Y-1), (ii) IPO year (Y+0), (iii) one year after IPO (Y+1), and (iv) two years after IPO (Y+2).

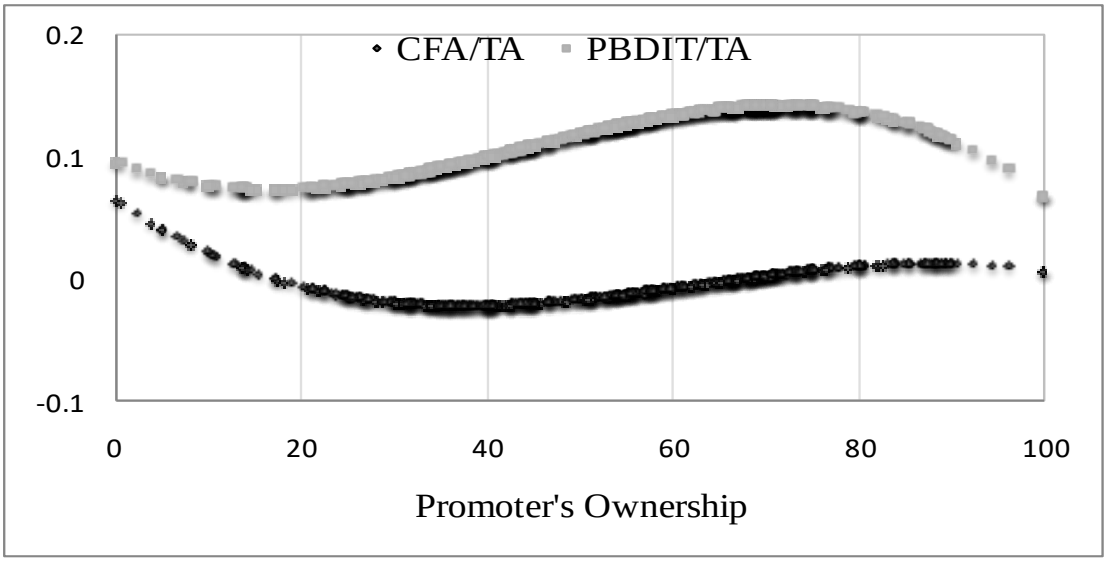
Regression results, using (*CF/TA)* as a dependent variable, are reported in Table 4. In model 1 of fixed effect estimation, where only a linear relationship is considered the test statistics of ownership doesn't provide evidence for a relationship with the performance. In model 2 where a nonlinear relationship is considered and square of ownership is taken, the test statistics does not provide evidence for quadratic relationship. Hence there does not appear to be a linear and quadratic relationship between performance and ownership. The result is in contrast to the findings of Jain and Kini (1994) but it supports the findings of Mikkelson et al (1997) and Kim et al (2002).

Estimation of model 3 shows that the estimated coefficients of all of the ownership variables are statistically significant. It rejects our hypothesis that there is no relationship between promoter's share ownership and firm performance. The coefficients for *PROM* and *PROM³* are negative, while the coefficient for *PROM²* is positive. These results suggests that firms with "low" and "high" levels of managerial ownership experience negative relationships between managerial ownership and changes in firm performance (entrenchment hypothesis), while firms with 'intermediate' levels of managerial ownership exhibit a positive relationship between managerial ownership and changes in firm performance (alignment-of-interest hypothesis). Regression using *PBDIT/TA* as dependent variable showed similar results.

In order to determine the level of ownership at which entrenchment is changing to alignment and then back to entrenchment, the estimated coefficient from model 3 is used to plot the relationship between ownership and performance. Figure 1 shows that the turning point from entrenchment to alignment for managerial ownership for *CF/TA* is around 40%. The turning point back to entrenchment is around 85%. For *PBDIT/TA* the turning point from entrenchment to alignment is around 20% and then back to entrenchment is around 70%.

The above findings (entrenchment-alignment-entrenchment) are in contrast to the findings of some of the earlier studies (eg. Morck et al., 1988; Short and Keasey, 1999 and Kim et al, 2002). Earlier studies exhibited alignment-entrenchment-alignment relationship with the increase in ownership. However the findings support Christina (2005) who has made a study on the relationship between ownership and performance of family based firms, but not IPOs, of Hong Cong.

Figure 1. Curvilinear Relationship Between promoter's ownership and performance



Fan and Wong (2002) conducted a study on seven East Asian economies- Hong Kong, Indonesia, South Korea, Malaysia, Singapore, Taiwan and Thailand and argued that the ownership concentration in Asian countries is different from that of U.S. and U.K. firms therefore the result based on U.S. or U.K. data may not be applicable to Asian countries. According to Fan and Wong (2000) corporate ownership is highly concentrated in East Asia. Further, the owners possess higher voting rights than cash flow rights[25] and hence have more power to expropriate the company, while smaller cash flow rights reduce their share of losses from the extraction of wealth. Pattanaik (2008) supported Fan and Wong (2000) and found entrenchment effect to be present at a very high level of ownership in Indian companies and he attributed the difference in result, as compared to that of advanced countries, to the difference in the concentration of ownership between India and advanced countries. Author argued that in advanced countries, where ownership is diffused, the insiders are able to entrench with their low level of shareholdings due to the diffused non-insiders' shareholdings. Cho (1998) observed managers entrenching at very low levels of insider ownership and commented that the reason could be the absence of major block holdings in such firms.

The results of this study suggest the dominance of entrenchment effect at both lower as well as higher level of ownership. Our results support Morck et al. (1988) view, that interest is aligned for all the ownership level but for some level entrenchment effect dominates the alignment of interest effect. Whereas for Morck et al. (1988) and other previous studies the dominance was observed for intermediate level, for our study the dominance is observed for very low and very high level.

Among the controlling variables, the *GRW* has a significantly positive relationship with the firm performance in all the models. The *Curr* ratio has a significantly negative relationship with the firm performance in all the models which indicates that firms with high liquid ratio tend to underperform more. The relationship between liquidity and performance is contrary to what we expected. A negative relationship here suggest that the asset liquidity of a firm may send a negative signal to the outsiders as it may indicate that the firm is facing problem regarding opportunities for its long term investment decisions (Basil and Taylor,2008). This study, like Kim et. al. (2002), did not find any significant relationship between capital expenditure (*CAPEX*) and firm performance. Insignificant relationship between leverage captured by *D/E* ratio negates the relationship of leverage with underperformance of firms. However the relationship is consistently negative in all the models and for both the performance variables. The negative relationship may support the Fama and French (1998)'s assertion that higher level of debt restricts the decision to invest in profitable projects, which in turn adversely affect the firms' performance.

5. CONCLUSION

The study investigated the change in performance of Indian public firms post to their Initial Public Offerings (IPOs) and its relationship, with the changes in the levels of insiders' ownership at the time of their IPOs. What makes this study distinctive is the fact that the analysis is conducted on Indian market which offers a great deviation in corporate governance issues from other developed countries. Unlike US or UK where similar studies were made, the central problem in Indian corporate governance is the conflict between dominant shareholders and dispersed shareholders not principal and agent. Since the issue is between dominant shareholders and dispersed shareholders, promoters' shareholding is examined in the study. IPO brings changes in the ownership of promoters. Therefore an attempt was made where the consequences of changes in the promoters' ownership on performance of firms was examined.

[25] Fan and Wong (2002) divided the owner's rights into three categories. First, the owner has the right of voting to deploy corporate assets, i.e., voting (control) rights. Second, she has the right to earn income, i.e., cash flow rights. Third, the owner has the right of transferring the share to another party.

Analysis based on panel data showed that there is a curvilinear relationship between ownership and performance. These results suggests that firms with "low" and "high" levels of managerial ownership experience negative relationships between managerial ownership and changes in firm performance (entrenchment hypothesis), while firms with 'intermediate' levels of managerial ownership exhibit a positive relationship between managerial ownership and changes in firm performance (alignment-of-interest hypothesis). Our findings (entrenchment-alignment-entrenchment) are in contrast to the findings of earlier studies (eg. Morck et al., 1988; Short and Keasey, 1999 and Kim et al, 2002).

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ANNUAL MEETING IRMBAM 2016 PAPERS CONFERENCE IN NICE

SECTION 2

NON-FINANCIAL CORPORATIONS IN LEBANON: WHO GOVERNS? "THE GOVERNANCE MYOPIA"

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Abstract

The purpose of this paper is to study governance practices in non-financial enterprises in Lebanon, and it is the first time that such enterprises are studied in the Lebanese context. Only three non-financial institutions are listed in the Beirut Stock Exchange (BSE), which constitute the whole population of this research. Built on Principles, Governance is based on transparency and on accurate, relevant, and timely information in order to support the Board members' decision-making (OECD, 2015). Balanced between Jensen and Meckling's (1976) agency theory and Donaldson and Davis' (1991) Stewardship theory, the results of our Qualitative study showed that the main problems faced by the enterprises are not in the quality of information but rather in its selection and filtering, which opens doors to "Governance Myopia". Face-to-face interviews showed that the primary conflict in our case is between the non-financial enterprises and the BSE, since the BSE is controlled by the enterprises and is not controlling them. The main reason of such practices come from the fear of the BSE of losing a potential position in the MENA Exchange Market, doubled with the fear of losing potential investors. All these reasons weigh heavily on the Administrators of the BSE in Lebanon, forcing them to choose the "Laisser passer" way. Referring to the soft Law when dealing with the companies, the BSE is playing the double role of a marketer and a controller, thus not willing to impose restrictions. A need for "harder laws", for "Privatization" of the BSE, and a call to the Capital Market Authority (CMA) to put more restrictions on Corporations should be observed.

Keywords: Corporate Governance, Non-financial Enterprises-Beirut Stock Exchange, Capital Market authority-Hidden information, Soft/Hard Law- Privatization, Governance Myopia

1. INTRODUCTION

Among the important components that influence decision-making inside a firm, we can list: corporate culture, internal communications system, availability and transparency of information, interrelations between resources especially those related to humans, governance structures and organizational processes and design.

Corporate governance requires companies to draw limits between ownership and control, whether for financial or non-financial reasons. In this context, Berle and Means (1930), warned that the distribution of the returns from business enterprise through unchecked corporate power can have serious consequences on the firm. The agency theory of Jensen and Meckling (1976) argued that corporate control is assumed non-existent. Therefore, moral hazards, asymmetric information, incomplete contracts, and adverse selection can be observed among agents in the organization.

Because of the political situation, the Beirut Stock Exchange (BSE), which suspended all activities in 1983, resumed them recently with only 6 Banks, 3 non-financial enterprises (2 of which are Industrial: S.L.des Ciments Blancs, Holcim (Liban), and 1 Trading: Rasamny Younis Motor Co.), in addition to Solidere, the Lebanese Company for the Development and Reconstruction of Beirut Central District s.a.l. A report that was published on January

4, 2016, on the website Shareholder-rights.com[26] studied the degree of transparency of governance of all ten companies listed on the Stock Exchange of Beirut. They got a total average of 27 %, the equivalent of a "D", in a grading system ranging from A to F[27], which means that all companies in question "apply the strict minimum imposed by regulatory authorities". Separately, the six listed banks on the Beirut Stock Exchange got an average of (39%) while Holcim Lebanon got a (4 %) , Rymco (1%) and Ciments Blancs (0%). The 3 non-financial enterprises were therefore graded « F » (Hajj-Boutros, 2016). Akkaoui[28] accused Holcim Lebanon and Ciments Blancs - two subsidiaries of Holcim Group, whose Headquarters are based in Switzerland – of respecting the principles of governance in Switzerland while disrespecting them in Lebanon.

The purpose of this paper is to investigate the application of governance in the non-financial enterprises listed at the Beirut Stock Exchange (BSE) in Lebanon, a topic that has never been studied before. Previous studies rather examined the Lebanese corporate governance system as a whole (Chahine and Safieddine 2007), or the effect of corporate governance mechanisms on bank performance in Lebanon (Chahine and Safieddine, 2011).

The study is arranged as follows: Section 1 reviews and discusses the literature and proposes hypotheses. Section 2 presents the methodological approach for the study. Section 3 reveals the results, and Section 4 discusses the findings. Finally, Section 5 concludes and raises awareness about the limitations of the study.

2. LITERATURE REVIEW AND SEARCH FOR HYPOTHESES

There is not one comprehensive definition that is attributed to Corporate Governance, even though it is a frequently used term. However, referring to Charreaux (1997), it is defined as "*All the organizational mechanisms that govern the conduct of managers and define their discretionary space.*" As for Armstrong et al (2010), Corporate Governance is "*the subset of a firm's contracts that help align the actions and choices of managers with the interests of shareholders*". Built on Principles, Governance is based on transparency and on accurate, relevant, and timely information in order to support the Board members' decision-making (OECD, 2015)

2.1. The agency theory: The pool of personal profit

Since organizing properties has become a dynamic in the balance of powers, Berle and Means advocated in their classic "Modern Corporation and private property" that due to the separation of powers the internal environment of corporations is dealing with opposing groups and ownership on one side, and control on the other. This gave birth to "*new princes exercising their power whilst relegating owners to the position of those who supply the means"* (Berle and Means, 1932, p116). The authors also suggested that the surrender of control of the investors' wealth to a *unified direction* raises the question of the motive behind accepting such responsibilities (Berle and Means, 1932, p4). Followed by other authors, new interpretations of the concept came to explore its different cornerstones. First explored by Ross (1973), then by Jensen and Meckling, (1976), the agency theory for instance argued that the agency relationship is a legal arrangement between two or more persons called (principal) who engage an (agent) *to perform some service on their behalf, which involves delegating some decision-making authority.* This type of relationship may therefore include opportunism and self-parochial interest, because of the tendency of some managers to search for personal profits rather than investing in projects with added value to shareholders. However, this pool of personal interests can be diluted in family-businesses. Other studies, as Donnelly's, revealed that when it comes to family-business, the actions of members of the family reflect on the reputation of the enterprise. Poutziouris (2004) study showed that 42 listed family-owned Businesses on the London Stock Exchange, outperformed non-family Businesses by 40% from 1999 to 2005. Study presumed that the value of good governance in family-owned Businesses is higher than in other types of Businesses. Another study conducted by the Credit Suisse (2007) uncovered two factors that can contribute to this better performance: 1) Longer-term strategies focusing on determining Business succession, and 2) better alignment between both management and shareholders' interests. These studies lead us to the "Stewardship theory", which is an alternative view of the "Agency Theory". The Stewardship theory argues that shareholder interests are maximized by shared incumbency of the roles of board chair and CEO (Donaldson, Donaldson, and Davis, 1991). Opportunism emerges when there is a board chair independent of the CEO. From these different points of view, we therefore propose Hypothesis 1:

H1: The conflict of interest between principals and agents is higher in non-Family owned Business than in Family-owned Businesses.

2.2. In a complex environment with limited information

Two decades after Berle and Means, Simon (1955, 1956, 1957) developed a model of human cognitive limitations incorporating information (search) and computational costs. He suggested that maximization is virtually unrealizable in real life, due to the complexity of the human environment and the limitations of human information processing. He argued that in terms of decision making, people always "satisfice" rather than "maximize", which has important implications for the behavior of managers. Penrose (1958) stressed that uncertainty results from "*the feeling that one has too little information, which*

[26] Hajj-Boutros based his report at L'orient Le jour on a study conducted by Yasser Akkaoui , President of Capital Concept, recognized by the Central Bank since 2011. Akkaoui argued that the principles of corporate governance were developed by the Organization for Economic Cooperation and Development (OECD) in 1994. Each country has its own code. Lebanon got it since 2007.

[27] An "A" means that the company publishes over 90% of the necessary information to shareholders, while an 'F" accuses the company of being completely opaque.

[28] As aforementioned, Yasser Akkaoui is the President of Capital Concept, first writer of the report.

leads to a lack of confidence in the soundness of the judgment that lies behind any given plan of action" (Penrose, 1958, 59). Lack of information can increase risks and can enhance the possibility of bigger risks of loss due to moral hazard, adverse selection problems (Rajan and Zingales 1998), and opportunistic managers (Bushman and Smith, 2003). Therefore, organizations should be committed to obtaining more information to reduce uncertainty and optimize decision making, especially that the decision process is fundamentally associated with the image of the enterprise. As a matter of fact, promoting the governance of publicly traded companies serves such companies: *1/ to ensure that minority shareholders receive reliable information about the value of firms and that a company's managers and large shareholders do not cheat them out of the value of their investments, and 2/ to motivate managers to maximize firm value instead of pursuing personal objectives* (Bushman and Smith, 2003). In accordance, The OECD stressed that the framework of the Corporate Governance *should promote transparent and efficient markets, be consistent with the rule of law and clearly articulate the division of responsibilities among different supervisory, regulatory and enforcement authorities* (OECD, 2004). It presumed that full disclosure and transparency of financial information as vital components of the Corporate Governance Framework. It also argued that if the stakeholders should participate in the corporate governance process, they should have access to relevant, sufficient and reliable information on a timely and regular basis (OECD, 2004). The results of Beeks and Brown's study (2005) asserted that firms with higher Corporate Governance quality make more informative disclosures. Although in order to protect their jobs, managers have a bigger tendency to conceal bad news (Jin and Myers, 2006). "*The more opaque the firm, the greater the amount of hidden, firm-specific bad news that may arrive in a given span of time".* Owners are therefore invited to expose their managers' hidden secrets, break through the opaqueness and fight it. We propose Hypotheses 2:

H2: The more financial opacity, the bigger the conflict inside the company.

2.3. Calling for more Voluntary information

In 2015, the OECD introduced a chapter called *Disclosure and transparency,* among the six main principles that can provide guidance and raise awareness of good corporate governance. The importance of the chapter is that it does not only identify key areas of disclosure, but that it includes the recognition of recent trends with respect to items of non-financial information that companies may voluntarily include in their management reports. This new trend already had its foundation in the writings of Hossain and Hammami (2009). In their article, "Voluntary disclosure in the annual reports of an emerging country: The case of Qatar", the authors stressed the importance of voluntary information. They argued that voluntary information builds confidence with the investors, hence the corporations should be transparent enough in making it public. Another article of Cheung et al (2010) on Chinese listed companies pointed to the importance of the positive relationship between the voluntary disclosures and market valuation. Also, the study of the variation in voluntary disclosure of Bromberg et. al. (2010) supports that the size and debt ratio are positively correlated with the content of information in voluntary disclosures. Another study of Jatinder et al (2010), conducted on 13 banks ranked top in position in India also revealed that voluntary corporate information obtained from the development of an information disclosure system has its own importance and is complementary to the mandatory information system. The results of Broberg et al (2010) study of the annual reports of 431 companies listed on the Stockholm stock exchange showed that corporations with a low share of management ownership, and those with foreign ownership and international listing, have a positive effect on the content of voluntary disclosures. As for Burcu and Bengu (2014), voluntary disclosure enhances transparency, which reduces the information asymmetry between the insiders and outsiders of the organizations. The voluntary aspect allows management discretion in deciding the content of information to disclose, which is recommended as the best practice. Hence, the third hypothesis for this study is:

H3: The more voluntary information, the better the transparency of information.

2.4. Despite the duality of Soft/ Hard Laws and comply/explain contexts

Information and transparency are not the only conceptual framework of governance. Governance also largely depends on Laws. Protected from arbitrary decisions, corporations can rely on Law to free governance from corruption and narrow private interest groups. Referring to Berle and Means (1932), the authors suggest that it is the Law that holds the management to certain standards of conduct, such as: 1/ a decent amount of attention to Business; 2/fidelity to the interest of the corporation; 3/ reasonable business prudence (Berle and Means, 1932, p197); which raises the question of a better governance under effective Laws. Nowadays, regulators face another challenge: which Law is to be chosen for the regulation of corporate governance practices? Is it the hard law or the soft Law? The hard law defines a strict set of mandatory instructions, based on: obligations, precision, detailed and precise language, and delegation to an independent party; the soft law has weaker obligations, vague wording, and keeps delegation within parties (Abbott and Snidal, 2000). From the shareholders' perspectives, soft regulations practices are more efficient to the governance mechanisms of firms, however they cannot always solve governance problems (Arcot et al, 2005),

Moreover, studies have revealed that it is up to the companies themselves to choose between complying with good governance principles or not. If they choose not to, they need to justify their choice (Rapp et al, 2003). In such a comply or explain concept, flexibility is observed in order to lead to

better governance, encouraging companies to adopt the spirit of the Code, and allowing some deviations from the rule without fostering investors' trust (Arcot et al, 2005). We therefore propose Hypothesis 4:

H4: The need of establishing good corporate governance is bigger when adopting the soft laws.

2.5. It all depends on the country in which the firm is located

Finally, the results of La Porta et. al. (1999) found that the mandatory type of governance depends on the country in which the firm is located. In their research paper "Corporate governance, investor protection and performance in emerging markets", Klapper and Love (2002), argued that firm-level corporate governance quality matters more for attracting investors in countries with weak legal environments. Their results suggested that firms can partially compensate for ineffective laws and enforcement by establishing good corporate governance and providing credible investor protection. Another research conducted by Sandeep et al in (2002), on 19 emerging markets for 354 firms, shows that the Latin American, Eastern European, and Middle Eastern emerging markets have significantly less transparency and disclosure compared to Asian emerging markets and South African ones. On the other hand, studies have also revealed that firms located in countries with poor country-level governance, have a higher tendency to hide information and to reach higher opacity. Fearing the risk of expropriation, makes the cash flows of these firms riskier (Jin and Myers, 2006): *"stocks in more opaque countries are more likely to "crash," that is, to deliver large negative returns, than stocks in relatively transparent countries"*. The more recent research of Ntow-Gyamfi et al (2015) on 31 corporate companies in Ghana, is also significant, since it reveals that in the absence of an effective framework for compliance, effective corporate governance at firm level is expected to play a crucial role in improving disclosure of corporate information and transparency. Listing on the exchange stock market (ESM) increases the level of transparency in a firm. For this reason, as a firm remains longer on the ESM, transparency is improved since the market learns more about the firm. These factors can facilitate the operation of securities markets and the efficient flow of scarce human and financial capital to promising investment opportunities (Bushman and Smith, 2003). Therefore we propose one more Hypothesis:

H5: Transparency of information highly depends on the country in which the firm is located.

3. METHODOLOGICAL APPROACH OF THE STUDY

3.1. Justification of the study and Methodology

Our study contributes to the extant literature. While several authors emphasize the role of corporate governance in Lebanese banks, no authors have studied the topic of governance in non-financial enterprises. Our study makes new contributions to literature, since it is the first to provide a comprehensive review on corporate governance in non-financial Lebanese enterprises, of which are Holcim Liban, Rymco and Ciments Blancs that are listed on the Beirut Stock Exchange. It is worth mentioning that the breakdown of market capitalization by listed company and by economic sector during the first four months of the year 2014 is as follows: the Industry and Trading sector holds a stake of 3.27%, against 19.27% controlled by the Real estate sector and 77.46% by the Banking sector (Credit Libanais, 2014).

This study is a key product of a qualitative exploratory research conducted through the year 2015-2016. It is based on web search, secondary research and primary information based on interviews with people in charge in the three studied corporations. Also, interviews were conducted with an external auditor from one of the biggest companies in charge, and with the Deputy General Secretary of the Beirut stock exchange. Our decision to interview the latter came from the fact that the BSE has "*a unique position to influence corporate governance laws and regulations as well as company practices in implementing them"* (OECD, 2012).

The importance of the use of the qualitative methodology in our case is to describe: "*The emphasis is on a specific case, a focused and bounded phenomenon embedded in its context […] Such data provide "thick descriptions" that are vivid, nested in real context, and have a ring of truth that has strong impact on the reader,* by providing *how and why things happen.*" (Miles and Huberman, 1994, p. 10). This qualitative exploratory approach is also justifiable because the number of corporations under study is limited to 3. Our use of the qualitative methodology helped us pursue-in-depth information around the topic. While "going with the flow", we were able to ask the interviewees, different open-ended questions, adaptable to the nature of the topic with the objective of collecting as much information as possible. In order to provide reliable answers for the study the sources of information were triangulated and the questions were addressed to: The corporations themselves, the Beirut Stock Exchange, and the external auditors.

3.2. The case studies

To ensure better understanding of the context, a brief description of each corporate entity and an exploration of its background and affiliation to the BSE is provided.

3.2.1. The Beirut Stock Exchange (BSE)

The Beirut Stock Exchange is the principal stock exchange of Lebanon and the second oldest stock market in the region. Established by a decree of the French Commissioner in 1920. The BSE is a public institution run by a committee including a Chairman, a Vice-Chairman and eight members appointed by a decree issued by the Council of Ministers, in accordance with a proposal from the Minister of Finance. **In the 1950s and 1960s,** the Lebanese economy witnessed significant activity with a total of 50 listed bonds. **In 1983**, the BSE suspended its activity and the suspension extended until 1996 when the BSE re-launched the trading activity. The BSE is a

medium for companies to raise capital from the public by listing. The BSE has limited control over the listed companies. It makes sure that companies listed on their exchange are filling 10Q's and other fillings in a timely fashion, and in a manner that is compliant with the financial industry regulations. If companies do not comply, the BSE has the capacity to de-list them hence restricting the access of these companies to investors.

In August 2011, the Lebanese parliament endorsed a new Financial Markets Law that resulted in the creation of a Capital Market Authority (CMA) that aims to regulate and supervise the activities of capital markets in Lebanon and to create an adequate legal framework conducive to the development of the Lebanese Financial Markets. This new law previews the establishment of a Financial Market Court to adjudicate financial matters, and the restructuring of the Beirut Stock Exchange, with a view to transfer its ownership to the private sector (BSE, 2016)[29].

3.2.2. Holcim Liban S.A.L

Referring to the web search, Holcim is related to Holcim Group Support Ltd (HGRS), which is based in Holderbank Switzerland. Founded in 1912, the Group is globally spread with geographic diversification in more than 70 countries, among which is Lebanon. Previously known as "Société des Ciments Libanais", Holcim is situated on the shore of Chekka bay. With an estimated capital of LBP. 195,160,400,000 and LBP. 10,000 Par value per share, the company is the first in the cement industry that was constructed in Lebanon. Prior to 1931, all innovative cement aggregates, ready-mix concrete, concrete, and asphalt products used in the country were imported. The main objective of diffusing their reports on the web is that they are "*committed to report data and information that are reliable, up to date and accurate, hence confirm report credibility*" (Holcim, 2015).The Board of Directors in Switzerland is responsible for the preparation of the financial statements in accordance with the requirements of Swiss law and the company's articles of incorporation (Holcim, 2014). Ernest &Young audits the Holcim Liban SAL separate financial statements which comprise "*the statement of financial and the related statements of comprehensive income, changes in equity and cash flows for the year then ended, a summary of significant accounting policies, and other explanatory information"* (Ernest &Young, 2014).

3.2.3. Société Libanaise des Ciments Blancs S.A.L

Société Libanaise des Ciments Blancs S.A.L. was incorporated in Lebanon on 28 June 1961. The company's registered head office is in Chekka, Lebanon. It operates as a subsidiary of Holcim (Liban) S.A.L. With a LBP. 13,500,000,000 as Capital and LBP. 1,500 Par value per share, the company is engaged in the production and sale of white cement. The company is a joint stock company registered at the commercial register no. 3 in North Lebanon. It is 65.99% owned by Holcim (Liban) SAL. The ultimate parent company is Holcim Ltd., Switzerland holding 52.12% ownership of Holcim (Liban) SAL. Ernest & Young are the auditors who are responsible for the company's conformity with generally accepted accounting principles and auditing standards, and for the financial position, results of operations, and cash flow (BSE, 2016).

3.2.4. Rasamny Younes Motor S.A.L

Established as a Lebanese joint company in September 7, 1957, the company's shares were listed on the Beirut Stock Exchange in February 1998. The company's prime activity is the import, export, and trading of cars and spare parts. With a LBP. 27,300,000,000 Capital and LBP. 1,000 Par value per share, the company is the authorized agent in Lebanon for Nissan Motor Company and other companies. The main External auditors of the company. The External auditors are trying to reinvent performance management for a better Transparency and for a better teamwork engagement (Buckingham and Goodall, 2015).

3.3. The interviews

The Table 1 shows that all interviews were face to face except for Rymco whose managers offered only an over the phone meeting, after several persistent trials to reach them. Although we interviewed all companies' managers, the feedback left us convinced that something was missing. So we scheduled an interview with the person in charge at the BSE, and another with the external auditors of one of the companies in order to complement the study and complete the information. All interviewees preferred to remain anonymous.

The questions were developed around the aforementioned theories and the 4 main OECD principles of Corporate Governance (1999-2004-2012):

1. The basis of the Corporate Governance framework;
2. The rights of shareholders and key ownership functions and the limits of their functions;
3. Disclosure, transparency, and the accountability of internal and external auditors;
4. The responsibilities of the Board who should ensure the strategic guidance of the company.
5. Then all information was gathered in distinct files, each with a specific theme. By referring to Windows 10 and Microsoft Excel 2010, we were able to collect, analyze and then critique the gathered information.

[29] According to the Ministry of Economy and Trade (2014), *the Beirut Stock Exchange (BSE)* has a low capitalization of just US$ 11 billion, and very low trading volumes, reducing its attractiveness for listing and as a possible source of capital[29]. According to the World Bank (2009), the Moody's rating for the 13 listed firms in Lebanon was B2. S&P:B- and a Market Capitalization of US $m1.395 and a turnover ratio of 8.24%.

Table 1. List of interviews' details

Company	*Interviewees (Anonymous)*	*Occupation*	*Date of interview*	*Length of interview*	*Type of interview*
Holcim	Mr. T.	Compliance manager	March, 22, 2016	60 mn	Face to face
Ciments Blancs	Mr. C.	Compliance manager	March, 23, 2016	60 mn	Face to face
Rymco	Mrs. A.	Financial Director	April, 8 2016	30 mn	Over the phone
Beirut Stock Exchange	Mr. Y.	Deputy General secretary	March, 30,2016	90 mn	Face to face
External Audit company	Mr. B.	External Auditor	March, 31, 2016	40 mn	Face to face

4. THE RESULTS OF THE STUDY

The qualitative methodology helped us explore the different pillars of the engagement of the industrial and trading Lebanese corporations in the field of Governance.

4.1. The Board members of the three corporations

Holcim Ltd, Switzerland holds 52.12% of Holcim Liban, whilst the latter holds 65.99% of **Ciments** Blancs. Both companies are therefore related to Holcim Ltd. Switzerland[30]. This means that the parent company largely dictates the operational strategies of both companies. Two different committees are in charge to ensure transparency and good governance: a governance committee and an audit committee. The Board of Directors appoints managers, whose remuneration depends on the job accomplishment, seniority, competencies, personal skills and productivity. The problem at Rymco is that top managers are family members of the majority shareholders. The distinction between the board of directors and the management team is not evident, whereas, decisions that require a majority vote are in the hands of the family who is running the Business[31]. Boards of all three companies convene at least 3 times per year, on a quarterly basis.

4.2. The Committees

In order to ensure adequate and effective corporate governance, the Board of Holcim and Ciments Blancs set an audit committee with some specific responsibilities. This committee understands the corporates' accounting policies to monitor internal risk, examine and ensure the integrity of financial statements as well as review and approve the annual audit plans of external auditors and the performance of external and internal auditors.

As for Rymco, financial director Mrs A., recognized that the company does not have an audit committee. Usually, this particular situation is rather observed in small companies but not in large corporations. This raises questions around the corporate governance of Rymco, especially since the role of the audit committee is vital as it ensures the integrity of financial controls and reports, and identifies financial risk.

The BSE is administered by a committee whose main purposes are to manage and regulate the market's daily activities, to oversee its proper functioning, and to protect the investors' interests (Credit Libanais, 2014). The committee is formed of: a Chairman, a Vice Chairman, and eight members. The committee members are appointed by a decree[32] issued by the Council of Ministers. According to Mr. Y., there is only one representative of the Lebanese joint-stock companies listed on the BSE. This may impinge on the rights of those companies because decision making within the committee requires the consent of all other members who may not consider the particular interests of the listed companies, which may result in instability for the companies as well as losing part of their independence.

4.3. The Conflict of interest

The main reasons for a company to go public include: raising money, (through the issuance of more stock), offering securities in the acquisition of companies, spreading the risk of ownership among a large group of shareholders, and having its stock listed on a stock exchange. This represents a kind of market exposure for the company, since it attracts the attention of mutual and hedge funds, market makers, and institutional traders. In other words, going public can help the growth of the company, reduces the overall cost of capital, and gives the company a more solid standing when negotiating interest rates with banks. These factors motivate companies to go public and willingly respect all restricted conditions implemented by the Stock Exchange Committees. However, some companies choose to remain private in order to avoid the increased risk of losing control over the company.

According to Mr. Y., the situation in Lebanon is different:

1. Almost 95% of enterprises in Lebanon are small and medium-sized (SMEs) family businesses, with owners who are not open to the idea of exposing their companies' ownership to outsiders, and losing control. This it is not the case of Holcim and Ciments blancs who are joint to Holcim Switzerland[33] while it is the case of

[30] Ciments Blancs Board members: Benedikt Vonnegut (Chief Executive of Holcim Lebanon); Prime investments SAL Holding; Holcim (Liban) SAL;Jamil Bou Haroun: (Business Development Director of Holcim Lebanon);Holcim's (Liban) Board members : Mr. Javier de Benito (President) (former Area Manager of *Holcim* Ltd); Mr. Carlos Khoury vice-president; Mrs. Raya Raphael Nahas Mr. Farouk Jabre shareholder with around 3000 shares: Mr. Horia Adrian (Area Manager Middle East for Lafarge Holcim (*Holcim* Ltd));Ste Holcibel (*Holcim* Ltd owns 100 % of Holcibel);Ste Seament SAL.

[31] Rymco's Board members : Mr. Fayez Camil Rasamny / Chairman of the Board and CEO/Top Manager; Mr. Fadi Adib Younis; Mr. Omar El-Jaroudi; Mr. Albert Letayf; Mr. Ziad Rasamny; Mr. Ziad Rayess; Messrs. Mohamad Abdul Mohsen Al-Kharafi & Sons; Plus Mr. Makram Rasamny Manager-Powerports Department

[32] In accordance with a proposal by the Minister of Finance, according to article 2, Chapter 1 related to Decree N 7667 issued on 21/12/95.

[33] Also known as LafargeHolcim, the manufacturer of building materials (primarily cement, aggregates and concrete). It was formed by the merger of French cement Lafarge SA and Swiss rival Holcim Ltd cement companies.

Rymco with no dissociation between owners and Board.
2. With the presence of a strong banking sector, business owners do not feel the need to go public because they receive adequate financing from banks.
3. Enterprises in Lebanon are not motivated to go public. If they do, they impose several conditions on the stock exchange committees. Committees accept all dictated conditions, for fear that these companies may leave the stock exchange market. As a matter of fact, our study revealed a decrease of the number of firms going public in Lebanon, dropping from 50 (1950-1960) to 13 companies in 2009 to only 10 in 2016.

Mr.Y. revealed a conflict of interest between the parties. He assumed that some measures have been taken to keep all three companies on the Beirut Stock Exchange, thus reducing the exchange of information that may harm the interests of the companies. The objective behind such measures is to keep these companies public, attract more businesses to go public, reap commissions, sustain employment at the BSE, and send good reports to the ministry of Finance. However, some problems are faced because BSE is a public institution and "*it operates in accordance with the provisions of the Law under the direction of the Stock Exchange Committee (herein referred to as the Committee), and under the supervision of the Ministry of Finance"* (The official Gazette, 1995, article1). In other words, listed companies in the BSE have nothing to lose while the BSE is in a critical situation, since it has obligations towards the public sector and primarily to the ministry of Finance that depends on it. Another conflict is observed because the BSE is playing the role of a marketer and a controller. This leads to a conflict of interest for the BSE which is not willing to impose restrictions nor require obligations from the enterprises.

The other side of the story is told by Mr. T. who denied all conflict described by Mr. Y., and insisted on 3 facts:

1. All information is not only published on the BSE's website, but it is also posted on the web pages of the companies themselves;
2. Both companies are following all regulations and Laws, since any bias can severely affect the share price; and
3. These 2 companies are international, thus their transparency is 100%: a report of 100 to 200 pages is published by Ernest & Young. In contrast to other companies in Lebanon, these companies do not withhold information. Copies of the financial statements and of the annual report are also submitted to all Banks in Lebanon and to all shareholders, including the small ones.

For Rymco, a "do it yourself strategy" is applied. Part of the financial statements (balance sheet and income statement) is sent to the BSE every three months. Another report is sent to the external auditors every year, who in turn send it back to BSE. According to Mrs A., only mandatory and strict minimum information are sent to the BSE since revealing information in some financial statements would harm the company if it reveals valuable "secrets" to the company's competitors.

4.4. The principle of Transparency

Listed companies insist on being transparent. However, interviewees mentioned that Banks could be more reliable in their reports and hence more transparent than non-financial enterprises. This is due to the fact that the central bank (Banque du Liban, BDL) ensures immediate control over banks and requires accurate information about the banking activities. Therefore, to better develop the Lebanese Capital Markets, a Capital Market Authority (CMA) was created under the supervision of BDL's Governor, Riad Salameh, for all companies, whether listed or unlisted on the Stock Exchange, in an attempt to guarantee more integrity and reliability.

Meanwhile, we detected some discrepancies. Enterprises presume that they are fully transparent. However, we discovered during the interviews that the external auditors are releasing all information that confirms the companies' statements around respecting the transparency Principles. Yet, the auditors also revealed that they are neither responsible for the internal control (since their audit scope of work is affected by the internal implemented control procedures), nor for the corporate governance of the firm; the external auditors' study relies on financial statements provided by the companies. This means that external auditors are restricted by the information that is selected by the managers themselves.

4.5. The Laws

According to Mr.Y., some of the procedures already established between the stock exchange market and the listed industrial and trading companies are really soft. In summary, today's listed companies follow only 70-75% of the existing regulations. They are therefore not totally complying with the rules and directives of the BSE. The BSE is behaving prudently to avoid publishing any report that can harm any of the 3 companies.

Two main reasons are behind disregarding some information:

1. The degradation of the economic situation that encourages a kind of flexibility to keep businesses in Lebanon .A decline in the number of listed companies at the BSE as well as a decline in stocks that can hurt confidence and discourage investors from investing in Lebanon.
2. The fragility of the BSE in Lebanon that pushes companies to avoid following regulations to the letter. As a matter of fact, our investigations revealed that this strategy had been followed by the BSE in order to prevent more companies from leaving the BSE.

By-laws of the Beirut Stock Exchange, especially code 158 and code 91 (The Official Gazette - Issue No.51 - 21/12/95) serve as norms of conduct for the non-financial enterprises in Lebanon to fully comply with the regulations of BSE. According to code 91, when applying for admission, the issuer signs a written commitment that conforms to the rules that are set by the Committee. It also includes publishing the balance sheets as well as the annual consolidated and certified final accounts in the Stock Exchange official bulletin. The Committee should also provide the Stock Exchange or any of its branches with all the

related information and detailed documents, within a fifteen-day period as of the date of publication or entry into force of these documents. Referring to Mr. Y., conflict over the consolidated accounts took place between the committee and Holcim and Ciments Blancs as the companies initially refused to submit such documents because it is very costly to produce them. However, things went back to normal after both enterprises accepted to follow the directives of the BSE. According to Code 158: The Stock Exchange publishes in its official bulletin the daily volume of the direct transactions taking place outside the Stock Exchange such as those related to securities, and the average registered price, etc. According to Mr. Y. and our anonymous external auditor Mr. B., enterprises rely only on external auditors to release reports.

5. DISCUSSION

In the light of our results, we can say that the primary conflict in our case is between the non-financial enterprises and the BSE. The main problem is rooted in BSE playing the double role of the marketer and the controller. This double role leads to a conflict of interest for the BSE, which is neither willing to impose restrictions nor require obligations from the enterprises. A clear distinction should be observed between these two key roles. Things are now changing with the Capital Market Authority (CMA)[34], especially since it will be playing the role of the controller in the near future, leaving marketing for the BSE members. The key mission of the CMA role is to implement necessary decisions and regulations to "*instill transparency and boost investors' confidence in the market through ensuring that the regulatory framework is on par with international best practices. The Sanction Committee has the authority to impose sanctions and monetary penalties upon the violation of the Capital Markets Law"* (CMA, 2016).

Firstly, the situation at Holcim and Ciments Blancs is rather close to the Moral hazard that arises between the principles (Investors) and the agents (managers). As for Rymco, results are more favorable to the stewardship theory. However the conflict is still obvious since there is no audit committee and only mandatory information is revealed, hiding some valuable information not only from competitors but also from minority shareholders. In both situations, the agent has more information about the real situation of the company, while the investor is blinded by the restricted information released to the BSE by the external auditors. Therefore, we can relate this situation to what we will call "*The Governance Myopia*", where just part of the information is revealed. Against all readings, the conflict of interest in the governance of the corporations in Lebanon is not only between the principal and the agent (Ross, 1973; Jensen and Meckling, 1976), but rather between the corporations and the BSE. And that has its own purposes. Therefore we can say that H1 is not valid. The conflict of interest is approximately the same in non-Family owned Business as in Family-owned Business. We just have to define what we mean by "Principal" and by "Agent". Misinterpretation can lead to errors. Moreover, the non-financial enterprises like Holcim and Ciments Blancs do not care if they are affiliated to the BSE or not, since they are already affiliated to the International Stock Exchange. Therefore, the BSE finds itself trapped, since it has obligations towards the public sector and the ministry of Finance.

Secondly, considering the transparency of the companies, we realized that the main problem is not in the quality of information but in the selection and filtering of this information. The released information is not completely opaque, as described by Jin and Myers (2006). In addition, in order to protect their jobs, managers have a bigger tendency to conceal bad news, as reported by Jin and Myers, (2006). This explains why some managers are revealing only 50% to 60% of the information, as told by Mr. Y. According to him, this can increase risks (Rajan and Zingales, 1998) and opportunism (Bushman and Smith, 2003). H2 is therefore not valid, since H2 proposed that the more financial opacity, the bigger the conflict inside the company. The conflict at Holcim and Ciments Blancs is not only inside the company, it is rather outside of it, since the results of our study revealed that it is between the corporation and BSE. Moreover, information is not opaque. Some is simply hidden; other is selected and filtered according to managers' opinion and decision. A greater risk can come from the filtering of information. As for Rymco, the duality between shareholders and top managers leaves the corporation with unique challenges. Commitment to Business can be considered as an added value. However, investors may be more prudent, as the controlling family can abuse the minority shareholders rights due to the lack of transparency and absence of accountability. However, Mrs. A. denied this version, insisting that there is a clear distinction between controlling and managing the corporation.

Thirdly, referring to Burcu and Bengu (2014), and their voluntary disclosure that can enhance transparency as well as reduce the information asymmetry, the study showed that H3 is neither accepted nor rejected. The acquired information was not adequate to make a conclusive decision regarding this hypothesis. We found that the enterprises concealed a lot of significant figures, and they only diffused mandatory data, therefore the bulk of information is incomplete. Therefore, Yasser Akaoui's grade is not valid. When administrating an "F" to the enterprises, he neglected the fact that the information is not wrong, but hidden and not transmitted to BSE, investors, minor shareholders, and stakeholders.

Fourthly, the BSE is controlled by the enterprises and not the other way around. The main reason behind this comes from the fear of losing potential position in the MENA Exchange Market, doubled with the fear of losing potential investors. All these reasons weigh heavily on the people in charge of the BSE in Lebanon, forcing them to choose the "Laisser passer" way. Referring to the soft Law when dealing with the companies, the BSE is not putting restrictions nor requiring obligations from the enterprises. Between complying with the principles of good Governance or explaining "why not" as described by

[34] Established under Law no. 161 on the 17th of August, 2011, the Capital Markets Authority (CMA) became operational by virtue of the Council of Ministers' decision dated 07/10/2012.

Rapp et al, (2003), companies prefer to follow the principles of Governance their own way, balancing between both. Flexibility is observed to lead to better governance. Deviations from the rule without fostering investors' trust, is also observed, which recalls Arcot et al, (2005) study. The authors were right when they argued that soft regulations do not solve governance problems. The Economic and political situation in Lebanon is not helping the BSE to impose the "hard Law." To avoid conflict, and to win more ground, the BSE is accepting compromises. H4 is therefore not valid. It is true that the need of establishing good corporate governance is bigger in a country adopting the soft laws. However, the obstacle of implementing such governance is due to such soft Laws, which reciprocally trap the Stock Exchange and the enterprises.

Fifthly, The Headquarters of both companies Holcim and Ciments Blancs are in Switzerland. According to all interviewees, both companies follow the principles of Corporate Governance to the letter in Switzerland, whilst not in Lebanon. The bad Economic and political environments led to lack of incentives for companies to release all information. This resonates with Sandeep et al, (2002) results, showing that the Middle Eastern emerging markets have limited transparency. Therefore, H5 is hence validated since Transparency of information is highly dependent on the country in which the firm is located.

6. CONCLUSION AND LIMITATIONS OF THE STUDY

Corporate Governance is a recent phenomenon in Lebanon. Mostly complicated because of the regulatory and legal obstacles, the challenge of the non-financial enterprises is big, since there is a lack of credible commitment on their part. What makes it more complicated is that all dysfunctions are related to those of the BSE, whose presidency has been vacant since the departure of Chairman Mr. Fadi Khalaf in 2008. An interview with Mr. Khalaf revealed that the BSE "*doesn't have enough companies listed. Listing implies fiscal taxes and transparency, and in Lebanon, companies keep several books. If companies list and don't disclose their entire income, their stock price will be hit. If they disclose their income, then they have to pay taxes. So some companies will avoid listing"* (Sioufi, 2011). Hence, the reasons for not revealing all information is threefold: the first is avoiding taxes, the second is hiding weaknesses from investors and stakeholders, and the third is keeping complete control over financial statements. Fixing a new Tax Code in Lebanon will help more companies get listed on the BSE. A reform of the tax code makes it simpler and fairer for everyone, along with an increase in the standard deduction, which can make it easier for Lebanese Corporations to bring more investment funds to Lebanon. It should also motivate small businesses to grow into large businesses and get the benefit of strengthening the whole Lebanese economy.

Due to increased competition in the financial services industry, all countries even emerging ones, are making efforts in order to modernize their financial institutions and to reform their trading systems in the Stock Exchange. One of these efforts is the privatization of the Stock Exchange. For example Kazmi's paper (2015) on the consequence of privatization through Stock Exchange revealed that the Stock Exchange gives an avenue for the government to introduce more products and to fund long-term schemes/projects by the revival of the privatization program. Referring to Mr. Khalaf, "*Privatization will give the exchange independence from politics. The private sector is the driving force in Lebanon. Privatizing the exchange will give it a boost but it is not the key factor; if companies are not convinced of listing, privatizing… it is not going to change anything*" (Sioufi, 2011). This implies two obstacles: one related to politics, another to the unwillingness of the companies to become real players in a tough risky game.

The adoption of soft laws and regulations requiring compliance, transparency and disclosure has two major consequences. On the one hand, it can help the BSE ensure better communication and better stability of the relationship between both parties. While on the other hand, it can have a negative impact on the transparency of information and hence on corporate governance. The reasons behind the weakness of the BSE are mainly the results of the following: 1/ There are no laws or regulations that require companies to have good corporate Governance. The law only requires from corporations to file accurate data on time. Therefore Good Governance in companies is a voluntary act; 2/The law cannot impose on a corporation such as Rymco to create an audit committee. Top managers can therefore run the company in any way they want as long as they are committing no fraud and they are being transparent.

As a response to all this, the following is noted: 1) It is true that the corporate Governance can be considered as a voluntary act, but firms can have significant incentives to adopt it. Among different reasons, their incentives may include the competition for scarce capital, the willingness to remain competitive with their peers, and mostly the need to diffuse information. As a matter of fact, it is relevant that the companies cannot diffuse information abroad, while withholding it in Lebanon. Such practices can negatively affect the market noise and the investors' choice. As a result, the need for positive disclosure of governance practices is high. It prevents devaluation of the firm by the market, which subsequently means that the corporation has to stop "complaining" and "explaining" and start "complying" with the principles of good Governance, since listing in public exchanges can lead to higher evaluation of the company and more return for owners; And 2) The BSE is aware that an audit committee for Rymco would provide a split between management and outside auditors, and would ensure more fair and accurate financial statements. The BSE is also aware that by playing the role of a whistleblower, the audit committee can better detect and correct fraud[35]. Instead, the BSE has chosen to do "No Action".

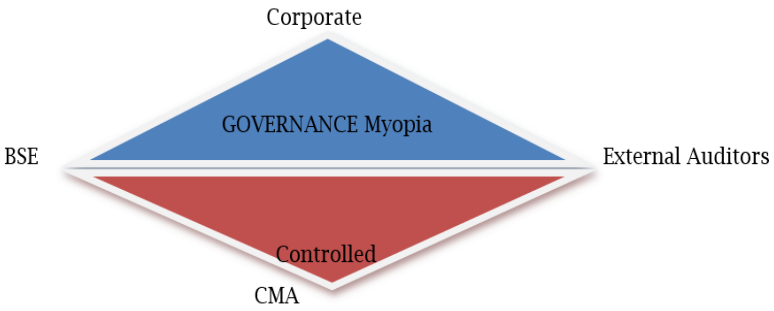
[35]The importance of the whistleblowers comes from the fact that the companies' Audit committees are impacted since that they are charged with "establishing procedures for: 1/ the receipt, retention and treatment of complaints received by the issuer regarding accounting, internal accounting controls or auditing matters, and 2/ the confidential, anonymous submission by employees of the issuer of concerns regarding questionable accounting or auditing matters" (SOX § 301, Public Company Audit Committees, Title III).

This study covered the Governance topic in the non-financial corporations in Lebanon. It evaluated the ongoing processes between three different parties: the non-financial corporation, the BSE and the external auditors. It consequently stressed the urgent need of another party involvement, namely the CMA. It also illuminated the urgent need of implementing rules and procedures properly, in order to better ensure controlling the corporate principles. According to Mr.Y., things will be subject to change in 10 to 15 years, as he is confident of the BDL governor's excellent monitoring and supervision. As any regulatory organization, the mission of the CMA would be to "*support just and equitable principles of trade, encourage free and open markets and project investors and the public interest… writing and enforcing rules governing the activities of listed corporate, examining firms for compliance with the rules, educating investors and fostering market transparency";* which means that the CMA's mission will be the same as any International self-regulatory organization, such as NYSE, the NYSE Arca Equities, the FINRA or others (NYSE, 2016).

The study of the listed corporations at the BSE, revealed the identification of "*Governance Myopia*", where part of the information for a better transparency and governance is explicit while another part is intentionally withheld. Selecting and filtering only necessary and mandatory information can leave doubts about who is really governing the Corporation, and what type of principles are really adopted. Needless to say that "*Governance Myopia*" will be serving both parties, since it is built on compromises.

Moreover, the public companies listed on Stock Exchange have the responsibility to be totally transparent with their shareholders and their stakeholders, to operate in a non-fraudulent and non-deceiving manner, and to ensure a better dissociation between the owners and the Board functions in Family-owned Businesses. The problem is that such Businesses can face a set of management challenges deriving from the overlap of family and business issues, which can increase "*Governance Myopia*". The figure below can explain how to better control "Governance myopia" through the implementation of the CMA directives, by encompassing the roles of all four actors: The Corporate, the External Auditors, the BSE and the CMA. Governance principles exist in Lebanon but are not fully implemented, leaving doubts around transparency, good guidance and decision-making inside the corporate. A better implementation of the principles through the CMA directives is required.

Figure 1. Controlling "Governance Myopia"



This article has its limitations. Firstly, we note that for the purpose of the initial understanding of the subject, we used exploratory analysis since the number of non-financial corporations is limited to 3. For further research, we recommend the application of a Qualitative Comparative Analysis (QCA) method in order to support the findings. Secondly, there was no adequate support to either the "agency theory" or to the "stewardship theory" and thus the obtained results were mixed. However, this research did not set out to find out which theory is more valid, but rather to uncover that by using the words "Principal" or "Agent", a better definition is needed to indicate who is really meant by each word, otherwise a misinterpretation of the definitions of theories may result. In the end, this research opens doors for further studies.

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BENCHMARKING CEO COMPENSATION: DEVELOPING A MODEL FOR DIFFERENT BUSINESS STRATEGIES

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Abstract

Porter's generic business strategies of cost leadership and differentiation were adjusted to make them applicable to CEO compensation strategies. The cost leadership strategy equates to a firm that attempts to signal that their CEO is not over paid, not reaping off much of the profits, but is compensated according to best practices. The differentiation strategy relates to a firm that believes it is important to signal that their CEO is above average and therefore should earn an above average compensation. The purpose of the study was to develop a data envelopment analysis (DEA) model with two stages. The first provides a best practice frontier to benchmark segments of CEO compensation against determiners thereof, including firm-, CEO- and governance characteristics. Firms with different strategies will then position themselves differently to the best practice frontier. Irrespective of the strategy chosen at the first stage, the second stage estimates how efficient firms are to convert the above-mentioned determiners into multiple performance measures. The contribution of the study is that employing such a model may change the philosophy of how firms look at CEO compensation, for example firms whose CEOs are at the bottom half are not necessarily below average or underpaid, but signal that their CEOs are compensated according to best practices.

Keywords: Benchmarking; Best Practice; Business Strategy; CEO Compensation; Cost Leadership; Differentiation; Efficiency

1. INTRODUCTION

CEO compensation is a controversial study field where theory and practice do not always match (Edmans and Gabiax, 2009). Early studies (Jensen and Murphy, 1990) as well as recent studies (Hussain et al., 2014) all concluded that researching the pay-performance issue leads to a stream of inconsistent findings. These findings are not only inconsistent with theory, but also between the studies (Tosi et al., 2000).

In studying the CEO pay-performance sensitivity, Bussin (2015) identified three pay-performance theories. Firstly is the agency theory, which is the most prominent and the golden thread through previous studies (De Wet, 2012). This theory explains the shareholder (principle)-manager (agent) relationship and how shareholders delegate their power to management (Olivey, 2014). This theory was tested in studies such as Chourou et al. (2008), Gregory-Smith and Main (2014), Callan and Thomas (2012), Abraham et al. (2014) and Kuo et al. (2012). The second is the optimal contracting theory, which aligns managers and shareholders' interest by means of financial incentives (Jensen and Meckling, 1976). This theory was tested by, *inter alia,* Kuo et al. (2012). Edmans and Gabiax (2009) found that the practice shows that CEOs, rather than the boards, determine their pay. This is evident of the third, managerial power theory, i.e. where CEOs aim to control factors that are linked to their pay. This theory was tested, *inter alia,* by Farmer et al. (2010). To further complicate the pay-performance issue, other theories are also tested as part of CEO compensation studies. They are for example the human capital theory (Fulmer, 2009; Abraham et al. 2014), economic theory (Faleye et al., 2013), tournament theory (Faleye et al., 2013; Lee et al., 2008) and the relative performance theory (Farmer et al., 2013).

The complexity is further emphasised by the many determinants of CEO compensation. Tosi et al. (2000) did a meta-analytical study analysing 137 articles or unpublished manuscripts and identified 46 determinants of CEO compensation. Van Essen et al. (2012) analysed 219 US-based studies and identified 26 determinants. In a similar study, Doucouliagos et al. (2012) analysed 44 UK-based studies and identified 16 determinants. These many determinants make the sensitivity of CEO compensation a difficult topic to study and when linear regression analysis (LRA) is used, a number of control variables need to be embraced (Usman et al., 2015; Reddy et al., 2015).

Finally, another phenomenon found in CEO pay-performance studies is the emergence of the Lake Wobegon effect (which is jeering to a situation where everybody is above average). Since no firm will signal they have a below average CEO, they ensure that their CEO's compensation is above the average (or mean) CEO compensation in their peer group (Hayes and Schaefer, 2009), because a firm's status partly depends on its CEO's pay and status (Peetz, 2015). This results in an ever-increasing of CEO compensation, and subsequently if one CEO gets an

increase, all the others will follow, even if it is not substantiated by their (or the firm's) performance.

To summarise, there are many studies investigating various CEO compensation theories, and the large number of CEO compensation determinants and the Lake Wobegon effect, which is evident in some studies, widen the gap between pay and performance. In my opinion, it is not the duty of the academe to prescribe to the practice how they should operate their businesses and remunerate their CEOs. It will be much more helpful to provide the support that they need, i.e. a model to benchmark CEO compensation, which fits the subjacent strategy of a firm. Therefore, this study is approached from a different angle, namely to diverge from pay-performance theories and rather focus on different business strategies. Consequently, this study applies two of Porter's generic strategies, i.e. cost leadership and differentiation (Porter, 1980).

1.1. Problem statement and purpose of the study

Cost leadership is where a firm's strategy is to minimise costs continuously to offer lower prices to their customers, which leads to an increase in its market share. The differentiation strategy is where a firm distinguishes itself from rivals by providing goods or services that are of a higher quality (Griffin, 2014). Applicable to CEO compensation, the cost leadership strategy equates to a firm that attempts to signal that their CEO (and other executives) is not over paid, not excessively reaping off much of the profits, but is compensated according best practices. The differentiation strategy relates to a firm that believes it is important to signal that their CEO is above average and therefore should be compensated accordingly (above average pay). These two strategies can also be combined.

With the focus on the two above-mentioned strategies, cost leadership and differentiation, the problem is that there is no single model that can accommodate both these opposing strategies. What is needed is a model that simultaneously provides a best practice benchmarking frontier – where the cost leadership type of firm would strive to operate on the benchmark frontier and the differentiation type of firm would strive not to operate on. Furthermore, whatever the strategy of the firm, it still needs to align to some extent CEO compensation with performance.

The purpose of the study is to develop a model with two stages. The first is where the segments of CEO compensation are evaluated relative to various determinants thereof. The aim is to assist firms with different CEO compensation strategies to position themselves relative to their peers. The second is where the firms' performances are evaluated relative to the same determinants. The link between CEO compensation and performance measures is that the selected determinants are simultaneously drivers for CEO compensation and firm performance.

The contribution of the study is that employing such a model may change the philosophy of how firms look at CEO pay. The argument is that firms probably do not want to articulate that their CEO is at the bottom half, implying the CEO is either relatively underpaid or relatively below average. This is a negative signal to the market. Applying this study's model will signal that this hypothetical firm is not part of the bottom half or underpaid, but it is rather relatively efficient and operating close to or on the efficiency frontier, and also compensating their CEO according to best practices. Furthermore, CEO compensation and firm performance are linked by evaluating both of them relative to the same determinants.

1.2. Method

This study involves model-building and is all about questioning existing practices of studying CEO compensation. Science needs theories and models to make progress. "A model is a set of statements that aims to represent a phenomenon or set of phenomena as accurate as possible." (Mouton, 2011:177). The model-building process is part of conceptual types of studies, which is largely based on the critical engagement and the understanding of concepts, given secondary sources (Nieuwenhuis, 2013). To fulfil the purpose of the study, a two-stage data envelopment analysis (DEA) model is built. DEA is a useful tool to evaluate performance and benchmarking against best practice (Cook et al., 2014). It is a non-parametric linear programming technique that aggregates the efficiency of each stage into a single estimate of a comparative ratio of weighted multiple inputs to weighted multiple outputs for each firm, known as a decision-making unit (DMU) (Avkiran, 2011). In this model, the first stage provides a best practice frontier to benchmark multiple components of CEO compensation as input variable against multiple outputs, which are a variety of determinants of CEO compensation. The second stage, where the outputs of the first stage automatically form the input of the second stage, provides an estimate to indicate how efficient DMUs (firms) are to convert the mentioned determinants into multiple performance measures.

The layout of the study is as follows: The next section provides the conceptual scope, i.e. the parameters wherein the study is accomplished, the explanation of DEA, a literature review and finally the statement of two research questions. This is followed by the theory section, including the summary of the argument, model formulation, a detailed justification of the model, and explaining the model by means of a case study. This is followed by a discussion, including the conclusion of the study.

2. BACKGROUND

2.1. Conceptual scope

This study is performed within the conceptual scope of logic; firstly, to evaluate CEO compensation levels relative to determinants thereof, namely firm-, CEO- and governance characteristics. The determinants are explained as follows:

- Firm characteristic, e.g. firm size: A large firm's CEO should be relatively higher paid than a small firm's CEO, since a larger firm is probably more complex, for example it has more assets and employees for which the CEO is responsible.
- CEO characteristics, e.g. CEO skills and capabilities: A higher skilled and capable CEO should be relatively higher compensated than a CEO with fewer skills and capabilities.
- Governance characteristics, e.g. level of board involvement/control: A more controlling board requires more responsibilities from the CEO, for example the board requires probably more frequent, more accurate and more detailed feedback from its

CEO. Therefore, a relatively higher quality of work is expected from the CEO, which should lead to a relatively higher compensation.

The relative compensation established by the three above-mentioned determinants will further be influenced depending on a firm's strategy, cost leadership, differentiation or a combination of the strategies. A cost leadership type of firm will compensate the CEO according to best practices; for example, if two firms of a similar size remunerate their CEOs at different levels, the best practice is to compensate the CEO closely at the lower level of the two. In the contrary, the differentiation type of firm will prefer to compensate their CEO closely to the higher level of the two.

The second logic is that the determinants of CEO compensation are also determinants of the firm's performance. The links between them are as follows:

- Firm characteristic, e.g. firm size: A large firm's performance should be relatively higher in monetary value than a small firm; for example, its profits and market value will be relatively higher, and *vice versa*.
- CEO characteristics, e.g. CEO skills and capabilities: A higher skilled and capable CEO should have a relatively higher positive impact on firm performance (profits and market value), and *vice versa*.
- Governance characteristics, e.g. level of board involvement/control: A more controlling board improves the quality of the work of the CEO and other executives. Therefore, relatively better management should lead to a relatively higher performance, and *vice versa*.

To summarise, the determinants such as firm size, CEO skills and board control are positively related to monetary performance in terms of profits and market value of a firm. Nevertheless, to bring these multiple determinants within the context of efficiency, it should be determined how efficient firms are to convert them into multiple monetary performance measures. For example, if two firms of a similar size (e.g. total assets) have different profit levels, the relative efficient firm is the one with the higher profit and the inefficient firm the one with the lower profit.

2.2. Data envelopment analysis

DEA provides a single aggregated answer that compares the efficiency of how multiple inputs are converted into multiple outputs by a DMU, relative to other DMUs in the sample (Liu and Wang, 2009). Therefore, the relative efficiency of DMUs not laying on the frontier can be estimated, relative to those who are operating on the frontier, which is also known as the best practice frontier. Consequently, targets for inefficient DMUs can be estimated to improve their performance, in other words to determine how much inputs should decrease and/or outputs should increase to allow them to operate on the best practice frontier.

DEA assumes that if a DMU is capable of producing a certain output by a given set of inputs, then other DMUs should also be capable of doing the same to be operated on the efficiency frontier (Anderson, 1996). Care must be taken if DEA is applied when a real production function does not exist. That is, for example, when there is no clear link of how resources (inputs) are directly converted into outputs. In such a case, "the meaning of efficiency as a distance to the frontier may no longer be valid. However, DEA still yields information on relative distance to the best-practices" (Cook et al., 2014).

Farrel (1957) was the first to establish the concept of a satisfactory measure for productive efficiency that takes account of multiple inputs. Charnes et al. (1978) built on this idea and developed the CCR (Charnes, Cooper and Rhodes) model, which was based on the assumption of constant return to scale (CRS), implying a DMU is automatically considered to be fully scale efficient (Coelli et al., 2005; Alvandi et al., 2013). This is because CRS assumes a proportionate rise in outputs when inputs are increased (Avkiran, 1999). Banker et al. (1984) developed the BCC (Banker, Charnes and Cooper) model, which is an extension of the CCR model (Alvandi et al., 2013), which accommodates variable return to scale (VRS), which implies a disproportionate rise or fall in outputs when inputs are increased, or in other words, if a DMU grows in size, its efficiency will not remain constant, but will either rise or fall (Avkiran, 1999).

The researcher has to choose among the model options of input minimisation and output maximisation with the DEA. Input minimisation (input-orientated approach) examines the extent to which inputs can be reduced while maintaining output levels. Alternatively, output maximisation (output-orientated approach) investigates the extent to which outputs can be raised given current input levels (Cook et al., 2014).

2.3. Literature review

The aim of this literature review is primarily to investigate the variables (determinants) and methods used by previous researchers to establish a basis to build a new model. Although Tosi et al. (2006) found that cash compensation is an excellent proxy for total CEO compensation, researchers prefer to break it up into different components. Researchers argue, for example, that cash compensations such as salaries are a function of firm size, while bonuses are a function of performance (Griffith et al., 2011; Stanwick and Stanwick, 2001). Therefore, Bussin (2015) segmented the financial reward system suggested by 21st Century Solutions, namely that fixed (or guaranteed) pay consists of a base salary plus benefits. The variable pay consists of short- and long-term incentives. The guaranteed pay plus the short-term incentives is the total cost of employment and if the long-term incentives are added hereto, then the total cost to company is determined. The latter segmentation of CEO compensation forms the multiple inputs of the first stage of the DEA model; that is to be compared to the determinants of CEO compensation that form the multiple outputs of the first stage of the DEA model.

Many independent variables as determinants of CEO pay have been identified, e.g. Van Essen et al. (2012) identified 26, Doucouliagos et al. (2012) 16 and Tosi et al. (2000) 46 of which 16 are measures of size and 30 are measures of performance. This number can be reduced; for example, the study of Tosi et al. reports similar determinants such as net income before extraordinary items, net income for previous year, net income for two years, etc. Nevertheless, it makes sense that researchers group determinants together, for example firm, CEO and governance characteristics (Brick et al., 2005), or size, performance and governance (Nulla, 2013), or

performance, risk, size, leverage and ownership (Gunasekaragea and Wilkenson, 2002), or performance and size (Tosi et al., 2000), or ownership, board, size and performance (Reddy et al., 2015). It is evident from prior literature that firm size is the most significant determinant of CEO compensation and proved to be constant with a positive relationship (Sigler, 2011). Maybe the most sensible categorisation is presented by Alves et al. (2014) with CEO pay as the dependent variable and the following five categories the independent variables: performance, firm characteristics, CEO characteristics, board and director characteristics, and shareholder and ownership characteristics. To simplify the model to be developed, determinants are grouped into three categories, namely firm-, CEO- and governance characteristics.

Each of these determinants can be broken up into more detailed components. For example, Usman et al. (2015) identified six governance components, namely board size, percentage of non-executive directors on the board, duality, independence of the chairman, CEO shareholding, and board shareholding. These governance components are primarily an indication of the level of controlling the firm. A variety of firm characteristics were identified. For firm size, the monetary value of sales, total assets, profits and the book- and market value of equity and the number of employees have previously been used as proxies for firm size (Oberholzer and Barnard, 2015). Other firm characteristics, except size and performance measures, include the ratios of research and development expenditure relative to assets, tangible assets to total assets and capital expenditure to total assets and some risk measurements such as cashflow risk, stock volatility and the debt-to-asset ratio (leverage) (Brick et al., 2005). CEO characteristics consist of items such as CEO age, tenure, education and shareholding (Alves et al., 2014).

Firm performance measures are not treated as part of firm characteristics, since they form the outputs of the second stage of the DEA model, which are compared to the inputs of the second stage (the outputs of the first stage), i.e. the determinants of CEO pay. Many different performance measures have previously been used, and are divided into accounting-based measures such as return on equity and return on assets, and market-based measures such as return to shares and variations of the market-to-book ratio (Oberholzer and Barnard, 2015).

Previous studies primarily used regression analysis where the CEO compensation is the dependant variable; the independent variables are those that investigated having a relationship with the dependent variable and control variables are also included to ensure validity (Usman et al., 2015; Shin, 2013; Chhaochharia and Grinstein, 2009). Thanassoulis (1993) listed some advantages that LRA has over DEA, but also the advantages of DEA over LRA. To justify the preference of DEA in this study, the following three advantages are important:

- "DEA is a non-parametric method not requiring the user to hypothesize a mathematical form for the production function.
- DEA measures performance against efficient rather than average performance.
- DEA can cope more readily with multiple inputs and multiple outputs."

Therefore, DEA is suitable to set a best practice frontier instead of a regression line that represents the average performance and the multiple component of CEO compensation (salary plus benefits, short-term and long-term incentives) can be included separately in a single model together with multiple determinants of CEO compensation. DEA is a widely used technique, but has not received much attention in CEO or executive compensation studies. There are only a limited number of studies that have previously employed DEA. Other authors who employed DEA in studying CEO remuneration are Cordeiro et al. (2006), Chen et al. (2008) Oberholzer and Theunissen (2012), and Theunissen (2012), who investigated DEA models to benchmark CEO remuneration as an alternative for regression analysis.

2.4. Research questions

A two-stage DEA model is the choice for this study. Within the conceptual scope with the two opposed generic strategies of cost leadership and differentiation, adapted for this study, the first research question is:

How is CEO compensation, broken-up into multiple segments, given the multiple determinants thereof, namely firm-, CEO- and government characteristics, benchmarked?

The first stage of the DEA model deals with this question. Answering this question indicates to the firm with a cost leadership strategy by how much their CEO's pay should be decreased to reach the best practice frontier. In other words, given factors such as firm size, firm risk, CEO age, CEO tenure and the level of control, best practice compensation can be determined. A firm with a differentiation strategy can also determine a CEO compensation that is distant from the best practice frontier.

The second stage of the DEA model deals with the second research question, namely:

How to estimate the efficiency of firms to convert multiple firm-, CEO- and governance resource inputs into multiple performance outputs?

Answering this question, irrespective of the firm's choice of generic strategy, how efficient resources such as firm assets, number of employees, the CEO's age, experience and qualification, and the involvement of the board and shareholders controlling the firm, etc. are converted into performance outputs such as profits and market value gains.

3. THEORY

3.1. Summary of argument

The first argument is that the strategy of cost leadership and differentiation in conjunction with firm-, CEO- and governance characteristics influence CEO pay. The second is that the CEO is not solely responsible for the firm's performance. The performance is a function of the CEO, firm- and governance characteristics of a firm. Against this backdrop, a model should be developed.

3.2. Model formulation

To answer the two research questions, a two-stage DEA model is needed. The first stage of the DEA model relates to the first question. The first question (How to estimate the optimal CEO pay, based on the best practice, given the firm-, CEO- and government characteristics of a firm) falls outside the definition of a real production function. The link is not clear to determine how efficient firms are to convert the input of CEO compensation into firm-, CEO- and governance

characteristics. Therefore, the DEA model can still provide an answer on the relative distance to the best practice. An input-oriented model reveals the distance, that can be converted to a monetary value to determine by how much CEO compensation should be reduced to enable firms to operate on the best practice frontier. Furthermore, an input-oriented approach is preferred because it will probably be more meaningful to indicate by how much CEO compensation should be reduced than to determine by how much firm-, CEO- and governance characteristics should be increased in the case of an output-oriented approach.

The following equation (Zhu, 2009) is based on the input-oriented DEA model:

$$min\theta - \varepsilon(\sum_{i=1}^{m} s_i^- + \sum_{r=1}^{s} s_r^+)$$

$$Subject\ to$$

$$\sum_{j=1}^{n} \lambda_j x_{ij} + s_i^- = \theta x_{i0} \quad i = 1, 2, \dots, m;$$

$$\sum_{j=1}^{n} \lambda_j y_{rj} - s_r^+ = y_{r0} \quad r = 1, 2, \dots, s;$$

$$\sum_{j=1}^{n} \lambda_j = 1$$

$$\lambda_j \geq 0 \qquad j = 1, 2, \dots n.$$

The value of θ^* represents the input-oriented efficiency score of DMU_0. If $\theta^* = 1$, DMU_0 lies on the (best practice) frontier. If $\theta < 1$, DMU_0 does not lie on the frontier and should decrease its input levels. DMU_0 represents one of the n DMUs under review and x_{i0} and y_{r0} are the ith input and rth output for DMU_0, respectively. Each observation, DMU_j ($j = 1,...n$), uses m inputs x_{ij} ($i = 1,2,...,m$) to produce s outputs y_{rj} ($r = 1,2,...,s$). The efficiency frontier will be determined by these n observations.

It is possible for the DEA to indicate an individual input reduction or output increase for a specific DMU in order to move it onto the frontier. These input reductions or output increases are called input or output slacks and are represented by s_i^- and s_r^+, respectively. The presence of ε in the input-oriented model allows the minimisation over θ to pre-empt the optimisation involving the slacks, s_i^- and s_r^+. The maximal reduction of inputs is firstly achieved by optimising θ. Then, secondly, the movement onto the frontier is achieved by optimising the slack variables.

The second research question is how to estimate the efficiency to convert firm-, CEO- and government characteristic inputs of firms into multiple performance outputs. It is clearly a real production function where the efficiency can estimate how the input resources (the firms, the CEO and the level of board involvement) can be converted into performance outputs such as profit and/or market value gains. An output-oriented approach is preferred for the second stage to answer the question by how much the outputs should be increased, given the set of input variables. The following equation (Zhu, 2009) is based on the output-oriented DEA model:

$$max\emptyset - \varepsilon(\sum_{i=1}^{m} s_i^- + \sum_{r=1}^{s} s_r^+)$$

$$Subject\ to$$

$$\sum_{j=1}^{n} \lambda_j x_{ij} + s_i^- = x_{i0} \qquad i = 1, 2, \dots, m;$$

$$\sum_{j=1}^{n} \lambda_j y_{rj} - s_r^+ = \phi y_{r0} \qquad r = 1, 2, \dots, s;$$

$$\sum_{j=1}^{n} \lambda_j = 1$$

$$\lambda_j \geq 0 \qquad j = 1, 2, \dots n.$$

The value ϕ represents the output-oriented efficiency score of DMU_0. If $\phi = 1$, DMU_0 lies on the frontier. If $\phi > 1$, DMU_0 is inefficient and should increase its output levels. Similar to the input-oriented model, the output-oriented model is also calculated in a two-stage process by firstly calculating ϕ and then optimising the slacks by fixing ϕ. Suppose that in a particular application $\phi^* = 1.30$ is obtained. This means that all the outputs should be increased by 30% for the DMU to become fully efficient. Now suppose that $s_1^{+*} = 15$. This implies that output$_1$ can be further increased by 15 units. Moreover, if any one of the input slacks is strictly positive, the previous expansion of the outputs can be achieved while reducing individual inputs at the same time.

3.3. Detail justification

It is the prerogative of the researcher to decide which input and output variables should be included in the model. Nevertheless, they should be sensible, i.e. inputs should be minimised and outputs should be maximised to improve the efficiency rate. Consider for example a single input, CEO pay, and a single output, firm size in terms of total assets ($). This is not a real production function, because CEO pay cannot directly create total assets. This input-output exercise can indicate the distance how far a firm lies from the benchmark frontier. Consider two similar firms with both containing assets of $10. The only difference is that the CEO of Firm A receives pay of say $1 and the CEO of Firm B $2. In this example, Firm A is more efficient than Firm B. Firm A sets the benchmark, because its CEO is willing to work for $1 and if B want also to lie on the frontier, it should reduce its CEO pay from $2 to $1. The $1 pay, indicating where the frontier is, is also the best practice pay for this size of firm. Table 1 indicates the suggested input and output variables for the DEA model. The first stage focuses on the first research question of the study and the second stage on the second question.

Table 1. Two-stage DEA model

Input stage 1	*Output stage 1*	*Output stage 2*
• CEO salary & benefits • CEO short-term incentives • CEO long-term incentives	• Firm characteristics • CEO characteristics • Governance characteristics	• Market-based performance • Accounting-based performance

The aim of Stage 1 of the model is to set a benchmark pay (as input variable) where the determinants of CEO compensation are the output variables. It is unpractical to include all the

determinants of CEO pay as the output variables of Stage 1. For example, the 26 mentioned by Van Essen et al. (2012) or the 16 mentioned by Doucouliagos et al. (2012). The researcher can do a combination of two things; one, only select the most logical and sensible determinants, for example firm size, which is, according to several authors, the most significant determinant of CEO compensation; or two, combine as many as possible factors in a group (firm, CEO and governance) using indices or techniques such as the analytical hierarchy process (AHP) as suggested by Chen (2002). Wensley's (2013) example explains the selection of a CEO where there are three candidates, each with a different 1) age, 2) experience, 3) qualification and 4) charisma. Weights have to be directed to each of the four categories and each candidate obtains a single aggregated relative score. (See the literature review under section 2 for lists of examples of firm-, CEO- and governance characteristics that can be combined in a single measure.)

As stated, the selected variables should be sensible, i.e. inputs should to be minimised and outputs should to be maximised to improve the efficiency rate. This is applicable for both Stage 1 and Stage 2, where the outputs of Stage 1 are automatically the inputs for Stage 2. The following is an example of a detailed model (Table 2).

Table 2. Two-stage detailed DEA model

Input stage 1	*Output stage 1*	*Output stage 2*
• CEO salary & benefits • CEO short-term incentives • CEO long-term incentives	• Firm characteristics (Firm size) • CEO characteristics (Combined: age, tenure and qualification) • Governance characteristics (Combined: board size, board independence ratio, board shareholding)	• Market-based performance (total return to shares) • Accounting-based performance (net income)

The logic of this model is as follows: Stage 1:
Firstly, the larger the firm, the more complex and difficult it is for the CEO to manage the firm. Therefore, a positive relationship between CEO pay and firm size is hypothesised. The CEO age, tenure and qualifications (the higher the better) will positively influence pay. Thirdly, board size, board independence ratio and board shareholding indicated the degree of control. The argument is that the higher these scores, the higher the control is that increases the responsibility of the CEO and he/she should be remunerated accordingly. Although positive relationships are hypothesised, the best practice is found where the input-output differences are the largest. (See above example of Firm A and Firm B).

Stage 2 is an example of a production function where the estimation is how efficient a firm is to convert its assets (firm size), CEO skills and capabilities and the role of the involvement of the board in the management of the firm into performance outputs such as profits. For example, consider two firms: Firm A has assets of $5 and Firm B has assets of $10. Both yield a net income of $2. Firm A is efficient and a benchmark for Firm B. If B possesses double the amount of assets, then it should yield double the current net income ($4). Both a market-based and an accounting-based performance measure are recommended. For market-based, the total return to share included all the dividends paid plus the market value gains. For accounting-based, the net income represents the amount attributable to its shareholders, also known as the bottom-line.

3.4. Case study

To illustrate the two stages of the model, a simple case study that can be exhibited on a two-dimensional graph is used. Therefore, a single-input-two-output model is employed for Stage 1 and a single-output-two-input model for Stage 2. Consequently, not all the variables as indicated in Table 2 are employed. Nevertheless, this case study attempts to explain the consecutive links of the model, from CEO compensation to determinants thereof, and from these determinants to performance yields.

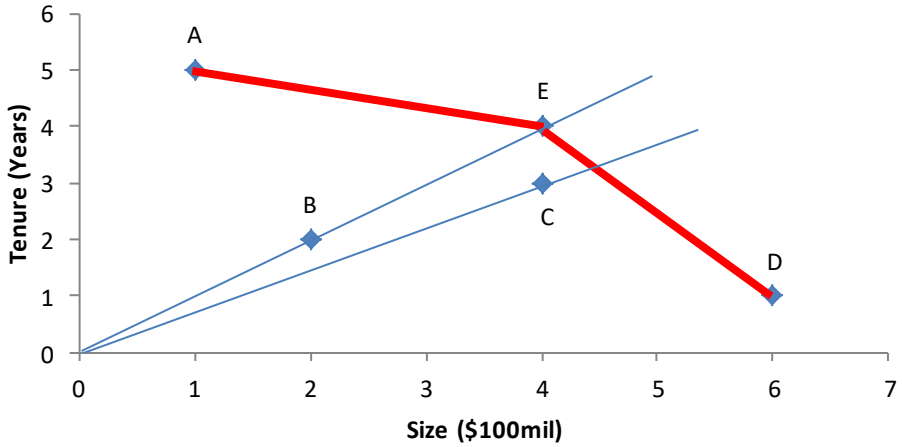
To ensure the validity of the study, the software provided by Zhu (2009) was used to calculate the efficiency scores. Assume five firms (A-E) and for the first stage only a single input, CEO pay, which is exactly the same for each firm. Assume two outputs, firm size (total assets) and CEO tenure (years) that are different for the five firms. Table 3 exhibits the data for Stage 1 and Stage 2. The two outputs for Stage 1 are the two inputs for Stage 2, which has a single output, namely profit, which is the same for all five firms.

Table 3. Case study example of a two-stage DEA model

Firm	*Stage 1*			*Stage 2*
	Input	*Output 1*	*Output 2*	*Output*
	CEO pay ($mil)	*Size ($100mil)*	*Tenure (years)*	*Profit ($10mil)*
A	1	1	5	2
B	1	2	2	2
C	1	4	1	2
D	1	6	1	2
E	1	4	4	2

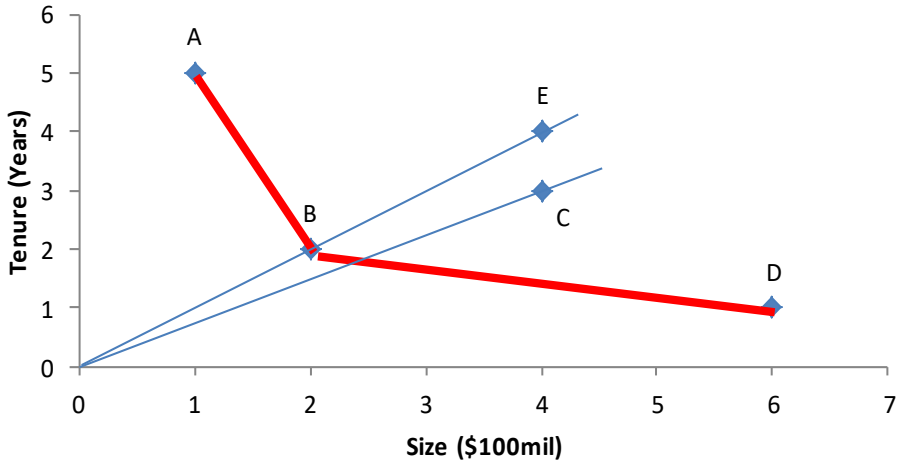
The graph below indicates the data for Stage 1, with AED representing the benchmark line (efficiency frontier). Firms B and C are not on the frontier, and the distance to it is important to them. Since an input-oriented approach is followed here, the question is by how much the input (CEO pay) of B and C should be decreased to enable them to also be on the efficiency frontier. Firm E presents the benchmarks for Firm B with θ = 0.5, implying that B should reduce its CEO compensation to 50% of its current level to be on the frontier. For Firm C, θ = 0.9, implying that it should reduce its CEO compensation to 90% of its current level to be on the frontier. Firm C's benchmark is a virtual Firm where 0C-extended intersects with the benchmark line AED, which represents 78% of Firm E and 22% of Firm D.

Figure 1. Stage 1: Input-oriented graph



The graph below illustrates the data for Stage 2. ABD is the efficiency frontier and Firms C and E are currently inefficient with ∅ = 1.6 and 2, respectively. That implies that Firms C and E should increase their outputs (profits) to 160% and 200%, respectively, of its current level to become fully efficient, operating on the benchmark line. Firm B is the benchmark for Firm E and Firm C's benchmark is a virtual firm where line 0C intersects with the benchmark line ABD, which represents 87.5% of Firm B and 12.5% of firm D.

Figure 2. Stage 2: Output-orientated graph



4. DISCUSSION

The study has reached its purpose to develop a model, employing DEA firstly to accommodate a cost leadership and a differentiation type of strategy applicable to benchmark CEO compensation. The cost leadership type of strategy represents in this study where a firm signals that its CEO is not overpaid, but paid according to best practices. A differentiation type of strategy represents where firms signal that their CEO is above average and paid accordingly.

Referring to the Stage 1 input-oriented graph, Firms A, D and E lie on the efficiency frontier, implying they either prefer a cost leadership strategy, paying their CEOs according to best practices, or they prefer a differentiation strategy, which then urges them to move from its current position to a point lower than the benchmark line. Firms B and C either prefer a differentiation strategy that wants to lie a distance from the benchmark line, or a cost leadership strategy that urges them to move from their current position towards the benchmark line.

No matter which strategy is preferred by a firm, the second part of the model is where the efficiency is estimated to convert those same determinants of CEO compensation (which are resources of the firm) into various performance measures, either accounting-based or market-based. The second graph representing Stage 2 applies an output-oriented approach.

Assume the positions in Stage 1 are where all the firms prefer to lie. Therefore, Firms A, E and D apply a cost leaders strategy and Firms B and C apply a differentiation strategy. Moving to the Stage 2 graph, Firms A and D appear on both benchmark frontiers and are examples of cost leaders who are also efficient to convert firm resources into yields. Firm B is an example of a differentiation strategy that is also efficient in converting firm resources into yields. Firm C is an example of a differentiation strategy that is inefficient to convert firm resources into yields.

Finally, Firm E is an example of a cost leadership strategy that is inefficient to convert firm resources into yields.

The main contribution of this study is that a model is developed where the relative efficiency to convert firm resources is link, but independent of the strategy that a firm prefers to compensate its CEO. Firms that currently prefer a differentiation strategy endeavour to signal a positive message to the market, namely that their CEO is better than the average and should be remunerated accordingly. Applying this model is an aid to look differently at this signalling issue. Opposed to the differentiation strategy, is the cost leadership – applying this model as cost leadership strategy also signals a positive message to the market, namely that the CEO is not overpaid, but is remunerated according to best practices. The limitation of the study is that only a selected number of CEO pay determinants are included in the model. Future studies can refine this model and include more determinants.

The final conclusion is that CEO pay-performance studies should not be dominated using the linear regression analysis approach. This gives an impression that CEOs under the regression line are probably below average or underpaid, while those above the regression line are above average and should be remunerated accordingly. This fuels the Lake Wobegon effect! This model, applying DEA, will assist firms whose CEOs are currently at the bottom half of their peer groups also to signal a positive message and limit the effect of ever continuous up-spiralling of CEO compensation without the support of applicable performance yields.

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IN SEARCH OF EFFECTIVE CORPORATE GOVERNANCE. AN EXPLORATIVE RESEARCH WITHIN THE CONTEXT OF SEMI-PUBLIC HOUSING MANAGEMENT IN THE NETHERLANDS

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Abstract

In this paper we elaborate, supported by literature on trust, a framework for corporate governance that might overcome lacunas in the classical frameworks of the principal agency theory and the stewardship theory. A historical analysis of the development of corporate governance in the context of the Dutch semi-public housing management shows that a mixture of principal agency and stewardship approach of semi-public managers proves to be contradictory and toxic. A discourse analysis and factor analysis report on the search of actors for a more effective corporate governance. The findings are only indicative, due to the explorative stage of the research. The indication is that third framework gets more positive and consistent support in the corporate governance practice. A longitudinal set up and extension of samples and contexts is recommended.

Keywords: Principal Agency, Stewardship, Corporate Governance, Board Interaction, Power Relations, Trust, Non-Profit, Motivation, Autonomy

1. INTRODUCTION AND MAIN RESEARCH QUESTION

1.1. Theoretical frameworks for corporate governance

The governance of corporations is subject to debate since Berle and Means (1932) wrote their seminal article on the separation of ownership and control. Jensen and Meckling (1976) proposed the principal agency approach as a solution to the governance problems raised by Berle and Means. In this solution there is a board - called the principal - which on behalf of the shareholders/owners hires and fires the senior management, designs a set of incentives, and monitors the outcome of the decisions made by the management. In this approach the economic logic of decision-making, guided by self-interest is retained. In the governance design, incentives and monitoring are aligning the interests of senior managers with those of the firm. The reliance on self-interest and extrinsic motivation evoked fierce critique (for instance Ghoshal, 2005) and initiated an antagonist approach, namely the stewardship theory (Donaldson & Davis, 1991; Davis, Schoorman, & Donaldson, 1997), in which the intrinsic motivation of the management warrants task execution aligned with the interests of the corporation. In this approach it is assumed that autonomy is favorable to both the steward and the outcome of decisions made. Although associated with stewardship, the managerial autonomy also has a function in the principal agency approach. Limited in information on market opportunities and (innovational) potentials of the corporation, the senior management is allowed and even induced by incentives to take the role of entrepreneur and overcome risk aversion (Haid, 1997).

The two approaches reflect distinctly the opposing X- and Y-theories of McGregor (1957). The X-theory is fuelled by a negative human expectancy and distrust and the Y-theory by positive human expectancy and trust. Most people prefer optimistic attitudes, as do we. However, the positive expectancy-based stewardship theory is not per se a theory that ensures a more effective corporate governance. The question is how to deal with human fallibility. In the body of agency literature managerial moral hazard is a prominent issue (Fama & Jensen, 1983; Walsh & Seward, 1990; Haid, 1997). In spite of all effort put in incentive compensation and monitoring, worldwide scandals show that the risk of managerial moral hazard has not been controlled (for instance Enron, the Banking Crisis and recently the Volkswagen Group). The detached attitude of boards in principal agency settings in regard of the actual behavior of the management, creates a moral void that provides ample occasion to opportunistic courses of action (Ghoshal, 2005; Dowd, 2009). Furthermore, leading agency scholars have questioned the effectiveness of boards (e.g. Jensen, 1993; Jensen, 2000), emphasizing that in comparison to complementary forces of state regulation, the capital and customer markets, boards exercise a weak disciplinary force.

As far as our knowledge goes, stewardship scholars show no interest in misbehaviour, moral

hazard, fraud, excessive risk-taking[36], and board failure in stewardship settings. Fama and Jensen, prominent principal agency scholars, have hypothesized that non-profits are subject to moral hazard issues too (Fama & Jensen, 1983). Gelman and Gibelman (2000; 2004) in their worldwide research of non-profit scandals find that founders and managing directors of these organizations are not forestalled by boards in their course to fraud, financial mismanagement, and other kinds of wrongdoing. The belief in the good intentions of the managers has been pervasive. We think that Gelman and Gibelman offer us a dark-sided view of stewardship governance that is beyond the scope of the theory. Stewardship is, in juxtaposition to agency theory, used as governance framework by researchers on finance and (forensic) accounting. For instance, Albrecht, Albrecht & Albrecht (2004) find that a stewardship approach in governance is more remedial to fraud, if the actual behavior of the senior managers is stewardship-like. On the other hand, self-identified stewardship has no remedial effect. In organizations with perception of fairness (Schrijver, Delbeke, Maesschalck, & Pleysier, 2010) fraud and others kinds of misbehaviour are less likely to happen than in organizations led by selfish managers (American Institutue of Certifed Public Accountants, 2002). So, stewardship offers advantageous prospects in governance, as long as actual behavior is observable and in line with the intentions connected to stewardship. Without this added condition, stewardship theory shows both in theory as in practice a behavioural void too, namely blind trust. Blind trust is stated as an ineffective phenomenon of trust (Luhmann, 1973). In his early treatise Luhmann infers that trust requires commitment of the governors to react on breaches of trust by managers, and includes the willingness of the trustor to switch to a crisis management role when needed[37]. According to Luhmann the autonomy of the trustee cannot be unconditional. This extension to the theory of trust is lacking in the conceptualization of stewardship theory as governance framework.

In the conceptual elaboration of both frameworks the power relation between board and senior management have to be taken into account (Murray, Bradshaw, & Wolpin, 1992; Cornforth, 1999). Agency theory assumes board dominance, which is limited by information asymmetry. Stewardship theory provides autonomy to the senior management. As autonomy means literally the faculty to state your own rules, stewardship theory appears to be affiliated to the managerial hegemony theory (Muth & Donaldson, 1998). Information asymmetry is not reducing the power distance; on the contrary, the balance scales up towards to the steward due to the abstinence of monitoring or to the negligence about information sharing[38] by the steward's board. Set up in their autonomous realm, stewards do not have to face countervailing powers and negative feedback unless invoked and maintained by themselves. On the one hand the deep-rooted belief in human fallibility of the agency theory may have been criticized as being self-fulfilling (Ghoshal, 2005), on the other hand governance conducted by stewardship theory takes a risk on leadership derailment too. There happens to be no defense against stewards who develop a belief in their own infallibility and divine power, due to a conducive environment (Padilla, Hogan, & Kaiser, 2007) or by 'grace' of their high-pitched traits.

Both agency theory as stewardship theory fail to provide a complete framework for effective governance. Cornforth states that neither agency nor managerial hegemony theory is able to explain complex power relations as observed in practice (Cornforth, 1999). A mixture (Van Slyke, 2007) and an alternation (Van Slyke, 2005) of elements of agency and stewardship theory were recommendable. Both agency and stewardship theory are reductionalist and normative approaches which do not give clues on how to deal with contextual factors (Van Slyke, 2007; Cornforth, 2012). In an evaluation of the research on the governance of public and non-profit organizations Cornforth contends that research has focused too narrowly on the boards of unitary organizations, and has ignored both the wider governance system and the more complex multi-level and multi-faceted governance structures that many organizations in sectors have adopted (Cornforth, 2012, p. 2). According to Cornforth board processes are in the long run influenced by historical and contextual factors.

1.2. A corporate governance context: the sector of Dutch semi-public housing management

We have chosen a specific context for the research on corporate governance, namely the Dutch public housing sector. The sector comprises 376 decision-making units[39]. The organizations are examples of non-profit organizations embedded in public law and policy. In The Netherlands the execution of public services like health care, social welfare, education, and housing is assigned to private legal entities without shareholders and owners. The Dutch housing corporations have the legal entity regime of corporation (vast majority) and association and are obliged by the state to maintain a non-distribution constraint. Since the early nineties the state control is diminished through a policy reform. The reform aimed at more autonomy for housing corporations. Key issues of the reform were the promotion of entrepreneurship and of corporate governance. The sector can be marked as an early example of New Public Management (Hood, 1991). Within Dutch public service it was a frontier sector with regards to corporate governance. Corporate governance was seen as a way to professionalize and step away from the traces of voluntarism. Therefore, the corporation status was promoted above the association. In the design of the corporate governance a two-tier board was preferred, departing from the board of directors as is usual in Anglo-Saxon countries. There is a (non-executive) board of governors, which chooses its own chair. The board is independent from the senior management. The senior management has the discretion to exert the property rights, within the boundaries of board approval. There is no distinct owner of the organization's assets/resources. The board of governors acts autonomously and is not subordinated to a body to which it has to account for

[36] Muth & Donaldson mention an age depending risk-appetite of senior managers (Muth & Donaldson, 1998).
[37] These steps are discerned by Mordaunt and Cornforth in their research on non-profit boards (2004).
[38] Information sharing is proposed as a strategy in response to moral hazard (Millon & Thakor, 1985).
[39] At the end of 2013. Ultimo 2001 there were 579 housing corporations (Statistics provided by the CFV).

its decisions and policy; there are no actors who can enforce a turnover of the board. So the position of the boards is indistinct as well.

The introduction of the corporate governance model has been a process of mimetic isomorphism (DiMaggio & Powell, 1983). Actors had their own motives to promote this market-like corporate governance model. The Dutch state wanted a professionalization of the sector, while the sector organization regarded the corporate governance model as an alternative and buffer to state control. So, corporate governance got vaguely associated with self-regulation and autonomy, while the configuration was not properly thought trough. Later on, problems rose related to the indistinctnesses in the configuration.

A key event in the mid nineties was a conversion of the state subsidization and financing to lump sum deposits, calculated in schemes with determined macro-economic parameters. The housing corporations benefitted from advantageous macro-economic parameters, a situation which caused a cash windfall. During that time the investments in public housing were limited and a number of housing corporations started commercial real estate development. The first debacles happened: cases emerged of real estate fraud and a financial debacle with derivatives, in which 15 corporations were involved (Tweede Kamer der Staten-Generaal, 2014). The Dutch government reacted with an administrative obligation to the housing corporations to have a document with articles on investment and finance. There were no reconsiderations with regard to the corporate governance configuration.

In 2004 a sector wide plan for incentive compensation (Comissie-Izeboud, 2004) was introduced by Aedes, the sector organization. The plan reflected the practice at opinion leading corporations. The CEO-compensation was related to the size of the firms and to market-leadership. The last criterion implied the reputation of the corporations concerning innovation and entrepreneurship. A bonus plan was related to the real estate investment sum. The level of emoluments was related to the reference group of directors in the commercial market, not to the level of compensation in other non-profit sectors. There were no considerations reported in respect of moral hazard. The compensation plan facilitated compensation-based mergers and reputation-boosting investment programs (Koolma, 2008). The senior management was clearly treated as agents. The second part of the principal agency set up, the monitoring by the board did not get equal attention. The approval and accounting procedures for acquisition and real estate performance were superficial in comparison to the commercial market. At the same time the financial authority indicated in a research on the self-perceived role of board members, that the boards regarded the senior managers as stewards (CFV, 2003). The financial authority expressed serious concerns about the quality of board performance on behavioural control, risk-assessment, integrity and accountability, concerns that persisted in following inquiries (CFV, 2005; CFV, 2006; CFV, 2011; CFV, 2011). The observations suggest that boards acted from a stewardship perspective, leaving the major decisions to the autonomy of the senior management. With regard to integrity issues and risk-taking. Boards appeared to have blind trust in the senior management. The concerns and warnings of the financial authority (CFV) were neglected by the political superiors, the subsequent state secretaries and ministers. The CFV did not have the faculty and authority to correct the boards and to intervene into the corporate governance of the housing corporations. The CFV sought an alliance with a national association of board members (VTW), which was founded in 2002. However, this actor did not have either the power or formal authority to intervene.

During the same period the state delegates addressed the senior management ambiguously. In conferences the senior managers were evoked to act like real entrepreneurs, to seek risks and to 'show guts' (Minister van VROM, 2003). Emerging losses on development of commercial housing in urban areas had to be solved creatively with consent of the minister. Necessary renewal of the legislation on the governance of housing corporations was suspended because the minister came to an agreement with the sector organization. Cooperation in a state policy program was exchanged for an ongoing practice of self-regulation (Interrogations, 2014).

Senior managers were treated like agents without any awareness whatsoever of entailed moral hazard. While being the political principal (Koolma, 2013), the interrogations of state representatives at the parliamentary inquiries show a general disregard of monitoring tasks. Senior officials rationalized why the state could not execute the tasks. The department lacked oversight, internal boards had that function and on merger decisions clients and municipalities were the stakeholders (Interrogations, 2014). Meanwhile, the department issued evaluations, some so praiseful that internal boards did not dare to have a different opinion on the performance of their senior managers. In spite of their responsibility, board members reported during the interrogations that they trusted the department and financial authority so much that they did not feel the need to formulate own appraisals.

Afore a parliamentary inquiry is mentioned. After an ongoing sequence of scandals revealed in public media the Dutch parliament decided to investigate the sector and its senior managers (Esmeijer, 2013). The three major cases are concisely discussed.

1) The chair executive of Rochdale, a corporation in the Amsterdam region, has been prosecuted for real estate fraud, which caused losses amounting to at least 6 million euro. In 2004 a first report was given to the department of alleged integrity violation. Not until the report in the public media at the end of 2008 the chairman was exempted from interventions by his board and the state department. The board did not accomplish to set up a monitoring of the real estate projects in spite of feelings of unsoundness. A lie about driving his exuberant company car, a Maserati Quattroporte, facilitated the board in her decision to fire the manager. The board resigned after political pressure and a full-page report about their personal data in the main financial daily of The Netherlands. The reason why the department had renounced an intervention is not reported (Rijksauditdienst, 2009; Tweede Kamer der Staten-Generaal, 2014) and is still unrevealed. During the interrogation the manager showed no

regret, contended to have served the cause of social housing, and said only to have made some mistakes. Hereby he showed a self-identified stewardship adverse of his actual behavior.

2) In 2004 Woonbron, a corporation in the Rotterdam region decides to buy a former cruise ship from the municipality. The business case is approved by the department before the internal board has had its say. Costs are underestimated by ten times just like the revenues are overestimated. At the same rate the restoration of the ship did not have a substantial relation to housing. In 2009 the board resigns after fierce debates in the parliament and negative reports in the media. The chairman of the senior management resigns some months later. When Woonbron succeeds to sell the ship to a hospitability entrepreneur the final result sums up to a loss of 230 million euro. The board has been critical on the project but has accepted a goal displacement and a budgetary camel nose. The former chairman is entrapped and entrenched in a personal pet project. The project is also an example of excessive risk-taking and financial mismanagement with continuing financial restatements. During the interrogation the chairman has expressed regret for the losses and the damage to sector's reputation. In his opinion, the intentions to save the southern district of Rotterdam from deprivation were good. In this case to a self-identified steward gave his statements. Similar is the disturbance of the corporate governance by state representatives, who were euphoric about the project even when it turned out to be a fiasco.

3) The final case concerns the derivatives debacle and fraud at Vestia, the largest corporation with almost 90.000 houses all over The Netherlands. In 2012 the corporation appears to have a derivatives portfolio of 23 billion euro. The treasurer and the senior manager of Vestia have set up an alleged profit centre for derivatives trade. Annual reports show an advantage on the interest rate on long-term loans of 1% less than the next best corporation. The annual reports are not explicit on the size of liquidity risks involved. Clauses in the contracts with the business banks force Vestia to deposit to such an amount that a default is near and a backstop by the government would cause a degradation of the international rating of the Dutch state. A direct intervention is not feasible because of breaking event clauses in the contracts. An arrangement is made for a bail-out. The losses amount to 3 billion euro, which are taken by Vestia and the collective of the sector. The senior manager is fired. The board resigns under severe pressure of the state department. The state department has reported laudatory on the performance of Vestia. Vestia was the corporation that by means of takeovers solved financial problems of other failing corporations. The risks in the policy of Vestia have been neglected by the internal board, accountants, the financial authority (CFV), the sector intermediary to the capital market (WSW) and the department officials. In the interrogation the senior manager avoided to express regret. He stated to have served the cause of the social housing well. The losses were needlessly caused by the intervention of the state. The board accepted to be off side of the financial policy of Vestia. They said to have had great confidence in the capacities of the senior manager and his staff. This reputation was eagerly supported by state officials and the sector agencies. One last remark is that the senior manager of Vestia received a bonus plan from his board aimed at an offensive acquisition strategy.

The historical draw and the discussion of the 3 cases show an unsynchronized, contradictory and even a toxic mixture of stewardship identification and actual uncontrolled agent behavior, causing new schoolbook examples of decision failure and moral hazard. The interference between the principal layers in the governance network has created circumstances in which the drift to failure was not interrupted (Koolma, 2013).

The impact of the failures was an institutional crisis that constitutes the starting point for the empirical research in next session. The lack of involvement of the internal boards has been remarkable. The power relations in the three cases indicate managerial hegemony and irresponsive boards, which are overjumped by the senior managers as were they insignificant and irrelevant. The managers decided on the resources as if they were the sole owners of these non-profit corporations, providing evidence of moral hazard hypothesis of Fama and Jensen (1983). An explanation is that the boards had the task to supervise senior managers whose reputations[40] were outstanding and beyond doubt of higher authorities. Their trust appeared to be not justified in hindsight. Such read the statements of board members during the interrogations. An alternative explanation might be that the governors have followed a course that served their self-interest. Intervention would explode their workload and launch the risk of a loss of face when their reputation should contest the one of the senior manager.

The enforcement of the law and subordinate regulations has been neglected in the discussed cases and also in other cases of the parliamentary inquiry. There was a general preference for self-regulation by the housing corporations. While having a protective intermediary to the capital market and ruling a monopoly in the market for affordable housing with entry barriers (Koolma, 2008), all correcting force was depending on the boards of governors of the housing corporations. In almost all cases the boards have proved to be ineffective.

The government's reaction was to blame mainly the managers and boards of housing corporations. State control is restored. The minister decides in an overruling way the hiring, incentive compensation, monitoring, and firing of internal board members and senior managers[41]. New regulation is restricting the autonomy of housing corporations in their operations in a comprehensive and detailed way. Boards reconsider their position in relation to the senior management. Prior to the research, we expected to find a control reflex of the boards at the expense of senior managers who have done no wrong and have acted as true stewards.

[40] All three senior managers were welcomed as saviors: Rochdale saved a high-rise district in Amsterdam, Woonbron would save southern Rotterdam from deprivation and Vestia averted defaults of weak corporations.

[41] In imitation of the Dutch Central Bank 'fit and proper test' are conducted by the new housing authority.

1.3. Main questions in empirical research

Starting in a situation in which there seems a general agreement that the corporate governance has been ineffective in the past, looks like an easy way to conclusions. However the positions and interests of actors differ. The role perception of boards and management are probably changed. In this context we have raised the following research questions:

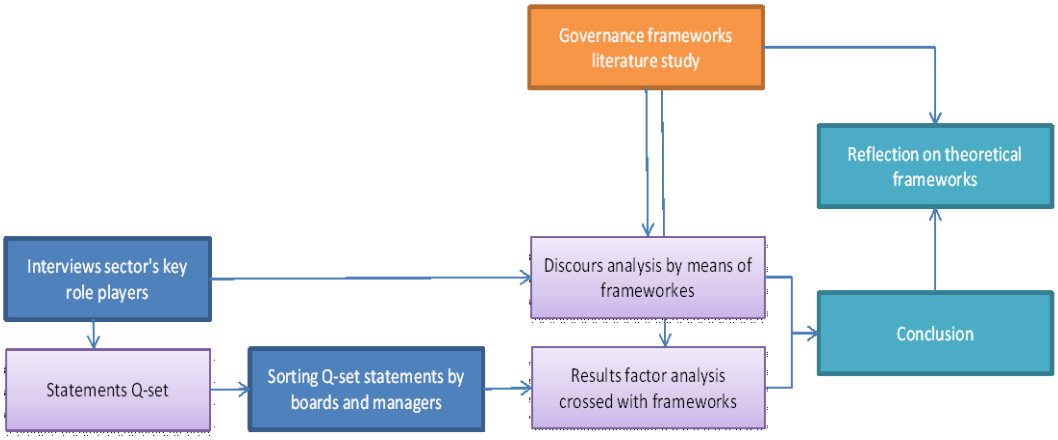
- What are the role perceptions and governance opinions of boards and senior managers in the context of the institutional crisis in the Dutch semi-public housing sector?
- What are the implications for the interaction between board and senior management?
- Which opinions are traceable to the components of the governance frameworks in the literature?

Besides the principal agency and stewardship theory a third additional framework is proposed, namely a trust-based, a mutual or reciprocaly one in which the simplicity of one-sided dominance (either board or managerial) is breached. Both agency theory and stewardship theory are taken in the original form, neglecting some recent nuances and amendments in the literature. This choice might be judged as arbitrary, but we have made this choice with the ideal typing of Weber in mind. Trust-based governance resembles stewardship theory, but the notion of trust is departing fundamentally from the original stewardship theory. Arbitrary in the stewardship theory is the assumption that best results are achieved when the steward has maximized autonomy and the board keeps distance. The boards are important when the intrinsic motivation of the candidate steward is assessed (Mills & Keast, 2009; Mills & Keast, 2013). Both theories fail to take into account the context and the development of the relation over time (Van Slyke, 2007). The literature on trust (Luhmann, 1973; Mayer, Davis, & Schoorman, 1995; Rousseau, Sitkin, Burt, & Camerer, 1998) provides leads to a third framework.

2. RESEARCH DESIGN, METHODS, AND OPERATIONALIZATION

In order to find a new avenue to effective governance, an explorative research design is drawn:

Figure 1. Research design



The first two research questions are answered by means of a two stage empirical inquiry. The first stage comprises 14 interviews with key role players regarding the governance in the Dutch semi-public housing sector. The informants are selected on having a wide view on governance affairs in the sector. Most of them have occupied diverse positions in the institutional network and have practical governance experience. A wide range of the institutional network has been covered: an opinion-leading accountant, a former alderman, a former minister, directors from the former (CFV) and new housing authority, the director of the intermediary to the capital market (WSW), a former chairman of one of the two sector banks, the chairman of the sector organization, the chairman of the pressure group of tenants, the managing director of the association of board members, a former state advisor and a scientist.

All informants consented to be interviewed. The interviewer was already acquainted with 12 of the 14 interviewees. The interviews are conducted through a technique whereby only one question at the start of the interview is raised. The question reads: "What are the characteristics of effective governance and in what respect does the interaction between board and senior management contribute to effective governance". By 'humming' the interviewees are stimulated to continue their monologues. Most interviewees spoke about 47 minutes continuously. The interviews provided data for a discourse analysis. The exact interview transcripts have been scanned for salient statements, input for the second stage of the empirical inquiry.

The second stage is conducted by means of Q-methodology, a survey technique driven by factor analysis (Exel & Graaf, 2005). The software is developed as PQMethod application by Peter Schmolck (http://schmolck.org/qmethod). 45 statements have been selected which have to be sorted in a 7 point Likert-like scale; from totally disagree to totally agree. The technique forces people

to rank and choose, and is especially suited for the measurement of values, preferences and opinions. The first step in the factor analysis is made by Principal Component Analysis. All statements remain in the model. Rotation is not made by hand but automated by Varimax. The factor analysis has been set up to report on three factors. Four factors resulted in a kind of fragmentation due to the relative small number of respondents. The statements discriminate at confidence intervals 0 > 0.01 and 0.01 > 0.05.

Board members and senior managers have been invited to perform a Q-sort with the selected statements. 14 board members and 13 senior managers accepted the invitation. A pre-test is done in order to obtain a balance between dissenting end consenting statements. The response to online invitations was low (<30%) and only 3 of the sorts appeared to be performed correctly. The remainder was performed on a sheet with 45 cards like playing a board game. The informants were afterwards asked to give their comments on the test. Some reported feelings of ambiguity at certain statements. Each sort started with a free-ordering instruction, in order to measure an eventual off-set to an average consensus or dissent. Generraly, there was a small off-set to consensus, departing from the balanced scores in the pre-tests. At the interpretation of the scores on the statements the off-set is taken into account.

As discussed before, three governance frameworks are assumed. We did not expect that the sorts of statements by the respondents would reflect exactly distinct frameworks. In order to be able to trace the opinions to the frameworks, the frameworks have been operationalized in aspects or components of each framework. We are aware of the gross reduction made by the translation into indicators.

In this research design the principal agency framework consist of:

- Response on information asymmetry;
- Extrinsic motivation and incentive compensation;
- Scrutinized monitoring;
- Attention to moral hazard.

The stewardship frameworks has in our inquiry the next indicators:

- The assumption that board and management continuously share goals;
- Intrinsic motivation;
- Autonomy of the management.

The trust-based framework needs still some discussion in this paper.

Inter-actor trust relies on the willingness to be vulnerable (Luhmann, 1973; Mayer, Davis, & Schoorman, 1995) when leaving a task to another. This willingness is based on positive expectancy of the intention of the other (Rousseau, Sitkin, Burt, & Camerer, 1998). Departing from stewardship theory, we assume that the intentions not only are important at the start of a trust relation. Intentions have to be exchanged in one way or another during the continuation of the relation between trustor and trustee. Not only the intentions of the trustee are relevant, also the one of the trustor, namely the expectations. Therefore the first component is:

- Exchange of intentions and expectations.

Stewardship's autonomy infers a distant role for the principal. Mills and Keast (2009; 2013) find contra-indications for this assumption. Stewards and their performance prosper when assured of the involvement and attention of the principal. This finding is convergent with Self-Determination Theory (Ryan & Deci, 2000). Relatedness is a condition for effective autonomy. Trust has both a cognitive and an affective dimension (McAllister, 1995). Board members seems to keep distance in avoidance of affiliation and loss of independence. However, if all affect is banished out of the relation to the senior manager, trust will be fragile. It requires a search for balance (Roberts, McNulty, & Stiles, 2005). Not only personal involvement is required. Board members who show no interest in the cause and the purpose of the firm, transfer intentions of negligence and indifference to the senior management.

Hence, we propose the next component:

- Involvement in the relation and in the cause and purpose of the firm.

Trust has the advantage that the informational burden of contract specification and monitoring is alleviated (Brown, Potovski, & Van Slyke, 2007). This a core issue of trust (Luhmann, 1973; Mayer, Davis, & Schoorman, 1995). However, when the trustee is unwilling to openness of information exchange in respect to his of her autonomy, the trustor will have reasonable doubt about the benevolence and integrity of the trustee. Sharing of information might also be a solution to moral hazard issues (Millon & Thakor, 1985), a solution without generating distrust and heavy monitoring. In the relation between board and senior management openness with regard to the exchange of information and opinions has to be a taken-for-granted. Therefore we propose the following component:

- Openness with regard to the exchange of information and opinions.

The trinity benevolence, ability and integrity are the backbone of trust. We assume that these conditions are required not only at the start of the relation. This seems obvious but we observe a reservation to this theme in governance situations. From these three concepts integrity is the one that has the least tolerance. Integrity violations breach and damage trust often irreparably. With this consideration we propose the next component:

- Questionable integrity in the relation between board and senior management.

Ability is also a main issue in the relation between trustor and trustee. However, managers of enterprises and other firms who have to adapt to their environment have to take decisions and start projects which are new to the organization, management and board. Without tolerance on ability, the senior management will become risk averse and will flight into an administrative task execution. So, managers have to learn on the job and need support of their boards. In this learning feedback is required. Two kinds of feedback are distinguished: affirmative feedback on goal attainment and feedback on errors and possible improvements (Ashford, Blatt, & VandeWalle, 2003). Avoidance of giving and accepting negative feedback is a source of entrapment and other kinds of decision failures (Koolma, 2013). However, feedback is easily taken as a personal attack

and ego-offense. Acceptance of feedback requires psychological effort (Hendry, 2005) and social intelligence. Boards and senior management have to create an interaction and atmosphere wherein negative feedback does not harm the relationship. So the next component is:

- Interaction wherein feedback is given and accepted without resentment or animosity.

The last component comprehends all previous components. The building and maintenance of a trust-based relation requires reciprocity in the interaction. For instance, a board can summon integrity, but has no authority if the integrity of board members themselves is arbitrary. Benevolence and ability cannot be unilateral requirements of the senior manager too. Board and management have to face each other in full respect. Exchange of information and opinions is prolific if the flow goes two-ways. Hence we state the final condition for a trust-based governance:

- Reciprocity in the relation between board and management.

The third framework assumes a mutual investment of the relation between board and senior management. The next components constitute the third framework:

- Exchange of intentions and expectations.
- Involvement in the relation and in the cause and purpose of the firm.
- Openness with regard to the exchange of information and opinions.
- Questionable integrity in the relation between board and senior management.
- Interaction wherein feedback is given and accepted without resentment or animosity.
- Reciprocity in the relation between board and management.

The statements of the key-role players are crossed with the components of the three frameworks. In this matrix some statements relate to more than one component. When a component has more than one related statements, the scores on the statements are divided by the number of cells. Doing so, the components are weighed equally.

3. RESULTS INQUIRY

The results will be reported in two sections. The first one comprises the findings from the discourse analysis.

3.1. Results Discourse Analysis

14 key-role players in the governance of Dutch housing corporations are interviewed by asking one single question: "What are the characteristics of effective governance and in what respect does the interaction between board and senior management contribute to effective governance". Their answers have been coded following the indicators or components of the three theoretical frameworks. In advance total coverage of the components was not guaranteed. Some informants will be familiar with concepts from scientific governance literature. More likely is their frame of reference to be found in literature as discussed in local and national networks of governance and housing. No attempt has been made to trace the source of their statements.

Surprisingly, the informants consent on most issues. There are some differences in emphasis and nuance. Because of this result, we have decided to suffice with a concise record of the discourse.

In Dutch inner governance circles there is a saying that reads "Don't sit on the chair of the senior manager". It is a mantra that reflects a norm, namely the board has to respect the autonomous position of the manager and 'don't try to do his or her work yourself'. This norm is no longer taken for granted. One is not surprised when board members gather information on their own initiative and bypass the senior manager. The informants observe contacts of boards with accountants, employees and stakeholders in absence of the senior management. Probably this is a reaction to the scandals where essential information has stayed outside the view of boards. It is their way to handle the problem of information asymmetry. There is little attention to and belief in positive effects of incentive compensation. Bonus plans are even seen as sources of adverse effects. Scrutinized monitoring is not popular. The monitoring is associated with a heavy accounting load for housing corporations in the period after the crisis. The informants show an aversion to ticking the boxes on checklists. The general opinion is that 'common sense' is more important in the assessment of the policy and the observation of the behavior of the senior manager. Moral hazards are not in the foreground of the responses.

Intrinsic motivation is very much preferred. Intrinsic motivation has an unquestioned positive effect according to the informants. Sharing of goals is seen as a major issue, in the sense that boards ought to have a say in the formulation of goals. A trend is that board's members are allowed to use their networks[42]. It would contribute to the results and the legitimacy of the housing corporations. One is aware of a risk of board member networking. It could easily evoke confusion about the question who is 'in command'.

The coverage of the components of the third framework is less convincing. An open relation between board and senior managers is noted frequently. It is necessary to have a relation in which feedback can be given. The idea of a two-way direction in the relation is less common. So, there is attention for the interaction between board and senior management and this supports the idea of open relationship. However, the idea is still in consideration and the implications are not clear yet.

3.2. Results of Sorting Statements

There has been made a selection of salient statements out of the transcripts of the interviews with the key-role players in sector's governance. The statements are not derived from the theoretical frameworks but

[42] A notion related to the resource dependency approach in which the network of the non-executive boards members are considered as a resource.

associate well and give a full coverage of the component of all three frameworks. Without connotation to the frameworks the statements are presented to a new group of respondents, comprising 14 board members (G = governors) and 13 senior managers (M). There is a spread regarding the size and urbanization grade, but the small number does not allow to account for external validity. The respondents have been asked to sort the statements in a fixed score board with a seven point-scale.

The correlation between the sorts in de sample equals to 0.32. Split in groups the correlation scores are 0.33 for the managers and 0.37 for the governors. The scores are high but not extreme regarding the select sample of professional peer group members. Notwithstanding the correlation level, discriminating three factors have been found.

Table 1. Response categories Q sort of 45 statements

Valuation	*Count of statements to place*	*Score*
Full disagreement	4	-3
Disagreement	6	-2
Slight disagreement	8	-1
Neutral	9	0
Slight agreement	8	1
Agreement	6	2
Full agreement	4	3

Table 2. Factor loading of respondents' factor loadings

Informant	*Factor 1*	*Factor 2*	*Factor 3*	*Highest loading*
M01	**0.6011***	0.1979	0.2011	1
M11	**0.7237***	0.2703	0.1017	1
M02	-0.0364	**0.5518***	0.4929	2
M03	0.3376	**0.6003***	0.2982	2
M04	0.0838	**0.5303***	0.2499	2
M05	0.0846	**0.6783***	0.0432	2
M09	0.3600	**0.6393***	0.2449	2
M10	0.1812	**0.6699***	0.0318	2
M12	-0.0099	**0.7176***	0.2676	2
M13	0.4256	**0.4911***	-0.1258	2
M06	0.1655	0.4390	**0.6244***	3
M07	0.3644	0.2952	**0.5324***	3
M08	-0.0084	0.1649	**0.5403***	3
G01	**0.6593***	0.3410	0.1557	1
G05	**0.8253***	0.0413	0.1036	1
G06	**0.4480***	-0.0082	0.3531	1
G09	**0.5513***	0.2838	0.3097	1
G12	**0.7587***	0.1090	0.0564	1
G13	**0.7682***	0.0811	0.2465	1
G14	**0.6435***	0.2851	0.4961	1
G04	0.1865	**0.5748***	-0.0202	2
G03	0.4376	0.1850	**0.6933***	3
G07	0.0817	0.1091	**0.6780***	3
G08	0.4456	-0.0583	**0.6427***	3
G11	0.2876	-0.0248	**0.6338***	3
G02	0.3606	0.3351	0.2296	**none**
G10	0.4300	0.2973	0.3949	**none**
Var. expl. [43]	21%	16%	15%	

A factor loading of 1.0000 would imply that the sort of a respondent is identical to a calculated factor. In the table the factor loadings of the managers and governors are discernable. With regard to this distinction it is remarkable that factor 1 comprises in majority governors (7 to 2) and factor 2 consists of a majority of managers (8 to 1). Factor 3 appears to be a mixed group (3 managers and 4 governors). The factors have the next characteristics inferring the significantly discriminating statements ($p<0.01$):

- Factor 1, the 'governors' factor', shows disagreement with belief in extrinsic motivation (-1.80 (The scores minimum and maximum arithmetically range from -3 to 3)) and with managers

[43] Variance is explained by the aggregate to a level of 52%.

that in anticipation on leading opinions adjust their input in the board meetings (-1.85) or use coping strategies in order to avoid blame (-1.78). The board is seen as guard against manager's self-interest (1.01). One agrees on the statement that the manager is responsible for the policy and the board monitors the outcome in hindsight (1.07). Even more agreement is on the statement that one should have heart for the cause (1.32). Most agreement is on the opinion is that a good board is a very close watcher who intervenes if necessary (1.43).

- Factor 2, the managers' factor disagrees with the statement the board regularly tests the credibility of the senior manager and, if okay, grants him or her unconditional trust for the period coming (-1.94). Opposite to factor 1 there is disagreement with the statement that a good board is a very close watcher who intervenes if necessary (-1.66). One disagrees on the idea of sharing responsibility with the board in case of wicked problems (-1.19). In factor 2 there is agreement that scandals have changed the board's surveillance (1.17). Remarkable is agreement on the positive role of a Works Counsel within the internal governance (1.41). Most agreement is a self-reflective question "Have I told enough why I do things" (1.62).
- Factor 3, the mixed group, disagrees on the statement that the manager is responsible for the policy and the board monitors in hindsight (-2.07). One doesn't want to rely wholly on the financial monitoring by the accountant and the national supervisors (-1.52). Remarkable is the disagreement on the statement that the board withholds from personal involvement and prefers to hire a personal coach for the senior manager (-1.47). Agreement is on the statement that that board should have diverse capabilities including insight in operational processes of the housing corporation (1.33). Most agreement is on the opinion is that a good board is a very close watcher who intervenes if necessary (1.76).

The statements are connected and pivoted by means of a matrix to the components of the governance frameworks. Weighing is applied in order to suppress the effect of over-measurement of some components. All statements are taken into account, because selection on significance would lead to unbalanced comparisons between the factors while most statements are significant in one and not significant in the others factors. Elimination on significance in all three factors would lead to a severe loss of information.

As discussed afore, the statements and components may have n to m connections to each other. The factors are related to the governance frameworks in next table.

Table 3. Factors pivoted to the governance frameworks

Component	*Framework*	*Factor 1*	*Factor 2*	*Factor 3*
Information asymmetry	PA	0,03	0,24	0,43
Scrutinized monitoring	PA	0,44	-0,20	0,29
Extrinsic Motivation	PA	-1,32	-0,82	-1,15
Moral hazard	PA	-0,85	-1,05	-0,37
Sharing the goals	S	0,75	0,01	0,23
Autonomy	S	-0,03	-0,48	-0,90
Intrinsic motivation	S	0,98	1,01	0,72
Intentions and expectation	T	0,64	0,69	0,70
Involvement	T	0,28	0,27	0,29
Openness relationship	T	1,04	0,18	1,09
Integrity	T	0,46	0,21	0,47
Feedback	T	0,74	-0,04	0,30
Reciprocity	T	0,02	0,32	0,44

Due to the addition of non-extreme and neutral scores the figures range closer around zero. The 'scores' of factors on the framework components are discussed in two sections. In the first section the consensus between the factors is looked at.

One point of consensus is the preference for intrinsic motivation and an objection to extrinsic motivation. The distance in score of both components is 2.30 at factor 2, however the differences are not big. Sharing intentions and expectations scores almost equally among three factors (0.64 0.69 0.70). Appreciation for involvement of the board of the business is equally distributed but not high (0.28 0.27 0.29).

There are also divergent scores, representing dissent between the factors, and so, between the governors' group (1), the managers group (2) and the mixed group (3). Factor 3 shows the most attention to coping with the information asymmetry. The aversion to the subject of moral hazard is highest in factor 2 and lowest in factor 3. Sharing of goals is neutral in factor 2 and positive in the two other factors. Autonomy scores neutral in type 1, and negative in factors 2 and 3 (-0.03 -0.48 -0.90). Regarding openness in the relation between board and management factor 1 and 3 have a high scores while factor 2 approximates zero. This is remarkable because it suggests that the subject of openness does not have importance in the group of the senior managers. Attention to integrity scores higher in factor 1 and 3 on the one hand and factor 2 in the other hand. Giving feedback has the highest score in factor 1 and even a slight negative score in factor 2. Type 1, representing the governors group, has a neutral score on reciprocity while factors 2 and 3 have modest positive scores (0.02 0.32 0.44). It could suggest that change of one-way relation is not considered in the governors group. The connection to the stewardship framework is contradictory: Intrinsic motivation is regarded positively while autonomy tends to a negative score. The experience with the scandals in the recent past is a probable explanation, reporting senior managers to state their own rules to the dupe of their organizations.

Generally, the respondents do not adhere to the principal agency model. Most scores are at zero or below. Exceptions are the scrutinized monitoring of factor 1 and the active coping with information asymmetry in factor 3. The trust frameworks get moderate positive scores. The governors group and

the mixed group set the positive scores. Factor 2, the managers group has diverged with lower scores on openness of the relation, attention to integrity, and the exchange of feedback. In analysis of the statements there is dissent between the governors group and the managers group, suggesting a classical antagonism between the need for control and the need for autonomy. Trust as an alternative to this antagonism is not embraced by the managers group. The mixed group seems to bridge this antagonism. Not surprisingly regarding the mixed composition. This group is most of the three inclined to share in the relation.

4. CONCLUSION AND DISCUSSION

In the introduction we raised the following research questions:

- What are the role perceptions and governance opinions of boards and senior managers in the context of the institutional crisis in the Dutch semi-public housing sector?
- What are the implications for the interaction between board and senior management?
- Which opinions are traceable to the components of the governance frameworks in the literature?

The analysis of the two classic frameworks, the principal agency and stewardship theory shows that both approaches are incomplete. Abstracting from context is a lacuna, although this is a common fault of general theories. More problematic is the categorical antagonism of power relations and the absence of interaction dynamics. At this last point both approaches show behavioral voids. In the principal agency managers get a free hand to pursue opportunities, while in the stewardship theory the managers are blindly believed to remain stewards till their resignation. More recent authors recommend a smart combination of both approaches, and a dynamic alternation. We have drawn a third framework on the foundations of the trust literature. In this framework the interaction dynamics are covered and by sharing information and reciprocity the deadlock of the conflicting power positions could be overcome.

The historical introduction of the case of the Dutch semi-public housing management gives evidence that a mixture of the principal agency and stewardship approach in corporate governance practice can be contradictory and toxic. The managers are under influence of incentives that induce entrepreneurship and risk-taking, while the board respects the autonomy of the managers to a fatal extend. Former stewards transform in to uncontrolled agents under this mixed governance regime. One question is not raised, namely what the intrinsic motivation of housing corporation managers would be and do in acquisitions and commercial real-estate projects. Further, the negative interference of the state as political principal in corporate governance affairs is remarkable. It is supports the recommendation to consider multi-layered and multi - faceted governance networks surrounding the classical corporate board-senior manager relationship.

The empirical research is conducted is very special historical context. The sector and the housing corporations are in a phase of reconsideration after an institutional crisis. This context has obviously colored the findings on the research questions. Key-role players in sector governance and a sample of board members and senior managers: the actors in this Dutch non-profit sector have little affinity to the principal agency components. With regard to the stewardship the actors consent in a contradiction; there is a general preference for intrinsic motivation and also a slightly varying doubt about the blessings of autonomy. There is a moderate positive adherence to the components of the trust framework as elaborated in this paper. The factor analysis does not divide the respondents along the demarcations of the frameworks. A group with a majority of governors and a mixed group show attention for some components of the principal agency framework and have a more positive attitude to components of the trust framework. The group with senior managers gives food for thought. The score of their discriminating statements shows that they have a negative attitude to involved boards, to autonomy and to openness of the relationship. It can be understood as a temporarily defensive reaction to the public blaming of housing corporation managers.

In the discussion we start with the restrictions of the research. It has an explorative aim, and the evidence from the analyses provides not more than an indication of the explanatory potential of the approach. The discourse analysis is covering the institutional network of the corporate governance. The sample of the factor analysis (27 respondents) is much too small to have pretentions on external validity. However the findings are internally significant and clarifying. Both discourse analysis and factor analysis should be extended in time, sample and to other non-profit sectors. By using a Q set of statements resulting from a discourse analysis, the cultural gap between a sector corporate governance practice and theoretical concepts is bridged and it has the flexibility in application to other sectors and countries. However, selection of the statements, the calibration of the test scores, and the linking to the framework components need further elaboration in order to get more robustness than they have now.

The findings that a mixed group consisting of board member and senior managers bridging the gap between power positions and classical frameworks is remarkable and promising. In search for a new effective approach of the corporate governance the respondents and researchers seem to have chosen a same way.

There are some ideas emerged that might indicate avenues for future research. The Self-Determination Theory could lead to a reconsideration of the stewardship theory. There is proof that the conception of autonomy is not effected as intended. Another point is the difference between self-identification and actual behavior of senior managers in stewardship situations. Managers' self-identification is a very risky base for assessment and evaluation by boards. We have the idea that there is a related risk. Self-identification is related to psychological concept locus of control. We have leads to assume that full reliance on intrinsic motivation and self-identification stimulates managers to follow the pattern drawn by Salancik and Meindl (1984): successes are attributed to the manager's effort and excellence while failures are caused by others and circumstances. Along this way autonomy and

avoidance of responsibility meet surprisingly. Finally, we recommend strongly to extende the research to intertwining of institutional and corporate governance.

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CORPORATE GOVERNANCE IN ITALY

SECTION 3

OWNERSHIP STRUCTURE AND TURNAROUND PROCESSES: EVIDENCES FROM ITALIAN LISTED COMPANIES

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Abstract

The aim of this research is to investigate the relationship between ownership structures and turnaround processes in the Italian context. In fact, with the exception of the analysis of individual business cases - relating to incidents of fraud, bankruptcy and failure to rehabilitate the business, it does not seem to have been made, at the time, specific theoretical and empirical studies on the relationship between ownership structure and processes turnaround / crisis in Italian listed companies, in which the reference model is the family business, even in large companies. This research does not extend the results obtained from studies conducted in different contexts outright to Italian companies, but considers the peculiarities of the Italian model of corporate governance, characterized by concentrated ownership structure, by the low proportion of banks and institutional investors and the conflict of interests between shareholders control and minority shareholders.

Keywords: Ownership Structure, Ownership Concentration, Institutional Investors, Turnaround Processes, Listed Company, Italy
Jel Classification: M48, G30, G32, G34, G38

1. INTRODUCTION

The contribution offered by the governance structures to the processes of company development has been the subject of study and examination on the part of scholars in economic, legal and social disciplines, as well as professional bodies.

The complex managerial process which reaches its apex in governance, the orientation of the behavior of the entire company, may, in fact, not allow for the full achievement of company objectives.

This opinion, widely accepted by academics, has guided company research toward the identification of parameters designed to summarize the quality of governance and toward an analysis of the relationship between good governance and improved performance.

The recent events enrich the debate on the subject, highlighting how deficiencies and weaknesses in systems of corporate governance end up fatally compromising the *equilibrium between resources and results on which the possibility to survive and develop depend so as to continuously deliver value*. The precariousness of that equilibrium is, in fact, exacerbated by the current scenarios in which the existence of inadequate governance structures has created a pathological, no longer episodic, situation of instability, reinforcing the idea that there is a need for a process of *continual restructuring* in modern companies. In this context, turnaround processes seem to be systematic recovery processes, which cover the strategic, organizational and cultural aspects of the company, aiming to produce positive and substantial change in performance, and which are necessary when the evolutionary trajectory of the company is not in line with the environment.

The diagram of the succession of events which make up a typical turnaround and which ends when the company begins to create value once again, make the central role played by the governance system evident: efficient corporate governance is designed to create economic value over the mid-long term, balancing various interests and minimizing the risks to which the company is exposed. Therefore, an ideal turnaround process cannot prescind from a contextual reconsideration of the governance structures. The studies previously carried out regarding the relationship between governance structures and turnaround processes have overall

been unsystematic and have led to ambiguous results that are dialectic, if not contrasting. The studies that have compared crises/turnarounds and governance structures also have a common background: they are studies primarily focused on the Anglo-Saxon model of capitalism with its peculiarities in terms of highly developed financial markets, pulverised ownership and a high level of contendibility of corporate control.

Aside from the analysis of single corporate cases, no specific empirical analyses seem to have been carried out on the relationship between the single aspects of governance and turnarounds/crises in Italian companies, in which the reference model is that of the family company, even if they are listed companies, and the financial markets do not guarantee efficient mechanisms for allocation of resources. Few studies of a general nature on the relationship between single aspects of governance and performance, on the description of the composition and size of the board and on the relationship between governance choices in general (measure of governance quality) and performance, are carried out in our country (Airoldi et al., 2005; Barontini and Caprio, 2002; Bianchi Martini et al., 2006; Fiori and Tiscini, 2005; Mazzotta, 2007; Melis, 1999).

Hence, it does not seem possible to extend the results obtained by studies carried out in different contexts *tout court* to Italian companies, but it is best to consider the peculiarities of our model of capitalism, characterized by a concentrated ownership structure and in which company conflicts between shareholders and managers, for example, are less intense since the family interest in the survival of the company and its reputation are a convergence factor in the system of incentives for shareholders and managers (Anderson et al., 2002; Tiscini and Di Donato, 2007). In this context, the main conflict of interest becomes that between controlling shareholders and minority shareholders. On the basis of the considerations mentioned thus far, this research project will examine the turnaround processes that concern Italian listed companies, with the goal of examining the possible contributions that they receive from the startup of a concomitant evolution in governance structures.

Therefore, adherence to more virtuous models of ownership structure is seen as a condition for the efficacy of the turnaround process and as an option which aims to increase the possibility for success.

The paper is structured as follows. The next section reviews prior studies on corporate governance, crises and turnaround processes and the relationship between ownership structures and turnaround processes and develops hypotheses alternative. In the third section, a description of the sample and research design. The empirical results are presented and discussed in the fourth section, followed by conclusions and limitations.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Corporate governance

The issues concerning corporate governance, although rediscovered in the last two decades, have always been the focus for scholars, professionals and policy makers in order to identify the best strategic, operational and organizational assets, which are functional to an efficient, effective and sustainable governance of companies (Roe, 1994; Zattoni, 2006).

Over the past 15 years, in particular, the debate on the issues aimed at defining the best corporate governance has become an even greater issue as a result of: a) the rise and sudden decline of the so-called new economy; b) a new wave of corporate scandals; c) the occurrence of a financial crisis first, followed by an economic and industrial crisis, whose effects are still felt today. These three phenomena resulted in a progressive loss of trust in investors and the community in general; in addition, they brought the issue related to the fallibility of sovereign states to the attention of policy makers and financial professionals

The corporate governance operation typically rests on two types of mechanisms: institutional and managerial. The institutional or external mechanisms are the elements of the macro-environment which the company is part of, which cannot be modified (at least not in the short term), such as: the regulatory legal system (la porta et al. 1999); and the market for corporate control (grossman and hart, 1996). The inner or managerial mechanisms, on the other hand, are elements that the company can influence directly and therefore modify, such as the qualitative and quantitative characteristics of the administrative and control apparatus, of ownership structure, of the degree and type of debt.

Ever since the work of Berle and Means in 1932, the literature of economics and corporation has investigated the way in which these mechanisms contribute to influence business performance (Berle and Means 1932; Jensen and Meckling, 1976; McConnell and Servaes 1990). The results of such analysis, given the heterogeneity of the governance variables observed, are not always consistent, if not even contradictory. Considering the problems encountered in the above-mentioned analyses, a second line of studies has tried to overcome the obstacle by using advanced econometric methods (Holderness et al., 1999).

2.2. Crisis and Turnaround processes

In empirical studies, the phenomenon of company crises and turnaround processes have traditionally been observed with an emphasis on the financial structures and focusing their attention mainly on the identification of the causes which determine these crises and on the elaboration of the resulting recovery processes. In these studies, the turnaround was considered to be an *extrema ratio* in cases of serious financial difficulties which call into question the very survival of the company. In the 1980s, in particular, given the attention paid in that period to studies on strategic planning, the literature delved into analyses of the main categories of strategic turnaround processes, identifying models which made it possible to classify these strategies according to a logic of *contingency* (Hambrick and Schecter, 1983; Hofer, 1980). At the same time, guidelines for research were developed which were dedicated to the analysis and definition of the phases of turnaround processes, with particular attention to the actions necessary to ensure the success of the process of change (Robbins and Pearce, 1992; Slatter, 1984).

More recent studies on turnaround phenomena are characterized by a broader perspective than those of the past: no longer circumscribed to mere financial aspects, they are open to the analysis of the strategic

implications of these processes, and aim to promote deep changes which make it possible to seize growth opportunities and to attain sustainable competitive advantages in order to create value (Guatri, 1986; Sicca and Izzo, 1995; Slatter, 1984). In any case, in the group of previous studies, organizational change and the concurrent renewal of management were often already named as important factors for the success of a turnaround, and in most cases were present in the combination of conditions that contribute positively to its achievement.

Nevertheless, this tendency has intensified in studies carried out more recently, in which the focus has shifted from the identification of the contents of the turnaround strategies to the observation of the related development processes, with particular emphasis on the organizational dynamics. The resource-based approach, a perspective widely emphasized in studies on the subject, confirms, in particular, the importance of the substitution of the management body and the identification of new leadership which can lead the company, through the phase of normalization of results, to the creation of value (Golinelli, 2004). Additionally, the recent financial scandals have brought the attention of academic and professional studies back to the inefficacy of governance models as the cause of company crises (e.g., Gatti et al., 2007). The subjects of these studies, for the most part, have been single cases of crisis and bankruptcy which have made it possible to identify those aspects of governance and, in particular, those deficiencies in the control system which, both in the Anglo-Saxon system of capitalism and in the Italian system, although with different characteristics, have favoured opportunistic practices and immoral and irresponsible behavior on the part of those who have institutional roles. In particular, attention has been focused on the merely formal independence of the "controllers."

The international literature which has studied the correlation between turnaround processes and governance systems has primarily examined the influence of two distinct groups of variables on turnaround processes: the first related to the structure of the Board of Director's (BOD), of the Top Management Team (TMT) and of the Audit Committee (AC) and the second related to the ownership structure and the shareholders.

In the first group of studies, the research objectives focused on the composition and structure of the various governing bodies, such as the BOD, the TMT and the Audit Committee, examined with reference to the turnaround process (e.g., Lohrke et al., 2004; Mueller and Barker, 1997), or with reference to the onset of a company crisis.

In the second group of studies, the research objectives focused on the influence of the ownership structure and the stakeholders on the turnaround process (e.g., Barclay and Holderness, 1991, Bethel and Liebeskind, 1993; Filatotchev and Toms, 2006; Hill and Snell, 1988; Holderness and Sheehan, 1988; Lai and Sudarsanam, 1997; Mikkelson and Ruback, 1991).

2.3. Ownership structure and turnaround processes

In this study, although we are aware of the importance of considering behavioral and process variables and of the structure and composition of the governance bodies and in leadership, we chose, as will be seen, to take note of and examine changes in ownership structure.

The analysis of ownership structure and the modifications it undergoes during the course of the turnaround process is a first, and also necessary, stage of the investigation aimed overall at changes in the models of corporate governance.

The importance of such variables in turnaround processes has already been opportunely highlighted in the international literature, where study has been made of the interdependence existing between the two variables under consideration:

a) the influence of the ownership structure in the initiation of turnaround processes;

b) the effects of the turnaround cycle in terms of modifications made to the composition of ownership.

Studies on the subject – in the sphere of the conceptual framework delineated by the agency theory – have shown how the pressures applied by large shareholders have often been factors that stimulated the adoption of turnaround processes centering on changes in strategies, organization, and the relationships between managers, owners and stakeholders (Bethel and Liebeskind, 1993; Hill and Snell, 1988; Holderness and Sheehan, 1988; Mikkelson and Ruback, 1991).

These studies, carried out primarily in the sphere of *outsider* systems, have therefore highlighted how a more concentrated ownership structure is a determining element in the activation of the recovery process (Bethel and Liebeskind, 1993; Hill and Snell, 1988). In fact, managers seem to be stimulated to undertake turnaround processes above all in those situations where there are "blockholders" who push them to adopt the actions that make it possible to recover company performance and values. In other words, these researches shows that ownership concentration is associated with more efficient strategies and higher firm performance.

In particular, the results of Bethel and Liebeskind research's (1993) confirm agency theory predictions that blockholders exert a disciplinary effect on managers and show that buy- in by blockholders into diffusely-held firms was a significant determinant of downsizing, reductions in total diversification, and increases in cash payouts in sample firms.

These results are consistent with the previous findings of Hill and Snell (1988) that ownership concentration is associated with more efficient strategies and higher firm performance. In fact, stock concentration had a strong impact upon strategy. Stock concentration was positively related to R&D expenditure, suggesting that stockholders favored an emphasis upon innovation. Stock concentration was negatively related to diversification, suggesting that when stockholders were weak, managerial preferences for diversification dominated. Innovation was shown to be associated with higher profitability, whereas diversification was shown to be associated with lower profitability. The relationship between stock concentration and profitability was mediated by strategy, suggesting that stockholders influence firm performance indirectly through their impact upon strategic choice. Definitely, the study suggest that for stock concentration have two important implications: first, they suggest that stockholder dispersion is important; second, they suggest that when

stockholders are dispersed a divergence between stockholder and management interests emerges.

The results of Hill and Snell (1988) and of Bethel and Liebeskind (1993) are also consistent with the evidence presented by Barclay and Holderness (1991), Holderness and Sheehan (1988) and Mikkelson and Ruback (1991) which suggests that blockholder ownership increases firm value by precipitating changes in managerial policy.

Lai and Sudarsanam (1997) – always in the sphere of the conceptual framework delineated by the agency theory –suggest that firms which experience performance decline may choose a variety of alternative methods of restructuring themselves to restore their financial health. However, any restructuring strategy has different, and often conflicting, welfare implications for the different stakeholders in firms. The strategy choices made by managers may benefit one group of stakeholders at the expense of the other groups. However, managerial choices are also constrained by the agency monitoring embodied in the firms. Agency monitoring may be embodied, in the ownership structure perspective, in the power and influence of large block shareholders, and in the rights of lenders.

In other words, the choice of recovery strategies is, therefore, determined by the complex interplay of the ownership structure, corporate governance and lender monitoring of the firms in decline. The results also show the effects of dominance by certain stakeholder groups. While there is agreement among stakeholders on certain strategies there is also evidence of conflict of interests between lenders and managers and between managers and some block shareholders. Consequently, corporate failures can potentially be explained by poor management of stakeholders' interests during decline, resulting in poor selection of turnaround strategies.

Filatochev and Toms (2006) suggest that external financiers may impose constraints on managerial turnaround decisions. When their expected returns and net realizable value of asset sales are less than required rate of return and book value respectively, they will use governance channels to force managers to preserve status quo. Retrenchment actions may be taken when investors expect that assets sales will generate revenue higher than their existing book value. Finally, expected returns from investment at the recovery stage must exceed the required rate of return, or if not, downsizing or complete exit becomes the realized strategy. Also, Filantochev and Toms suggest that the presence of a market for corporate control is likely to promote turnaround opportunities, since it increases the potential realizability of exit values and also offers new financing opportunities during the recovery stage. In other words, with no market for corporate control, there is no reason why book values should not exceed market values or vice versa, since exit values can only reflect the break-up value of the corporation.

2.4. Ownership structure and turnaround processes in Italian context. The alternative hypotheses

Also in Italian context, the bijection of the interdependence between ownership structure and turnaround has been highlighted by studies that have emphasized how, in the period following a turnaround process it is common to see significant changes in ownership in terms of individual shareholders and the capital shares that they own (Belcredi, 1997; Caprio, 2001).

It does not seem superfluous to underline how the analysis of the influence of the so-called "blockholders" on the activation of turnaround processes is justified in the context of the Anglo-Saxon model of capitalism, where, moreover, this type of research originates, considering the relative peculiarities in terms of pulverised and unstable ownership, the high level of contendibility of control and, therefore, significant company conflicts between shareholders and managers.

An examination of a similar hypothesis would not seem to be equally meaningful in a context such as that of Italian listed companies, which tend to have an ownership structure characterised *per se* by the presence of a "dominant" shareholder.

Table 1. Ownership structure in in Italian listed company (end of the year)

Year	*largest shareholder**	*other major shareholders***	*institutional investors'****
1998	48,7	14,7	7,1
2008	45,5	18,3	7,2
2009	45,7	17,0	6,4
2010	46,2	17,7	7,3
2011	46,1	17,6	7,2
2012	46,8	16,9	7,2
2013	46,8	16,5	6,2
2014	46,0	16,5	7,0

*Source: Processing on data Consob * Means of the ordinary shares held by the largest shareholder of all Italian listed companies. **Means of the ordinary shares held by all major shareholders other than the largest. ***Means of the ordinary shares held by all major institutional investors'*

As regards our country, it is necessary to note that, despite the fact that changes in the regulatory environment and in self-regulation have increased the level of investor protection (e.g., the Consolidated Law on Finance of 1998; the reform of company law - Law Decrees no. 5 and no. 6 of 2003; the Savings Law - Law no. 262 of 2005; the Code of Conduct for listed company and so), which introduced disclosure requirements to strengthen the transparency of corporate disclosure, and a series of provisions aimed at increasing the protection of the minority shareholders, there has been no concomitant increase in the level of contendibility of control (Cuomo and Zattoni, 2009), nor a significant reduction of ownership concentration.

Table 2. Control model of Italian listed controlled companies

	controlled companies					
	*majority controlled**		*weakly controlled***		*controlled by shareholders' agreement****	
	no.	*weight*	*no.*	*weight*	*no.*	*weight*
1998	122	*31,2*	33	*40,8*	28	*8,3*
2008	137	*17,4*	55	*48,8*	57	*13,4*
2009	135	*16,5*	50	*38,3*	57	*15,1*
2010	128	*20,6*	53	*43,2*	51	*12,4*
2011	123	*22,7*	55	*45,7*	48	*12,0*
2012	125	*25,5*	49	*44,4*	42	*10,1*
2013	122	*24,1*	48	*40,1*	38	*10,4*
2014	116	*25*	51	*36,8*	32	*9,6*

Source: Processing on data Consob. * *Companies not controlled by a shareholders' agreement where a single shareholder owns more than half of the ordinary shares.* ** *Companies neither controlled by a shareholders' agreement nor majority controlled, included in one of the following categories: i) a single shareholder holds at least 30% of the ordinary shares; ii) a single shareholder holds a stake a) at least equal to 20% of the ordinary shares and b) higher than half of the sum of the ordinary shares held by all the major shareholders (i.e. by shareholders with more than 2%).* *** *Classified in one of the following categories: i) listed companies, not controlled by a single shareholder, on whose capital exists a shareholders' agreement regarding at least 20% of the ordinary shares; ii) listed companies controlled by an unlisted company, not controlled by a single shareholder, on whose capital exists a shareholders' agreement regarding the majority of the capital.*

The slight reduction found in the participation of the first shareholder during the 1998-2014 period did not, in fact, produce the concomitant development of forms of share ownership, as much as it instead favored recourse to forms of "coalition" control, legitimized by the tool of shareholders' agreements and forms of de facto control.

Control by means of shareholders' agreements has, in fact, increased in terms of share of market capitalization from 8.3% to 9,6%, while the forms of de facto control have decreased 4 percentage points (from 40.8% to 36.8%). The presence of phenomena of cross-ownership and interlocking *directorates* have further contributed to guarantee the stability of control.

It is also opportune to highlight how shareholders who control corporations – both through direct share ownership and through methods of "indirect" control – are prevalently members of the same family or members of families linked by kinship ties (Tiscini and Di Donato, 2007).

Banks hold minimum quotas of risk capital of companies in the industrial and service sectors, confirming that our banking sector intervenes almost exclusively as a provider of loan capital. Even less significant is the participation of institutional investors in the risk capital of listed companies

Therefore, the methods and tools used to carry out controls have changed while the level of contestability of Italian listed and unlisted companies remains modest and the widespread phenomenon of the so-called family controlled listed and unlisted company model seems to be prevalent.

This study proposes to analyse the possible changes which occur during turnaround processes, in shareholders, in individual shareholders and in the shares they own.

The underlying hypothesis is that such changes are caused by the need to contribute new financial resources necessary for the activation of the recovery plan, as well as the will to communicate a new set of values and a renewed corporate culture, aimed at creating the conditions for a return to competitiveness.

Recapitalization could be carried out by the controlling shareholders themselves, if they exist and they wish to do so, or, if they are not willing to contribute the necessary new capital, it could be put in place by new individuals. Of these, the participation of institutional investors can be of particular importance. Banks themselves are generally considered only providers of credit capital and, therefore, rarely involved in the formulation of corporate strategies, however, on the occasion of turnaround processes following states of crisis, they could convert their credits into risk capital, in this way influencing the management of the turnaround.

With particular reference to Italian listed companies, great attention has been paid to the changes made, during the turnaround process, to the percentage of equity possessed by the controlling shareholders, highlighting the cases in which that control can be traced back, directly or indirectly, to the same family group. In this sense, consideration was made of the results of studies carried out in our country, according to which the financial restructuring entailed in turnaround processes is often followed by a reduction of the ownership concentration and the loss of control by the family group (Belcredi, 1997; Caprio, 2001; Bava and Devalle, 2009).

This fragmentation of ownership was, however, temporary in many cases since the return to conditions of profitability led to a renewed interest by investors in acquiring significant amounts of capital.

In light of the considerations made, in this study the two alternative hypotheses were analyzed:

Hypotheses 1. During the turnaround process there was a reduction of the percentage of participation by the controlling shareholder or by the reference family group in favor of new shareholders; of these, primarily the role of institutional investors and banks was investigated.

or,

Hypotheses 2. During the turnaround process there was an increase in the percentage of participation by the controlling shareholder or by the reference family group.

3. METHODOLOGY

3.1 Selecting the sample

This study analyses Italian listed companies over the period 1998-2014. A sample of declining firms that turned around was selected, and on wich the next phase of data collection was carried out. Such data were instrumental to verify the hypotheses defined above, about the relationship of ownership structure and turnaround processes. The identification of the sample has, of course, required the preliminary development of a framework of the phenomenon under assessment.

3.2 Definition of the concept of crisis and turnaround in relevant literature

The definition of corporate turnaround relevant for this analysis has required a preliminary survey of criteria and indicators most frequently used in empirical investigations.

It should be remembered that the literature, both national and international, has provided a large number of contributions and empirical research on the subject over the years, giving the concept of turnaround multiple definitions (e.g., Bastia, 1996; Bertoli, 2000; Black et al., 1999; Booth, 1983; Candelo, 2005; Coda, 1982; Danovi and Quagli, 2012; Gilardoni and Danovi, 2000; Golinelli, 2004; Grinyer et at., 1988; Guatri, 1985 (a,b), 1986; Hofer, 1980; Hoffman, 1989; Izzo, 1996; Pandit, 2000; Pant, 1991; Robbins and Pearce, 1992; Schendel and Patton, 1976; Schendel et al., 1976; Sicca, 1996; Slatter, 1984).

Various definitions of the turnaround are possible, that include the whole range that goes from mere "survival" with a performance at a level acceptable to the firm's stakeholders, up to the definition according to which there is a corporate turnaround only if the firm achieves a sustainable competitive advantage. Therefore, also in operational terms and in relation to the performance measures used, it can be a substantial "variability" in tracing the concept of turnaround (Pandit, 2000, Sicca e Izzo,1995).

Unlike the more recent and wider definition of the turnaround phenomenon - which does not necessarily result in situations of decline and is instead a process of radical change aimed at an increase in value - the classical approach sees the turnaround as a strategy of containment and response to a corporate crisis. In other words, from a more narrow sense, this would generate a turnaround only if the company comes out of the crisis obtaining a sustainable competitive advantage. In this conceptualization the centrality of the definition and measurement of performance is self-evident. Definition and measurement which may have originated from the comparison of past and current performances (performance declined), but also from a comparison between current and future performances, or from a comparison between corporate performance and a benchmark (inadequate performance).

It follows that the identification of the turnaround cannot be separated from the preliminary definition of measures to detect the event in terms of decline and rise of corporate performance in a given period of time. Any definition of the phenomenon should provide: 1) a definition and measurement of performance; 2) a definition of a turnaround cycle

Studies on this topic define performance in terms of profitability, whereas empirical investigation are differentiated for the chosen indicator that in some cases consisted in nominal pre-tax profit (Bibeault, 1982; Schendel and al., 1976; Schendel, Patton e Riggs, 1976; Slatter, 1984), and in other cases in profitability accounting ratios such as ROI or ROA (Hambrick and Schecter, 1983; Mueller and Barker, 1997; O'Neill, 1986; Pant, 1991; Robbins and Pearce, 1992).

More recent literature (Lohrke et al., 2004; Pandit 2000) however, notes that an exclusive consideration of profitability can be misleading, given that very frequently the deterioration of this parameter occurs only in later times, prior to a loss of competitive advantage and that in declining performance contexts there is the tendency of manipulation of measure of profitability - "window dressing".

A certain number of studies used, however, multiple performance indicators. For example, while Robbins and Pearce (1992) used ROI and ROS simultaneously, Grinyer at al. (1990) use a comprehensive perspective adopting multiple criteria.

Other studies used human judgment to support the definition of good or poor performance resulting from balance sheet data (Pandit, 2000). Zimmermann (1989) requires a consensus among the stakeholders (investors, board members and managers) and Robbins and Pearce (1992) emphasize the need for certification by one of the executives that the turnaround has taken place. This approach has the obvious advantage of using the judgment of expert witnesses, and this is important given the heterogeneity of cases of turnaround.

With reference to the timing, the literature shows that an effective recovery strategy rests on the assumption that a so-called "turnaround cycle" has occurred, that is a period, extended in most cases from the four to eight years, characterized by the succession of two consecutive stages of which, the first of decline and the second of recovery.

Despite the broad survey of the methods used, the models adopted until now have not always proved to be fully effective in the investigated phenomena. To overcome this problem in empirical research characterized by higher degrees of reliability, the sample has been selected by integrating the use of profitability indicators with other tools, such as subjective evaluations and comparison to a benchmark

3.3. The framework

Considering the results of previous empirical investigations, in this study it was decided to use the ROI as a key indicator of performance, then integrated from the support offered by appropriate information in order to demonstrate the effective implementation of the turnaround. The data for the definition of the sample were then collected using:

- the electronic database and analysis software AIDA containing master data and financial statements of Italian companies;

- annual reports, balance sheets, minutes of the ordinary and extraordinary sessions;
- sections of corporate sites dedicated to the Investor Relations and to the Corporate Governance;
- the electronic database Factiva, which renders more than 25,000 sources of information of 159 countries available.

As mentioned above, the sample was made taking into account companies that over the period 1998-2014 started and completed a successful turnaround. In particular, the sample was obtained by considering all the manufacturing companies listed on the Milan Stock Exchange which, during the period analyzed, were involved in a strong crisis, followed by a successful turnaround process.
We identified turnaround firms that had been subjected to a performance cycle consisting of (Mueller and Barker, 1997):

a) three consecutive years of declining ROI;

b) during this 3-year decline, the firm's performance had to become low enough to give one year of negative ROI;

c) the 3 decline years were followed by 3 years of increasing ROI, with one year of positive ROI.

Applying the above method of selection of the sample, a total of 51 companies were selected. In order to verify that the companies identified had effectively started a turnaround process in this period, analysis of documentation (financial statements, management reports, minutes of the ordinary and extraordinary, sites dedicated to Investor Relations and Corporate Governance) and analysis of other sources of information (articles in professional journals, information on listed companies, corporate studies, presentations to the financial community) were conduct. From these 51 companies, all those for which it was not possible to obtain the data needed, or for which the effective recovery of the crisis has not been ascertained by the scrutiny of Factiva and other information sources (company websites, report / dossier drawn up by institutional investors) were eliminated. In total, 15 companies were eliminated, resulting in a final sample size of 36 companies.

In order to understand what are the contributions that the turnaround processes obtained from the evolution of governance arrangements from the empirical data collected were processed using a method based on techniques of descriptive statistics.

The use of this methodology allows a representation of the overall structure of ownership of companies in the sample. This representation is an instrumental and preparatory phase before proceeding to the knowledge of the phenomenon and therefore the testing of hypotheses advanced in the work.

3.4. Variables and measures

The goals of research and the reference sample defined, the next step was to identify and define the variables of ownership structure which can affect corporate performance and therefore allow the recovery of companies in crisis. In particular related to the ownership structure of the companies eight distinct variables were identified and measured in each year of the turnaround cycle:

VAR-1) voting shares held by the main shareholder (the percentage of voting stock held by the main shareholder);

VAR-2) voting shares held by the top three shareholders (the sum of the percentage of voting stock held by the three largest shareholders);

VAR-3) voting shares held by top five shareholders (the sum of the percentage of voting stock held by the five largest shareholders);

VAR-4) participation in the capital of the company by the institutional investors (total percentage of voting stock held by institutional investors such as mutual funds, vulture funds, etc.);

VAR-5) equity participation by banks (total percentage of voting stock held by the banking industry);

VAR-6) presence of blockholders (dummy variable yes = 1 no = 0);

VAR-7) capital held by blockholders (percentage of voting stock held by a shareholder or coalition of such control as defined in the preceding paragraph);

VAR-8) existence of a corporate control which refers to a family (dummy variable yes = 1 no = 0).

4. RESULTS. ANALYSES AND DISCUSSION

In recent decades, the issue of ownership and the mechanisms that influence changes in it have assumed considerable criticality in the systems of all advanced countries. In the Italian context, in particular, the importance of this issue is reinforced by the characteristics that can be found in the ownership of our companies, which underlie the historical background of various phenomena, such as the economic crisis and the decline of the state ownership model, the fragility of the instruments for the exercise of control, the inefficacy and inefficiency of the solutions used to resolve the conflict of interests between controlling individuals and minority shareholders, the negligible presence of financial operators and institutional investors in enterprise capital.

In the aforementioned context and on the basis of the data gathered from the sources stated in the research methodology, in this part of the study, an analysis was made of the changes in the ownership concentration and in the composition of ownership in Italian companies characterized by turnaround processes during the time period considered, so as to verify the two alternative hypotheses, previously formulated.

First we analysed the average number of shares owned, during the turnaround cycle, respectively by the first, by the first three and by the first five shareholders in the companies examined.

In this analysis, it can be seen that the level of concentration in the companies analyzed, in relationship to the three aforementioned subject profiles, increases over the six years considered. In particular, for the average shares owned by the first shareholder there is an increase of approximately 16%, for the entire period considered, with an uneven growth trend. In fact, the average number of shares, 39.80% in the first year, remains substantially stable for the three-year period of decline and then increases in the second and third year of the growth period, lining up around values just under 47%. The progress found in the sphere of the aforementioned

observations is confirmed by an analysis of the dynamics related to the first three and five shareholders. With reference to the shares held by institutional investors, the data show unequivocally their extremely limited weight in the company capital examined. In fact, the shares, during the period considered, lie in a range that varies from the 7.86% of the first year to the 6.90% of the last year, with peaks during the central years (II and III years of the phase of decline and I year of the growth phase). The reasons for this limited interest, in terms of limited ownership of risk capital by institutional investors, may be linked to the low level of protection for those shareholders, obviously in the minority, both in the fiscal year and the impossibility of being able to effect a rapid and efficient exit, considering the narrowness of our stock market in terms of opportunities for investment. Other reasons for that disinterest are related to the characteristics of our listed companies, such as the persistence – despite the continual legislative and regulatory innovations in the last twenty year and the higher level of openness to global competition – of control structures which tend to be concentrated individually, or in family groups, poor sectorial diversification, and chronic operative and financial undersizing.

Table 3. Descriptive statistics for main explanatory variables

	Year 1	*Year 2*	*Year 3*	*Year 4*	*Year 5*	*Year 6*
Panel A: Largest shareholder						
Mean	39,80	39,69	40,80	39,25	45,58	46,26
Median	39,75	39,64	40,75	39,20	45,52	45,56
Standard deviation	18,06	17,99	18,73	17,82	19,84	18,60
Range	85,13	82,04	87,53	73,00	88,50	83,45
Minimum	11,37	11,42	5,94	5,94	3,43	8,48
Maximum	96,50	93,46	93,46	78,94	91,93	91,93
Panel B: Top three shareholders						
Mean	56,80	56,92	55,69	55,15	60,34	61,18
Median	56,80	56,92	55,69	55,15	60,34	61,18
Standard deviation	12,99	12,34	15,32	14,91	15,26	14,98
Range	64,15	59,57	81,37	77,08	82,10	78,47
Minimum	32,35	33,89	12,10	11,59	9,83	13,46
Maximum	96,50	93,46	93,46	88,67	91,93	91,93
Panel C: Top five shareholders						
Mean	63,08	64,05	62,93	62,44	66,76	66,50
Median	63,08	64,05	62,93	62,44	66,76	66,50
Standard deviation	11,87	10,43	14,72	14,77	13,76	14,47
Range	58,40	51,61	77,90	79,04	77,53	81,73
Minimum	38,10	41,85	15,57	16,15	14,40	13,46
Maximum	96,50	93,46	93,46	95,19	91,93	95,19
Panel D: Institutional investors'						
Mean	7,86	9,12	8,95	8,78	8,00	6,91
Median	7,86	9,12	8,95	8,78	8,00	6,91
Standard deviation	13,25	13,65	10,95	8,00	9,42	7,73
Range	78,71	78,78	60,35	44,26	55,98	44,20
Minimum	0,00	0,00	0,00	0,00	0,00	0,00
Maximum	78,71	78,78	60,35	44,26	55,98	44,20
Panel E: Banks						
Mean	1,28	1,35	0,84	0,60	1,58	0,78
Median	1,28	1,35	0,42	0,00	0,79	0,39
Standard deviation	2,21	2,20	1,60	1,21	3,92	1,38
Range	11,83	11,83	8,12	5,30	23,29	5,66
Minimum	0,00	0,00	0,00	0,00	0,00	0,00
Maximum	11,83	11,83	8,12	5,30	23,29	5,66

Additionally, to record the ways in which ownership contributes to the wielding of control, three variables were identified and recorded: a) the existence or not of a controlling individual with a number of shares superior to 30% of the voting capital; b) the fluid assets or lack thereof in the hands of the controlling individual with the majority of voting rights; c) the traceability of control to a single person, to members of a family or to branches of the same family.

In relationship to the presence of a controlling shareholder, with a number of shares superior to 30% of the voting capital, the existence of the same shareholder is found for the first two fiscal years in almost 80% of the companies examined. This presence is reduced in the following fiscal year and rises again in the fourth fiscal year, up to the initial levels in the fifth and sixth fiscal years.

Additionally, it is important to note that in all of the years considered, in over half of the companies

examined, there is a controlling shareholder with a capital voting share greater than 50%.

These results, as much as those previously found, show the low level of separation between ownership and control, the widespread use of groups and the use of shareholders' agreements among the shareholders in the companies analyzed.

Finally, we verified the level of recourse to the model of family control, or rather, where there were cases in which the control was wielded jointly (with or without the majority of voting rights) by individuals linked by familial relationships or with non-controlling individuals, or in which the control was wielded by a single person who did not have the majority, but had family ties to some non-controlling individuals (Barca et al., 2004). In general, it was observed that the use of this control model, although in decreasing measure, was still very high in the turnaround companies examined.

In conclusion, our research on the companies examined, characterized by turnaround processes in the 1998-2014 period, revealed two phenomena: the permanence of high ownership concentration in the hands of few individuals; and the marginal role played by banks and institutional investors in listed companies. However, as hypothesized, considering the chief characteristics of company ownership in our country, in particular the mechanisms of allocation and reallocation of capital, we did not find a radical change in ownership for the turnaround companies considered. The level of concentration of ownership found in the companies studied was very high for the entire period considered. Actually, the average share of ordinary capital held by the first shareholder increased from 39.80% in the first year to 46.25% in the last year of observation. This tendency was confirmed by the increase that can also be found in the sum of shares held by the first three shareholders who went from 50.72% to 54.62% and the sum held, on average, by the first five shareholders who increased from 56.32% to 59.37%.

In particular, observing the variations that took place from year to year, it can be seen that the uneven increase in shareholder concentration found during the period of observation can be attributed to two phenomena: a) a slight disengagement of the major shareholders in the central years of the whole turnaround process and following re-entry, even with higher commitments in terms of risk capital held, following financial restructuring processes, in particular recapitalization operations; b) entry of institutional investors in the risk capital during the phase of crisis and the following disengagement at the end of the company restructuring process.

However, it is important to underline that, during the turnaround process, in only two of the companies examined was the so-called capital pulverization phenomenon observed.

It was additionally found that the observed weight of banks and institutional investors in corporate stock remained substantially unchanged over the course of the period considered (Ferri and Pesaresi, 1996).

Under the profile of the type of control in the companies analyzed, even in the presence of a discrete variability in the identity of the first five shareholders, the data highlight two phenomena: a) the prevalence of strongly centralized control models, where the majority, even if de facto, could be traced back to a few individuals who held the risk capital; b) the prevalence in the sphere of these models of individuals that could be traced back to members or branches of the same family.

Definitively, the results seem to suggest that ownership in no way influenced the turnaround process of these companies, since, from the comparison of the pre and post turnaround situations, it is possible to find substantially similar ownership configurations.

In particular, in the sample observed, at the end of the turnaround process the following points are evident: a) a high concentration of ownership in the hands of few shareholders; b) the presence of two public companies, in comparison with no companies with a broad shareholder base at the beginning of the process examined; c) the use by major shareholders, considering majority possession to be relative and not absolute, of mechanisms which aim to reduce investment to the minimum necessary to exercise control of the companies.

5. LIMITATIONS AND CONCLUDING REMARKS

The purpose of this paper is to investigate the relationship between ownership structures and turnaround processes in Italian capitalistic model in the period 1998-2014. In fact aside from the analysis of single cases (Cirio, Parmalat, Fiat, etc.), no specific empirical studies seem to have been carried out on the relationship between the single aspects of governance and turnarounds/crises in Italian companies, in which the reference model is that of the family company, even if they are listed companies. This study does not extend the results obtained by studies carried out in different contexts tout court to Italian companies, but it considers the peculiarities of Italian capitalist model, characterized by a concentrated ownership structure, in which the main conflict of interest becomes that between controlling shareholders and minority shareholders.

The major difficulties encountered in this investigation were concerned with the definition of the turnaround process and, consequently, with the identification of a representative framework of the phenomenon. In fact, as we have seen, literature does not define unambiguously "a turnaround situation" and the empirical evidence itself offers turnaround cases that differ in type, main causes and intervention models. On the basis of the framework designed, we were conservative in the sample selection to ensure that only true turnaround firms were identified. One trade-off for this conservativeness, in fact, is the relatively modest statistical power with a sample size, small in numbers, of 36 companies.

In the light of this, it was considered it appropriate in this first step of the research, testing hypotheses through the application of descriptive statistics, in the perspective of a further extension of the research design.

In fact, in order to further verify the hypotheses, we are extending the framework based on indications provided by literature. In particular, further research is undertaking a comparison of the ownership structures characteristics of declining firms that turned around, versus matched declining firms that continue to fail.

Study designs using matched-pair sample of turnaround and nonturnaround firms have been used

in past research, also to compare the TMT and board characteristics of this companies (Mueller, and Barker, 1997; Schendel and Patton, 1976). This comparison could be useful in order to single out the evolution of ownership structures that are effectively connected to the turnaround process, distinguish them from changes that occurred anyway, regardless of the success of the process itself.

Finally, given the limitations of the first step of the research carried out, mainly related to the small scale of the sample, a verification of the assumption made through an extended framework becomes compulsory.

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THE GOVERNANCE MODEL IN THE ITALIAN PUBLIC ENTITIES AFTER MORE THAN A QUARTER OF A CENTURY SINCE THE REFORM

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Abstract

To identify the governance model "traditionally" used in Italy, is important to analyse the different types of organizational models, identifiable in the Public sector when considering, simultaneously, two different variables: 1.the distribution of power between politicians and managers; 2. the nature of the manager's employment contracts. In Italy, by the reform, the "traditional" period ended to make way for a "modern" governance model which invaded the organizational aspect of public Administrations. Now, more than 25 years since the principle of distinction was introduced, it is time to understand if the innovations are really applied.

Keywords: Governance Models; Public Entities, Principle Of Distinction; Managers, Politicians

1. INTRODUCTION

Considering simultaneously the nature of the managers employment contracts and the distribution of power between politicians and managers it is possible to identify – in the Public sector - different types of organizational models.

After identified the "traditionally" governance model used in Italy since 90s, it is possible, also, understand the "modern" governance model used from the introduction of reform.

To realize if, more than 25 years since the principle of distinction was introduced, is important to answer some questions:

- Is, the "modern" model – introduced by reform - effectively applied?
- Is it true that as a result of the introduction of the principle of distinction, the functions assigned to the politicians and executives are identified and managed in the best possible way?
- Has this led to the management of the institution more efficient?

With respect to the regulatory framework in force, can distinguished politicians more or less "enlightened" from those more or less "retrograde", as well as the managers substantially "bureaucrats" by those who may have more or less "leaders" attitudes, thus identifying 4 types of public Administrations.

This first study is a prerequisite for the development of an organizational-accounting instrument necessary for a future empirical examination in Italian public entities.

2. RELATIONS BETWEEN POLITICAL AND ADMINISTRATIVE FUNCTION IN THE PUBLIC ADMINISTRATIONS GOVERNANCE MODELS

In public administration, people operating within the organization and collaborating in the achievement of its targets can be divided into two distinct groups (Borgonovi, 1996; Wilson, 1887):

1) politicians, directly or indirectly appointed by citizens via the electoral system in each individual country; these persons are given the task of defining the main aims and strategic management directions of the entity concerned (Richards & Smith, 2004);
2) employees, i.e., management and employees working in technical or professional capacities within public administrations, according to an employment contract; their assigned tasks differs according to their respective positions.

Therefore, the organisation of any public administration, just like in any private business, requires that the role of each individual should be defined, as well as the organisational relations between these individuals (Anthony & Young, 2003). In modern and democratic structures, however, the relationship between politics and administration is characterised by a basic tension between two "absolute values" which are unavoidably and physiologically in conflict with one another (Peters, 1991):

- *the principle of popular sovereignty,* which involves the political responsibility of those elected by a majority to lead public administration;
- *the principle of an administration's impartiality*, which establishes that public services should be provided equitably, for the collective good and not merely for those who elected political figures.

The role of the public manager falls somewhere between these two values - between a rock and a hard place (Grandis & Mattei, 2014). Specifically, managers, on the one hand, need to fall into the politicians' line, while, on the other hand, need to operate correctly, fairly and cost effectively (Foster, 2001) but, especially, they have to operate considering the impartiality with regard to the collectively. The result is a need to identify an organisational model for public administration and planning, evaluation and control systems that branch out of this conflict and

at the same time, safeguard and make capable "public managers" responsible.

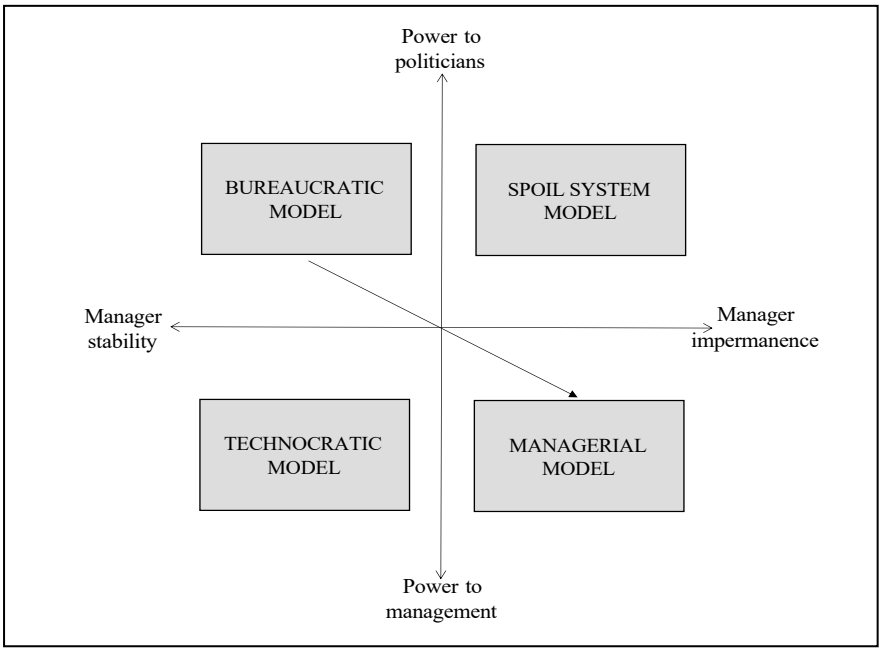
In some states, including Italy, legislators have not bothered to find a balance between the principle of popular sovereignty and that of an administration's impartiality; rather, they have sought to achieve both by working on two different variables at the same time (Battini, 2000):

- the distribution of power between politicians and managers;
- the nature of the employment contracts of managers.

With regard to the variables considered, it is possible to identify four categories of organisational models, as shown in figure 1.

The "spoil system model" should, in theory, fully safeguard the people's sovereignty since power is mostly assigned to democratically elect political bodies that use managers, bound to the administration by a permanent employment contract or in any case, an agreement founded on the introduction of a "fiduciary" bond, similarly to private businesses. This model can be found in democracies where their constitution places the principle of popular sovereignty above all others. In these administrations, the top management is highly politicised and changes according to the politicians in power. The principle of the administration's impartiality is safeguarded by control systems, and laws which are in any case, subordinate to popular sovereignty.

Figure 1. The classification of organisational models



Source: Paoloni & Grandis, 2007

At the other end of the spectrum is the "technocratic model" which should fully guarantee an administration's impartiality. Giving wide-reaching powers to highly skilled technical and professional managers should lead to correct and fair economic management in the interests of the entire collectively being administered. A stable working relationship allows management not to fall under the influence of political bodies that continue to represent a majority. This model is found in those administrations with no political alternatives or where a single current of thought prevails, at times imposed by bodies outside the public administration. In these cases, an administration's presumed impartiality is considered the very expression of popular sovereignty.

There are two further models that, with the aim of safeguarding both principles, are in intermediate but completely opposing positions: a "bureaucratic" and a "managerial" model.

The "bureaucratic model" is constructed seeking to give maximum impetus to:

- the principle of popular sovereignty, via a distribution of power and responsibilities which favors political agencies;
- the principle of the impartiality of an administration, envisaging an employment contract for managers as a means of guaranteeing stability.

In organisational terms, this model means that the political body is also at the top of the administrative structure (Fisichella, 2003) and as such, it can boast a hierarchical relationship over management and all operational staff. At the same time, management is protected against political interference, both when hired and during its operations. In fact, management is appointed based on public competitions and each member is hired on a permanent basis, without being removed unless there is a serious reason provided for by law.

The "bureaucratic model" has shortcomings that continue to grow as the functions performed by public administration become more extensive and complex. Thus, the political body loses power as it is no longer able to exercise effective control over decisions taken by managers who, since they are equipped with specific technical skills, are able to impose their own decisions, even if these sometimes

go against legitimate political choices.

The "managerial model" (Dunleavy & Hood, 1994), on the other hand, is built to give the maximum impetus to:

- the principle of impartial administration, by using the distinction between political positions and management powers;
- the principle of popular sovereignty, by changing the nature of managers' employment contracts, characterised by greater flexibility and introducing a trust-based relationship with political agencies.

This "distinction" between politicians and managers leads, on an organisational level, to the allocation of different and distinct positions, powers and responsibilities: politicians represent the people on account of democratic rules, while managers are at the top of the organisational structure on account of their technical and professional skills. What this means is that an organisational mechanism which is based on the twin tracks of managerial "independence and responsibility" and political "direction and responsibility" is put in place (Kooiman, 2003).

For the purpose of giving a practical "distinction" however, it is necessary to equip political bodies with suitable tools for directing and overseeing the work of managers. This is the context in which planning, evaluation and control systems needs to have an authorising function, both as a means to direct policy and strategy and as a legal means of regulating contractual relations with management. In the managerial model, the relationship between politicians and management is not based on a hierarchy but on "trust". Consequently, the stability of a manager's position is not guaranteed by law or contractual safeguards, but essentially by a manager's ability to respect the constraints and targets defined in the planning, scheduling and *budgeting* process (Gray & Jenkins, 1995).

Nonetheless, managers must refuse to follow policy directions if they consider that these go against regulations, cost-effectiveness and fair management. Managers have the power to take operational decisions and to organise management activities exclusively, as well as the means and resources to be used within the limits set by politicians in the planning, evaluation, control and budgeting systems process (Zappa & Marcantonio, 1954). In this model managers are answerable for their work in terms of both managerial and legal responsibility.

Planning, evaluation and control processes are not only traditional managerial instruments; they are also a legal tools, created and imposed by legislators, in order to:

- guarantee respect for political aims, the expression of popular sovereignty;
- assess managers according to their skills and to their technical and professional abilities, making it possible to quantify bonuses and sanctions, including the potential removal from a post if necessary.

By this, became necessary that, at the end of the period, have to be apply individual or organizational performance evaluation models; also, is necessary an accurate management control system. Otherwise, in fact, it is not possible to define any managerial model, because the model that arise, is more old then the bureaucratic model.

Unfortunately, it is undeniable that in the short term, this model may lead to a politicisation of top-level civil servants. However, it is also true that, at least in the medium-long term, poor managers will remain in their jobs for only as long as the political body that appointed them, while capable managers will keep their jobs as this is also in the interests of the new political body (Barzelay, 2001). In theory, therefore, this should trigger virtuous mechanisms that, when applied, would raise levels of correctness, cost effectiveness and fairness within public administrations (Masini, 1970). Otherwise, if the planning, evaluation and control instrument was not correctly applied, *ex ante*, and the evaluation performance control and managerial control, *ex post*, the governance would prove ambiguous and effective and the relationship between politicians and managers were based, essentially, on a reciprocal and hypocritical subjective and contingent convenience.

In the early 90s, in Italy there has been a shift from a "bureaucratic model" to a "managerial model." Indeed, this passage is to be found only on the regulatory side and one wonders how much has actually been received even substantively, i.e. organizational and behavioral terms of both politicians and managers.

3. THE GOVERNANCE MODEL IN THE ITALIAN PUBLIC ADMINISTRATIONS: FROM BUREAUCRATIC TO MANAGERIAL MODEL

The Italian public Administration transition from a model of bureaucratic model to a managerial one has started in 1990 with the reform of the charter of local entities[44]. This process has then been extended to all Italian public Administrations, which followed the 1993 reform[45].

From a regulatory point of view, the main difference between these two models is the arrangement of the political and administrative function, to analyse if these are clearly distinct or have an overlapping area.

In order to be able to properly understand the content and the reform of the 90s it is essential to point out that in all Italian public Administrations, the political bodies are divided into:

- *elected body or vigilant*, usually the direct expression of popular sovereignty, to which is entrusted the power to define rules and regulations;
- *governing body or executive*, usually mediated expression of popular sovereignty, to which is entrusted the power to implement political comply with the elective and vigilant component.

Under the political bodies there are the managers and the organizational structure, different from entities to entities.

In the bureaucratic model, which was inspired by the legislation up to 1990, the government bodies were placed at the summit of the organizational structure and, therefore, carried out a summit administrative function (Figure 2). The hierarchical

[44] It refers, in particular, to the reform introduced with the Law n.142/2009.

[45] It refers, in particular, to the public employment reform started with the legislative Decree n.29/1993 and today housed in the Legislative Decree n.165/2001.

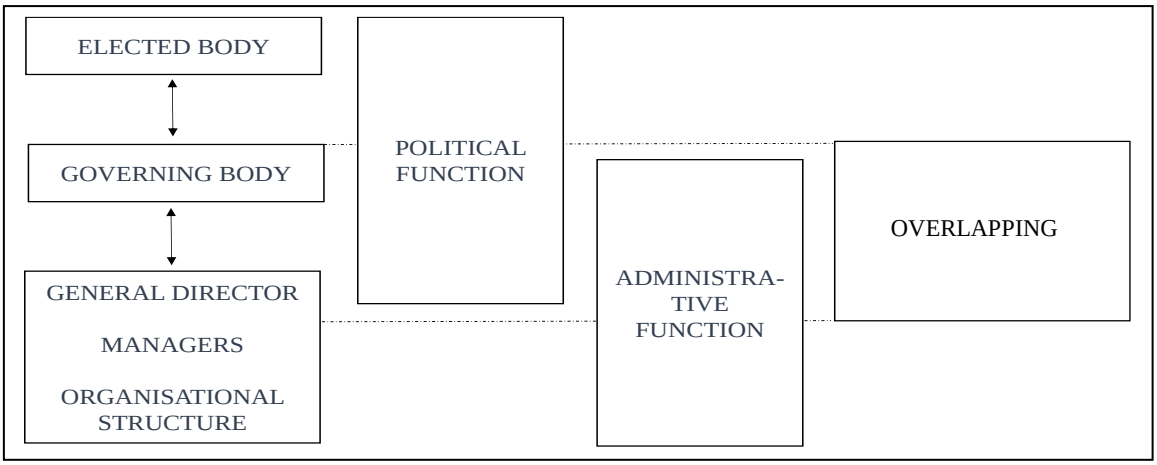
relationship of the governing body on the managers was such that, for purely illustrative purposes, politicians could implement to themselves administrative acts of managers' competence, exercising those typical powers that can be exist from the superior to the subordinate. In substance, the governing political body observed an overlap between political and administrative functions, potentially undermines the principle of the impartiality of the actions of the public Administration.

This risk, the Legislator had opposed the substantial immovability of public managers which so: on one hand, were not subject to influences by politicians; on the other hand, they could use their expertise to help or hinder the implementation of certain politics beyond the limit of its powers (Borgonovi, 1973). The political bodies newly elected could not change the *top-management* that remained in office assuming, inevitably, a political role, which should not have been theirs.

The principle of popular sovereignty was impaired.

In the *ante* reform model, the *governace* was composed of a political and a technical-managerial component, but the respective awarding and related responsibilities, were not clearly distinct.

Figure 2. The "overlapping" between politics and administration



Furthermore, there was no mechanism, which stimulated the public manager gifted with high management capability: career progressions were strongly influenced by "affinity" with the politicians at that moment in power, thus compromising the principle of Administration impartiality. The evolution and the enlargement of the functions carried out by public institutions led to a mixed feelings between political responsibility and executive responsibilities. It is possible to see that, in fact, on the one side, looking at the politicians, that they had the top-management typical powers, as regards the vertices of the hierarchical organizational structure, but did not have the expertise to control the actions by the subjected managers. In the other side, the managers were not valued on the basis of their actual management capability as the political bodies do not clearly defined a target plan as this would influence in changing the operating choices and contingents to their liking.

In the early nineties, the distortive effects of this model produced a series of cases of corruption and bribery that have marked the judicial and political news of those years (so-called "tangentopoli"), uncovering situations of inefficiency and irrational management in public affairs. These events, probably influenced the reform of *governance* models for public administrations in Italy, which occurred precisely in those years.

With the introduction at the regulatory level of "distinction principle" between members of the political bodies and management bodies, in Italy talks about a "managerial model" of *governance* in which the political function and that administrative do not present overlapping areas and thus there is a clear distinction in both powers and both in the functions (Figure 3).

In extreme synthesis, in the model following the 1990 reform, bodies of political address are allocated:

- the power to address, i.e. the power to identify guidelines and define strategies of a single Administration, also on the basis of the proposals of managers and of the outcome of the supervision activity of their work;
- the power of supervision on managers, i.e. the right to check if the managers have pursued strategies and complied with the given directives; moreover, by means of this activity, arrange, possibly, strategies and directives issued with acts of address.

These authorities define and circumscribe the functions "strategic" of politicians. This makes it possible to identify even the related "political responsibility", i.e. that responsibility assumed at the time of the elections to citizens or to the specific collective administrations. This responsibility cannot be attributed to the *top-managers* that are supervisors, evaluated and often, also selected by the same political bodies.

To the directors of the single Administration, instead, are entrusted with:

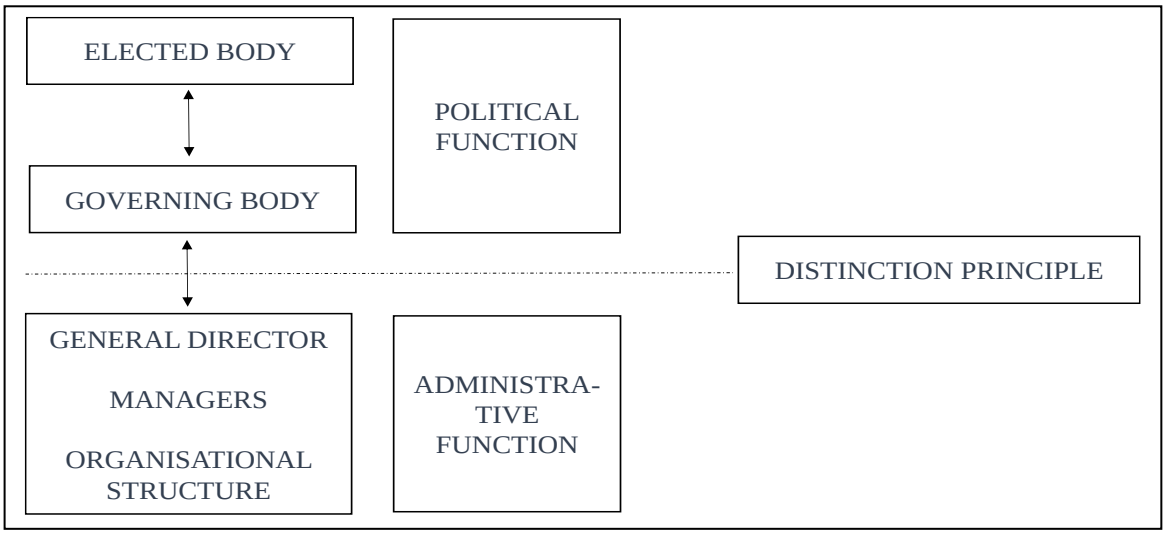
- the management powers, i.e. the task of implementing the directives and the political guidelines in a technical and optimal way, i.e. trying to continuously improve the levels of efficiency and effectiveness of the Entity;

- the proposal function[46], i.e. the faculty, if not the duty, to formulate coherent proposals with
- the strategic lines imparted and express opinions to the political bodies in relation to expertise areas of competence in which they exercise their management powers.

With such powers and faculty there is a clear definition even of the responsibility system from public leaders, responsibility that can no longer be attributed to the choices of political bodies. Now public leaders are the sole holders of two distinct types of liability:

- administrative responsibility, concerning the legal correctness of the acts in place;
- responsibility of result, inherent in the economy of management with respect to the objectives and the addresses assigned by politicians.

Figure 3. The Distinction Between Political And Administration



The manager, in fact, by providing a technical opinion contrary to the decisions taken by politicians, always if the extremes are subsided, proves to fulfil wisely the tasks which fall within their own administrative responsibility. Similarly, exercising a proactive role in a constructive manner, take part in the decision-making process, and therefore, identify the scope of their responsibilities of the result. In this regard, it emerges particularly enlightening the maximum of a judgment of the Court of Auditors, which says: "The executive responsibility for results is autonomous and additional with respect to other forms of responsibilities imposed on public employees and therefore also on managers; in particular, the distinction must be marked with respect to administrative responsibility. The latter presupposes a behavior that differs from the legal rules, which govern the employee activities and is a fault-based liability (or for fraud). The management responsibility, instead, does not arise from the violation of regulatory fees of behavior and, indeed, transcends the individual behavior of the employee: it reconnects to the overall results produced by the organization to which the manager is responsible and implies, in the case of negative judgment, more than a fault on the part of the executive, its unsuitability to function".

At a distance of more than a quarter of a century it is undeniable as how the change occurred at regulatory level has not been implemented in a uniform manner by all the Italian public Administrations, given the presence of some rigidity due to the cultural legacy of the political class and the non-renewal of the leadership class encountered in many cases.

4. THE EFFECTS EXPECTED FROM THE REFORM OF *GOVERNANCE* MODELS

The governance models reform, started in 1990, has doubtless added to the content and importance of the planning, evaluation and control processes, which are now a powerful means of political control over top managers, since (Hopwood & Miller, 1994):

- during the estimate stage, the planning and budgeting systems are a prior authorisation and at the same time, a constraint on the activities of managers;
- during the accounting stage, the evaluation and control processes serves to audit whether or not political directions and targets have been pursued and achieved while remaining within the set limits.

Increased management autonomy and responsibility should have created conditions for increased productivity, intervening directly on organisational and bureaucratic dysfunctions, waste and production inefficiencies (Owen, 1992).

At the same time, the introduction of planning, evaluation and control processes would have had to force the political bodies to focus on their own functions and on their political responsibilities, i.e., on the definition of those targets that best embody the public interest (Gray et al., 1993). Nonetheless, the activities of public administrations are performed using resources mandatorily taken from the public and therefore, suitable regulations must be in place to prevent those resources from being used for activities that do not meet the institutional aims of the administration.

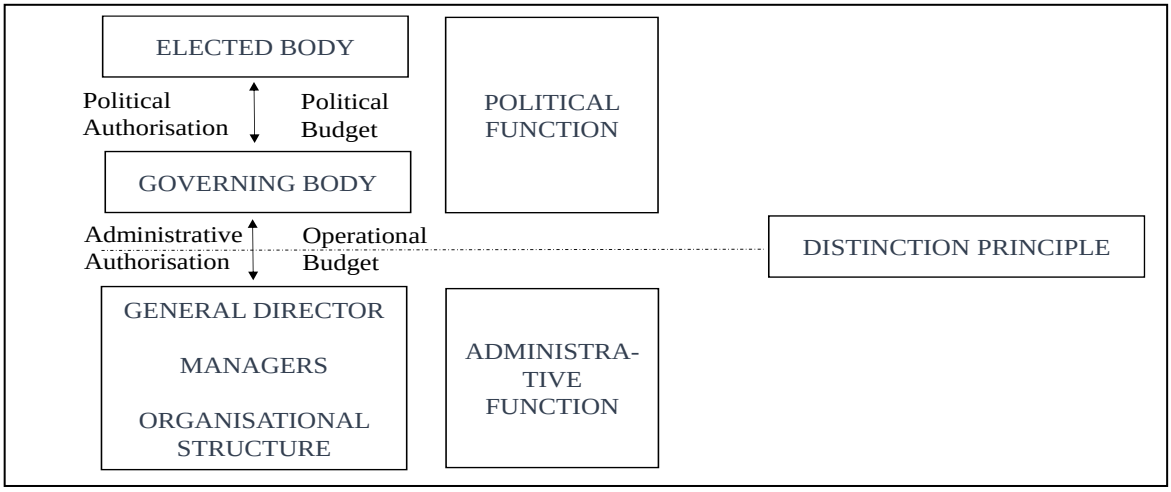
[46] Legislative Decree n.165/2001, art.16 and 17.

By using this "managerial" model, the reform of the Italian public Administration has been faced with the inevitable need to bring the authorising function – which is necessary to legitimise those who manage the "*res publica*" - into line with the urgent need for management information on costs, performance and the results of public activities (Lapsley, 1992).

This reform "organizational" has led to a redefinition of the function of authorisation of the planning processes, programming and budget, which tools are as an instrument of regulation in relation between politicians and public leaders (Bucellato, 2001).

The authority of political bodies over top management involves dividing the traditional budget into two documents: a more summarised version, for political authorisation and a more analytical one to provide a basis for management to carry out its tasks (see figure 4).

Figure 4. The Distinction Of Authorisation Function



The first document, the "political" budget, translates the relationships between the different political bodies into accounting terms. This document has, in the first instance, an authorising function between elected and governing political bodies, in the same way as a strategic plan in a private business.

The second document, on the other hand, brings together the targets and the resources that the "governing" political bodies allocate to top management; this means that it has the typical functions of the "operational" or "management" budget.

This latter document has a lower level of authorisation compared to the "political budget" account and together with the organisational divisions, it serves to give a firmer distinction between politicians and managers, since it highlight the relationship between function and the objectives assigned to the managers.

Splitting the traditional budget into two documents with different authorising values has also led to a review of the classification criteria for outgoings so as to put in place a parallel framework between accounting and organisational structures: this means identifying accounting data to show the overall financial resources assigned to a specific sector of the administration to carry out specific operational projects.

In other words, after the '90s reform, Italian Public administrations need to draw up suitable documents to show the degree of achievement of their targets, the progress of their activities and their related use of resources (Giovanelli, 1997).

In conclusion, the "distinction" between politicians and top managers requires a legally binding budgeting system to be introduced - one that can convey the authorising function on the budget, which will adjust the relationship between elected and governing bodies as well as the administrative relationship between governing body and managers.

Unfortunately, the reform of the 90s did not provide adequate tools for planning, evaluation and control and had no effect on information systems and accounts of the Italian public administrations. On these aspects the Italian legislator intervened with serious delay and never in a systematic way. Initially, the internal controls reform has intervened only after six years[47], in 1999, designing an organic system of controls but by delegating the definition of procedures and techniques of evaluation of personnel in negotiation with the trade unions. This has led to the proliferation of a plurality of models for the evaluation of personnel, sometimes inadequate.

Subsequently, at a distance of nineteen years from the start of the reform[48], in 2009, were finally disciplined in an organic and homogeneous way the measurement and evaluation systems of *performance,* organizational and individual, which every public administration would have to equip itself with. The main limit of the norm of 2009, however, lies in the total detachment of the so-called "cycle of *performance*" and information systems and the accounting of public entities. The latter, however, have been progressively adjusted, albeit with different times and adopted solutions which were not always equal between them.

After more than a quarter of a century, the inertia of the Italian legislator justifies only partial distortions which can be found today in some public Administrations. These distortions are to be more attributed to the cultural heritage of many politicians and managers rather than to the legislative

[47] Reference, in particular, to the reform of internal audits carried out with the Legislative Decree n.289/1999.

[48] Reference is made to systems for measurement and evaluation of performance referred to in Title II of the Legislative Decree n.150/2009.

provisions, however refining itself over the years.

Therefore, one problem that arises is to check inside the single public administration to verify the degree of implementation of the *governance* models reform.

5. AN EVALUATIONAL MODEL ON THE IMPLEMENTATION OF THE DEGREE OF *GOVERNANCE* MODEL REFORM

The verification on the impact of the reform must be carried out both on the *formal level* of the legal rules governing the relationship between politicians and managers, both on the *substantial level* being investigated in the single public entity on the effective use of the instruments and managerial techniques typical of the planning, evaluation and control processes.

From a formal point of view, the main difference between the bureaucratic and managerial model stands in checking if the political and administrative function are clearly distinct or have an overlap in certain areas. Moreover, it is necessary to check whether the instruments of planning, evaluation and control of management have been regulated. The formal legislative transposition takes place by means of the updating of the internal regulations accounting, organization and evaluation of *performance*, both organizational and individual. As a result of this verification it could be possible to operate already at the first distinction among the organizations that have implemented these innovations, those that have transposed in part and those that have not implemented them at all.

From a substantive point of view, however, the main difference between these two models lies in verifying if the relation between politicians and managers is based, more or less, on the actual use of the instruments and managerial techniques or limits itself to a mere fulfilment of the transposed at regulatory level.

Indeed, failure or partial adjustment of internal regulations already allows to express a first substantial judgment, since the Italian legislator awards this task to the political organ of government of a single entity. However, it cannot be ruled out even the responsibility of *top-managers* whose task is, however, the task of making technique proposals. In any case, a political organ "modern" must at least perceive the usefulness of programming tools, evaluation and control and must ensure that are introduced and used. Vice versa, a "retrograde" politicians keeps away from these instruments as are perceived as a constraint on the unconditional exercise, mutable and contingent on his discretion.

It is precisely the degree of use of the instruments of planning, evaluation and control, which indicates substantial transposition of legislation and the effective introduction of a model "managerial" of *governance*. But such a model, even in the presence of politicians "modern", cannot work if the public manager are designed exclusively to the formal observance of rules, if they are evaluated solely by reason of their administrative responsibilities and not also of the achieved results and organizational skills necessary to manage human resources and equipment assigned to them.

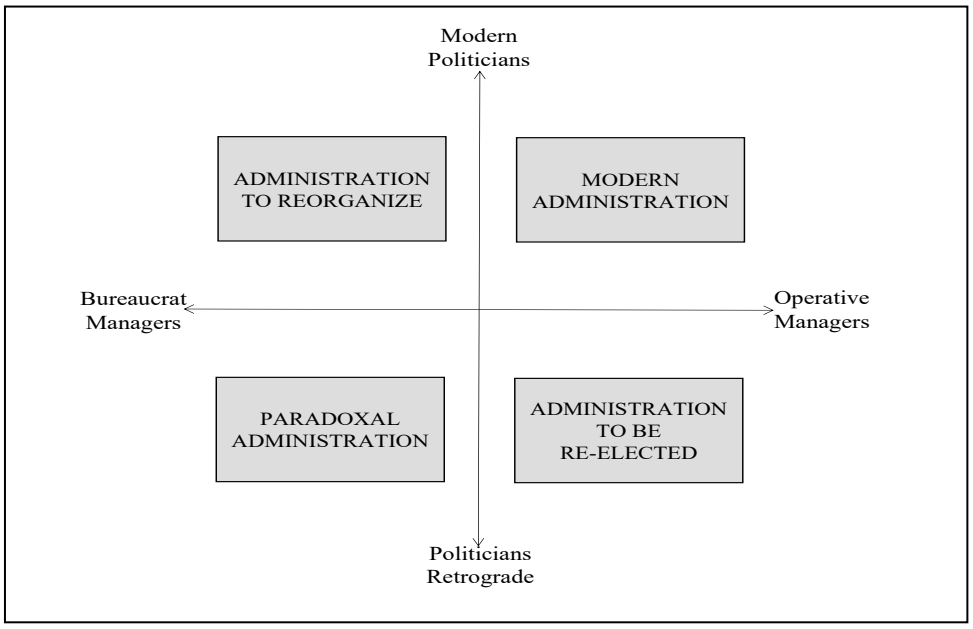
In other words, a modern manager must be assessed on the basis of how he works, and how he develops his own directional (Fayol, 1925) role on the basis of the *leadership* models which are used (Likert, 1973). In this sense, it is possible to distinguish the manager substantially “bureaucrats” from those who have greater or lesser attitudes “operational”.

Then, assuming that it is possible to distinguish:

- political bodies more or less "enlightened" from those more or less "retrograde";
- managers more or less "bureaucrats' from those more or less "operational";

It is possible to identify 4 areas in which to place the individual Administrations, regardless of its belonging sector (figure 5).

Figure 5. An Evalutative Model



Followed some brief considerations on the four categories of Public administration now identified.

Modern administration. The single Administrations falls in this area when it is observable

"managerial model" envisaged by the regulations in force.

In these public entities, politicians are "modern" (Kooiman & van Vliet, 1993; Meneguzzo, 1997; Osbone, 2010; Sforza, 2015) as implement fully and effectively the regulatory provisions, by focusing on the following activities:

- interpret the needs of the administered Community;
- identify the general objectives of administrative action in respect of the institutional aims of a single entity;
- define the public strategies, i.e. identifying the political guidelines to be implemented by listening to the manager's proposals;
- the use the tools for planning and programming provided by the legislator;
- supervise the manager through the activation of the processes of evaluation of *performance*, organizational and individual, by activating the rewarding systems;
- change the political guidelines on the basis of the results of the evaluation of the *performance*;
- enhancing the invoicing and enable adequate instruments of accountability.

In parallel, managers are "operational" and fully fulfil their tasks of:

- play a proactive role in respect of politicians;
- articulate general political goals into specific objectives and sectoral to assign to the subjected organizational structures;
- identify the optimum technical solutions to implement the policy guidelines, i.e. define tasks and operational projects in the context of the areas of competence;
- manage resources allocated economically, efficiently and in compliance with the standards, using the outcomes of the management control to improve his work;
- develop their own organizational skills and enhance the subordinates attitudes;
- apply the incentive schemes and start, when necessary, disciplinary proceedings;
- avoid that personal political opinions of citizen influence their work of "civil servant".

In summary, these public entities are the fruitful interaction between politicians that "listen and oversee" and managers who "propose and implement" allows to transform the political guidelines into concrete projects and achievable.

Administration to reorganize. A public administration falls in this area when the "managerial model" is not fully applied given the presence of manager "bureaucrats" in which persists a typical culture of the "bureaucratic" model. In these cases, we are witnessing a conflict and to a mutual incomprehension between "modern" politicians and managers who do not intend to apply the new organizational models and related operating mechanisms.

Merely by way of example, the manager "bureaucrats", in a more or less active and conscious:

- assume a dilatory attitude, if not even against, in respect of the decision-making process of politicians "modern";
- avoid the measurable assignment of objectives and flee from their responsibilities as a result;
- do not have innovative capacity or anyway, do not practice it, focusing exclusively on the formal respect of the legislation and implementing only procedures which have already been standardized and the technical solutions already tested;
- fear only administrative controls and do not give any emphases to the managerial controls treated in the same way as a useless accomplishment;
- neglecting the development of organizational skills and do not worry to enhance employees attitudes;
- assess employees in the same way, without significant differentiation of judgment, and cover the defaults of the subordinates, assuming, so as to "avoid problems";
- use their managerial position to defend their personal political opinions, breaking the"principle of distinction" and by swallowing in the functions of political bodies.

In such situation the only levers of "modern" politicians reside in implementing a significant reorganization of the structure and processes. Paradoxically, in these ventures, the only solution lies precisely in the strict application of the rule that requires innovative regulations for the organization of the offices and services, updated regulations of accounting, efficient processes of *performance* assessment that invokes the leaders to their responsibilities as a result and to avoid the premium payment, which are not deserved. Given the absence of a managerial culture, it is likely that, in a first moment, it is necessary to also activate disciplinary proceedings to change usual behavior and heal consolidated past shortcomings.

"Modern" politicians must realize, since their settlement, that the bad functioning of the organizational structure of the institution will involve, inevitably, the failure to achieve the political objectives initially recruited. Therefore, any choices that could affect the political consensus is best that it is taken at the beginning of their mandate, i.e. as far away as possible from subsequent elections.

Administration to be re-elected. Public bodies that fall into this category are located in a position that is exactly the opposite to that of the *Administrations to rearrange*. In this situation the "managerial model" is implemented only within the limits in which comes back at hand to a "reactionary" political organ. In this category of Administrations is the political body that must be re-elected or replaced; they must not be changed, instead, the manager in possession of expertise skills. Also, in this case, we are witnessing a conflict and a mutual incomprehension between "operational" manager and "retrograde" politicians that interpret the manager's

autonomy as a reduction of their political powers and their discretion. These politicians implement the new organizational models and related operating mechanisms only in the measure in which they approve them to be ingested in management, normatively assigned to managers. In other words, the tools and the managerial techniques are used by "retrograde" politicians for breaking the "principle of distinction", to bend the technical discretion of executives considered hostile to the politicians at that moment in power.

This situation, in some aspects, is already positive, as it requires knowledge and use by political systems of programming, evaluation and control. In most cases, however, the "retrograde" politicians do not even know the existence of these tools and management techniques and work with other "informal" instruments.

By way of example, the "reactionary" political but informed, are dedicated to:

- to assert their own personal power and plead the needs of those who elected them;
- identify objectives quotas of administrative action, in respect to the coalition purpose policy temporarily in power;
- define short term tactics, by bending the technical discretion of the managers;
- formally apply only the tools for planning and programming so as to be able to modify the objectives to their liking in the handling process;
- use the evaluation processes of *performance*, organizational and individual, to punish dissenting managers;
- neglecting the information coming from the management controls and by economic analysis which, often, depart completely from their specific skills;
- consider the invoicing and instruments of *accountability* as mere obligations imposed by the legislator.

In other words, the "retrograde" politicians believe they still have a hierarchical power on managers, as it was prior to the 1990 reform; but this power is not normatively foreseen and is also devoid of content and absolutely ineffective. The "modern" manager have technical skills that are rarely owned also by politicians and are not prepared to take administrative responsibility only in order to please the politicians in power at that time.

The "modern" manager are distracted by management and use their skills to defend themselves from "retrograde" politicians, by raising the levels of conflict within the organization at the expense of the economy, efficiency and effectiveness. This, inevitably, also, leads to the failure of those targets and partly defined by "retrograde" political bodies.

In the most extreme assumptions, in certain *Administrations to be re-elect* it assists, even to a turnover of the situation and to the arise of pathological aspects for a democratic Country: it can be assisted, i.e., to the emergence of a model "technocratic" which replaces the model "managerial" provided by the standard. In fact, when there is a clash between phenomena of "absconding" and political organs ignorance, it occurs a substantial passage of power from the latter to the *top-management*, which are in fact delegated, often implicitly, numerous decisions not only operational but also strategic and of political address. In this situation the managers tend to assume a not justified power by their own institutional role that clearly stands out in contrast with the goal of giving life to a co-ordinated management and consistent with the institutional aims of a single Administration. The top- management, in these cases, manages to impose its will, sometimes quite apart from the indications coming from administered collectively and by defined strategic addresses, often in too abstract terms, by political bodies. In these ventures, the political bodies demonstrate their smallness in interpreting collective needs and their inability to program and outline clear choice of address.

Similarly, "operational" managers are transformed into technocrats separated from the communities to which they should look up to. If then the manager are "bureaucrats" the Administration falls in the paradoxical situation described further on.

Paradoxal administration. In public administrations where there are "retrograde" politicians and "bureaucrats" manager are helped by a serene pathologic continuation of inefficient management, useless and sometimes even incorrect. In these administrations, often produce paradoxical effects of a total agreement between politicians and managers not to promote such activity, in not defining objectives, in not assigning resources, in not resolving problems, in "floating" on contingencies. In this way, the politicians manage to decline their responsibilities by changing at their own leisure the addresses of management and thus entering into the merits of operational decisions and, at the same time, managers in fact, do not have any liability results in respect of what they could be assessed. Paradoxically, the politicians' interference in the management is received by "bureaucrats" managers as a welcome solution for their own unaccountability. Internal conflicts are reduced at the organization and a convergence is produces on the subjective objectives and particularly to the detriment of collective interests in general. In substance, it is reproduced in facts a "bureaucratic model", paradoxical with respect to the current legislation which is thus evaded with consenting behaviors and hypocritical, both from the politicians part and both on the manager part.

In these institutions the "bureaucrat" manager undergoes the authority of politicians and backs them up, allowing him to immerse in the management and make him undertake decisions, which formally belong to him. Sometimes, the "bureaucrat" manager, but wise, proposes to the political body to assume administrative acts of management, which, instead, would be his eligibility. Other times, the manager performs blindly as decided by the political body without exerting the technical discretion that the legislator has assigned to him, expressing a favorable opinion even in the absence of the requisites technical-legal needed. Often the cultural legacy of these managers lead them to condescending behavior since considered the only solution to maintain its own role. In fact, the consenting manager lasts as long as the "retrograde" politicians, which appointed him and, anyway, it pays the effects in terms of administrative responsibility, since the management acts will remain legally attributable to him. In short, the manager transforms himself from a "civil servant" in "yes man" of the politician in power.

The exchange currency of the politicians

"retrograde" with managers resides:

- in delegation and leave wide margins of autonomy and discretion to "influencable" managers in this way implicitly authorized to place before their own personal interests to institutional purposes;
- in invading and interfere in competence areas of the "impartial" management, possibly removing them from office regardless of technical skills from these shown, and replacing them with "influencable" managers.

In substance, in best cases, to witness of a formal application of the model of "managerial" *governace* by: the definition of general objectives, not measurable and little challenging; the payment of allowances to result without an effective verification of the objectives; the guarantee of maintaining the leadership position and the implementation of the minimum requirements expected by law for the ultimate purpose of avoiding external controls. In other words, the updating of the internal regulations of the organization, accounting and evaluation of performance, limits to a formal adaptation of procedures already in place, with the ultimate result of "justify" those situations of consolidated inefficiency, which instead should be eliminated, thus loads further the degree of bureaucracy. Indeed, the formal application of the model of "managerial" *governace* constitutes, however, a step forward compared to those administrations in which the new regulations are transposed in part or not at all. In this sense, the formal transposition of the rules may have an important role, by imposing changes and making mandatory new behaviors; even if this may not be sufficient to change a culture and a radical mentality both in political bodies and in managers.

To treat these administrations it is necessary a penetrating intervention of external auditing agencies that, however, does not limited only to the formal verification regulatory obligations but, also, to investigate on the actual use of the programming instruments, of evaluation and management controls.

6. CONCLUSIONS

On the basis of what is to anticipate, an essential conditions takes place for the orderly and effective operation of a modern public administration: the effective transposition of the "managerial" *governance* model, as outlined by the reform of the 1990s.

The cause of the most visible distortions shown by more or less recent events of Italian Public Entities, in fact, is represented by the lack of a real and effective co-ordination between political organs and managers. There is a missing positive situation of pluralism of ideas and perspectives that proves essential to ensure that the management of the institution may be regarded as the result of the decisions carefully analysed and subjected to the scrutiny of gifted bodies with different abilities, but complementary, synergistically used for the development of managerial programs whose final objective must be, first of all, the wise use of public resources in view of the maximization of collective wellbeing.

It comes out clearly, from the personal experiences on field, the absolute need to arrive at a full co- ordination between politicians and managers. This should not be interpreted as a loss of their specific identity, but as a recognition of the complementarity and the willingness to act synergistically, while respecting the due differences and the necessary independence of thought and action. It looks evident that the inconsistency and the danger of a state of contraposition, of overlapping or, at the best of assumption, of poor co-ordination between politicians and managers (Mussari, 1990).

In this sense, and even more necessary, that will be introduce the logics of that which, in recent studies, is called "*new public management*" (Hood, 1991; Osborne & Gaebler, 1992; Jones & Thompson, 1997) and, also, all other concepts that can be found in the successive approaches, i.e. "*new public governance*".

7. FUTURE DEVELOPMENTS

The exposed evaluation model needs only to propose a classification of possible situations in which an Italian public Entity could find itself after more than a quarter of a century since the introduction of a "managerial" model of *governance*.

This first model will be necessary revised after deciding which theoretical model has been adopted. To decide how model is more suitable, will be necessary to analyse some literature and will be indispensable to do some re-visitation of the same. In fact, it is renowned that since the 70s, a few scholars started to elaborate models to describe the relation between politicians and manager (Putnam,

1975; Aberbach et al., 1981) but, considering the old age of these studies and the particular characteristics that are already explained in this work, could be interesting to add to these models, other peculiarities that can be found, for example, in studies done by the competency movement (Horton, 2000) or by Bouckaert & Halligan (2008).

The last phase of our work will be testing the model that will arise but our considerations, to produce a diagnosis of public entities and to identify the main obstacles when applying rational decision- making processes.

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CORPORATE GOVERNANCE SYSTEMS AND SUSTAINABILITY: CSR AS A FACTOR OF CONVERGENCE BETWEEN OUTSIDER AND INSIDER SYSTEMS

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Abstract

In an era of increasing capital mobility and globalisation, the growing integration of financial markets seems to be a key factor of corporate governance convergence. One of the most striking differences between corporate governance systems of different countries is the dissimilarity in the firms' ownership and control that exists across countries. According to the degree of ownership and control, corporate governance systems can be distinguished in outsider systems (characterised by wide dispersed ownership) and insider systems (characterised by concentrated ownership). The transition from a governance approach founded on the shareholder view and oriented to the optimization of economic performance to a policy founded on the stakeholder view and oriented to the appreciation of the interdependence among economic, social and environmental responsibility, seems to be a factor of *de facto* convergence between outsider and insider systems of corporate governance. The main finding of this chapter is that the effective integration of CSR, sustainability and leadership makes easier the convergence between insider and outsider corporate governance systems. Leadership starts at board level. Corporate social responsibility (CSR) and sustainability require good corporate governance, grounded on stakeholder engagement, fairness, transparency and accountability. All these principles are related with more externally focused boards and determine a governance approach directed to the growth of sustainable value. In light of the above, this chapter will consider how the social responsibility and the role of the leaders (CEOs, Board of Directors, managers, etc.) can determine a governance approach directed to the growth of sustainable value over time. This is possible through the exploitation of opportunities and the economic and social risk management with which the companies should compete. The achievement of sustainability leadership requires significant changes in the operational guidelines and critical factors for company's success and it imposes the improvement of the internal control systems intended to provide essential support for responsible governance. Therefore, leadership aiming at sustainability (regardless of the corporate governance system) requires CSR to be transferred from top management to the entire organisation, increasing the ability to manage complexity with respect to articulated goals. So, the corporate social responsibility, if properly realized, tends to be a factor of substantial convergence between the different existing systems of corporate governance.

Keywords: Sustainability; Leadership; Convergence; Corporate Governance; Insider and Outsider Systems; Corporate Social Responsibility; Internal Control Systems

Although the chapter is the result of a team effort, Daniela M. Salvioni can be considered the author of Sessions 1, 2 and 6, Simona Franzoni the author of Session 4, Francesca Gennari the author of Sessions 3 and 5.

1. INTRODUCTION

Sustainability leadership emphasizes the change that companies which want to be leaders in sustainability must deal with, accentuating the central role of corporate governance bodies as promoter and guarantor of the change's effectiveness.

Corporate social responsibility (CSR) and sustainability require good corporate governance, grounded on stakeholder engagement, fairness, transparency and accountability. All these principles are related with more externally focused boards and determine a governance approach directed to the growth of sustainable value over time. This focus of boards worldwide has increasingly shifted to excellence every corporate governance systems.

Sustainability leadership must penetrate the entire organization, but the first impulse of it derives from the Board of Directors. Therefore, the most

important actors in the process of achievement of sustainability leadership are the board's members.

Leadership starts at board level. First of all, the executive members of the board must recognize the principles of sustainability share these principles with non-executive members and transfer them in the long-term direction of the organisation. In fact 'A leader is one or more people who […] focuses the follower(s) to the organization's mission and objectives […] in a concerted coordinated effort to achieve the organizational mission and objectives' (Winston and Patterson, 2006).

Board's members must recognize the importance of the transition from a strategic approach oriented to the optimization of economic performance favouring shareholders to a policy oriented to the appreciation of the interdependence among economic, social and environmental responsibility satisfying stakeholders' expectations.

Cadbury (1993) states that " [...] It is the ability of boards of directors to combine leadership with control and effectiveness with accountability that will primarily determine how well [...] companies meet society's expectations of them". The transition from shareholder view to stakeholder view requests new managerial skills, because of the change in significant variables to meet society's expectations, but at the same time it seems promoting a substantial convergence about objectives, processes, cultures, competencies and behaviours among the different corporate governance systems existing worldwide.

Considering corporate governance as means to favour and lead company's performance, this chapter deems the assertion of CSR and sustainability can represent a significant factor of substantial convergence among corporate governance systems characterizing different countries. In particular our study underlines how policies oriented to CSR principles imply overcoming some divergence in key performance indicators characterizing insider and outsider corporate governance systems in the past.

One of the most striking differences between countries' corporate governance systems is the difference in the ownership and control of firms existing across countries (OECD, 1999). According to the degree of ownership and control, corporate governance systems can be divided into outsider systems (characterised by wide dispersed ownership) and insider systems (characterised by concentrated ownership).

Markets' and information's globalization induced the search of convergence between corporate governance systems, in particular referring to listed companies. This convergence has been promoted by normative and self-discipline interventions focused on the spread of international best practices about corporate governance. Substantial processes of convergence seem to be necessary to complete processes of formal convergence. The main finding of this chapter is that the effective integration of CSR, sustainability and leadership promote the active convergence between insider and outsider corporate governance systems.

In fact, fair settlement of stakeholders' expectations and prevailing objectives about creation of sustainable value tend to determine the overcoming of pre-existing diversities in temporal orientation of financial goals. In particular, the assertion of a strategic orientation based on binomial economic dimension-sociability emphasises the link among company's success, multidimensional significant variables and maximization of economic results in medium and long-term.

In light of the above, the chapter is structured as follows. The second section outlines the change in corporate governance systems related to CSR and sustainability leadership and it provides a framework for understanding the role of key stakeholder in this change.

The third section describes the interrelation between corporate governance and corporate social responsibility, emphasizing characteristics that corporate governance bodies should have to effectively assuming the role of change promoter towards sustainability leadership.

The fourth section explains the relations among leadership, internal control systems and corporate performance, for the effective implementation of sustainable leadership. The achievement of leadership sustainability requires significant changes in the strategic and operational guidelines, broadening critical success factors deemed relevant and imposing the refinement of the internal control systems intended to provide essential support for obtaining conscious governance and achieving corporate performance (economic and socio-environmental).

The fifth section summarises the role of CSR as a factor of convergence between outsider and insider corporate governance systems.

The last section of the chapter contains our final considerations on the relationship among globalization, corporate governance effectiveness and the leading role of CSR as a factor of convergence between outsider and insider systems of corporate governance.

2. CORPORATE GOVERNANCE AND SUSTAINABILITY LEADERSHIP: THE ROLE OF KEY STAKEHOLDERS

For a long time, orientation towards shareholders and profit maximization (Berle and Means, 1932; Friedman, 1962; Jensen and Meckling, 1976) have dominated the most of companies in industrialized countries. This behaviour was particularly emphasized in Anglo-Saxon big corporations, characterized by a high openness towards risk capitals market, clear separation between ownership and management, one-tier corporate governance systems and control functions exercised by markets (outsider or market-oriented systems).

For listed companies, a leadership focused on economic responsibility in favour of shareholders implies differences between outsider and insider corporate governance systems. This with reference to the diverse concentration in ownership and the connected diverse degree of separation between ownership and control prevailing in each one of the two systems.

In the outsider systems, the common high dispersion of share capital tends to associate the corporate success with a leadership oriented to the

profit's maximization, with particular attention to the short-term, with the aim to obtain positive judgments by the market concerning the actions of boards characterized by a high independence. In this context, shareholders are asked to appreciate, usually once a year, the governance effectiveness referring to their expectations about short-term remuneration and their approval conditions the board members' appointment and the shares' market value. So, "the focus in this type of a system can be excessively short-term, reducing overall investment to a level lower that is considered efficient" (OECD, 1999).

In the insider systems, instead, the high capital's concentration among majority shareholders causes their frequent engagement in management, often as executives, and determines governance oriented to the maximization of the value creation in the long-term. In this situation, leadership practiced by the board is strongly influenced by the majority shareholder's behaviour, because its lasting participation in ownership tends to reflect in the maximization of economic performance over time.

Hence, the triumph of shareholder view emphasises the dominance of economic responsibility to satisfy financial expectations of shareholders. However, the different characteristics of ownership structure (Morck *et al.*, 1988; McConnell and Servaes, 1990) and the diverse ownership engagement in the board leadership structure (Maassen, 2002; Leblanc, 2004; Solomon, 2007) that characterize outsider and insider systems tend to determine factors of substantial divergence for companies working in the two systems. In particular, divergences in business strategy tendency are observed, with consequent differences in key performance indicators with reference to time orientation.

The latest arise of new concepts referring to sustainable development and stakeholder relation management (Steurer, Langer, Konrad and Martinuzzi, 2005; Cadbury, 2006; Elkington, 2006) redefines the role of companies in society. In fact, a wide vision of responsibility based on appreciation of links between long-lasting company's success and fair settlement of stakeholders' expectations is established, with consequent changes in terms of spirit of governance.

The acceptance of CSR and sustainability as important business performance indicators does not mean that the creation of value and the adequate shareholders' remuneration are less important. Vice versa, the interdependence among stakeholder relation management, economic and socio-environmental responsibility, results (economic and not economic ones), capability to obtain consents and resources should be opportunely emphasized. In fact, the capability to create fiduciary relations with all stakeholders increases the potentialities of value creation for shareholders over time, by means of opportunities' exploitation and economic, social and environmental risk management (Esty and Winston, 2008; Salvioni and Astori, 2013).

The assumption of a leadership directed to the effective participation in a more resources-efficient, environment-oriented and competitive economy involves relevant changes in the complexity of relationships with significant stakeholders (shareholders, employees, investors, suppliers, customers, competitors, public administration, community and environment). At the same time, knowledge and Information Technology underline the potential growth of diffusion in information and comparative analysis by stakeholders.

The successful companies are working towards the adoption, maintenance and reinforcement of governance systems that are coherent with international best practices standards and capable to manage the complexity of business and significant conditions for sustainable development. In this sense, the effectiveness of governance is greatly influenced by policies that emphasize the principles of global responsibility, positive and fair interaction with stakeholders, as well as respect of the environment.

The growing importance of a governance oriented to global responsibility and stakeholder relation management leads to a greater attention for principles and values that dominate external and internal relations and to innovation of processes that guarantee a systematic, coordinated, effective and efficient orientation in the entire organization. In this context, the engagement of significant stakeholders is crucial for the definition of strategies and goals that create the conditions for lasting success.

Board's members have the task of planning the change toward sustainability according to a global strategy and priority objectives, promoting the spreading of a sustainability culture in the organization and its operational mechanisms so as to guarantee the effective achievement of sustainability.

The assumption of sustainability leadership assumes the appreciation of stakeholder view (Freeman, 1984; Evan and Freeman, 1988; Donaldson and Preston, 1995; Friedman and Miles, 2002; Freeman, Martin and Parmar, 2007; Miles, 2012), the selection of significant stakeholders (key stakeholders) and the development of paths focused on stakeholders engagement and approval of their expectations; the rational and fair transfer of expectations in strategies; the transfer of leaders' tendencies in management behaviours; the assessment of coherence among purposes, goals and results towards the optimization of performances and inter-companies relations.

In fact, stakeholders' engagement is a necessary condition for the achievement and sharing of values which are significant for responsible and sustainable governance. In this context, the sustainability leadership creates the prerequisites for behaviours' coordination and standardization and this is an asset determining company's success. In particular, the internalization of values and principles shared by leaders and organization simplifies the correct realization of governance processes, it promotes the adoption of an effective and efficient management approach, and it facilitates the creation of positive relations between company and stakeholders and the risk reduction (Salvioni, 2010; Salvioni, Astori and Cassano, 2014).

The acceptance of CSR and sustainability as important business performance indicators assumes a board leadership capable to manage the complexity along the 'Triple Bottom Line'. This situation requests significant changes in management and, at the same time, it promotes the substantial convergence

between insider and outsider systems with regard to goals in terms of creation of sustainable value (Salvioni and Gennari, 2014).

These changes primarily regard the following:

- The appreciation of a governance vision which is socially responsible, based on effective stakeholders engagement processes. This vision must be focused on the integration between leadership and organizational decisions and corporate governance and internal control systems which are able to promote the potential creation of sustainable value;
- the development of control systems that are fully closed to goals' evolution and that enable risks monitoring with regard to different dimensions of responsibility;
- The change in the variables to be monitored, with a greater appreciation of sustainability culture and critical factors for the optimization of relations with stakeholders.

The previous considerations emphasize the important role of corporate governance bodies for the effective integration among CSR, sustainability and leadership. This integration assumes the promotion of active behaviours and manners to engage all key stakeholders. At the same time the emphasis on CSR principles requires a significant change in the long-term direction of the organisation to fairly meet society's expectations.

Stakeholders' expectations are economic and socio-environmental ones. Hence, leaders who adopt socially responsible behaviours must develop abilities to combine the expectations of wide categories of stakeholders in the best way and to satisfy these expectations by means of decisions and actions. The appreciation of cross-relationship between economic and socio-environmental efficacy and efficiency is essential to minimize the risks and to obtain company's success in the long-term.

Companies inspired by CSR tend to the creation of sustainable value, as a guarantee for their lasting vitality. This situation induces reconsideration in terms of governance orientation, interaction between boards and organization, key variables for the performance optimization. In this sense, pressure towards a substantial convergence between outsider and insider corporate governance systems can be observed.

3. INTERRELATION BETWEEN CORPORATE GOVERNANCE AND CORPORATE SOCIAL RESPONSIBILITY

Since the 1960s the relation between corporate governance and corporate social responsibility has been given great attention (Jo and Harjoto, 2012).

According to the European Commission, the CSR is defined as 'the responsibility of enterprises for their impacts on society. [...] To fully meet their corporate social responsibility, enterprises should have in place a process to integrate social, environmental, ethical, human rights and consumer concerns into their business operations and core strategy in close collaboration with their stakeholders, with the aim of: maximising the creation of shared value for their owners/shareholders and for their other stakeholders and society at large; identifying, preventing and mitigating their possible adverse impacts'(EU COM(2011) 681 final).

This definition asserts the assumption of a concept of global responsibility that is referred to all governance dimensions on one hand and on the other hand, the engagement of wide stakeholders' categories is considered a critical factor for the competitive advantage and risk minimization. In fact, the emphasis on interdependence among different stakeholders' requirements gives value to company's capability to better anticipate changing opportunities, to reduce risks and to take advantage of these capabilities for the long-term success. In this situation the capability of the board of director to identify factors of company's success which are linked to the expectations and satisfaction of wide stakeholders' groups is critical.

Therefore, corporate sustainability is closely related to the concepts of corporate social responsibility (CSR) (Carroll 1999; Dahlsrud 2008; European Commission 2011): sustainability does not mean sacrificing shareholders' interests to the benefit of other stakeholders, but it implies the adoption of a management orientation that is able to increase the potentiality of value creation in the long-term, balancing shareholder value creation with stakeholder value protection (Law, 2011). In fact, companies should safeguard the interests of all who contribute to the general value creation (Rajan and Zingales, 1998); this contribution represents the specific investment that a stakeholder decides to make and gives a legitimate or moral right to part of the value created (Blair, 1995).

Effective stakeholder engagement processes are based on commitment of corporate governance bodies and on integration between decisions of leaders and day-to-day activities, with the aim to promote a real CSR culture. In this context, codes of conduct and codes of ethics represent practical CSR tools to spread the shared values of social responsibility, inspired by the respect and the protection of the interest of all stakeholders whom the company interacts with, at all organizational levels. The link between CSR values and management processes is very strong and emphasizes the importance of the alignment among board's strategies, organization's values and everyday practices (Painter-Morland, 2006). Board members should be aware that they cannot sit down at their desk and draft an ideal framework for the creation of corporate culture. The last, in fact, originates by shared values that become stronger over time because of the coherence between what the company says and what it does.

Several studies investigate the possible links between corporate governance structure and CSR performance: evidence suggests that simultaneous improvement of each dimension of performance does not depend on a possible improvement in the board's composition and that which really matters is that the board shares in a substantial way the sustainability principles (Ricart *et al.*, 2005; Ayuso and Argandona, 2007; Spitzeck, 2009; Jo and Harjoto, 2015).

So, the focal point of criticism on CSR is the boards of directors, as this key group defines and

implements corporate strategy and serves to safeguard the interests of key stakeholders (Mason and Simmons, 2014). In fact, board members first identify relevant stakeholders and must then balance stakeholders' interests, by means of the strategies that include stakeholders' expectations (Wang and Dewhirst, 1992; OECD, 2004; Kakabadse and Kakabadse, 2007).

International interventions of OECD, ICGN, GRI and UN Global Compact go to this direction. Furthermore, at a national level, self-discipline codes often mention the importance of board's independence and stakeholders' engagement.

Direct stakeholders' participation in decision-making processes, their being present in the board, is one of the most effective ways of engaging the stakeholders. This choice can become an important element of the firm's CSR strategy (Ayuso and Argandona, 2007).

Some corporate governance systems provide for the institutionalized stakeholders' presence in the board as a formal mechanism to express their significance for the company (Mitchell and Agle, 1997). Co-determination consists in the attribution of participation right in corporate governance to employees, by means of their representatives in administrative and control organs. This institution characterizes some insider systems (Germany, Austria, The Netherlands, Luxembourg, Denmark, Sweden, Norway, and Finland) with peculiarities depending on socio-economic contexts. In other countries, such as France, the exercise of representation right in corporate governance organs is normally at the company's discretion, but it becomes mandatory in some firm typologies (state ownership and privatised companies). In some other countries, such as Japan, the governance system is centred on work and, even if mandatory rules do not exist, employees and board of directors collaborate due to their cultural background.

Therefore, mandatory rules can be a stimulus for the appreciation of CSR by companies and can also be a factor of crossing traditional difference between corporate governance systems, in particular with reference to possible conflicts of interests among different stakeholders.

However, these compulsory interventions are focused only on some stakeholders groups and the adoption of behaviours formally compliant with rules is not enough to ensure sharing and inclusion of CSR principles into corporate culture. Vice versa, the value of compliance should be embedded in the corporate culture, as a shared principle that guides the behaviour of the entire organisation and constitutes the basis for managing any type of risks connected to global corporate responsibility.

CSR leadership modifies the variables related to decision-making process. In fact, the interdependence among economic, social and environmental responsibilities is emphasised with the aim to fairly optimize all stakeholders' interests. In this sense, the commitment of corporate governance organs in CSR matters favours the implementation of CSR practice in the organization's core strategy and it is crucial for the creation of a sustainability culture that goes beyond the mandatory rules and creates the prerequisites for positive relationships with all relevant stakeholders. So, board's leaders who are oriented to sustainability tend to co-ordinate and foster relationships with both internal and external stakeholders (Maak and Pless, 2006), with the aim to guarantee the creation of value in the long-run and the consequent company's success. Leaders inspired by CSR principles should be as architects who nurture and grow relationships with the stakeholder through continuous dialogue about the organization's strategic objectives and governance issues (Maritz *et al.*, 2011).

Therefore, the effectiveness of CSR requires the sharing of values by leaders and organisation, a leadership based on continuous comparison with complex and multi-dimensional realities, and a leadership approach going beyond the traditional managerial talent. In particular, a managerial approach should be adopted that devotes great attention to the principles and values that govern internal and external relations, fosters the innovation of processes for the spreading a coordinated, effective and efficient orientation toward sustainability.

4. LEADERSHIP, INTERNAL CONTROL SYSTEMS AND CORPORATE PERFORMANCE

Sustainable leadership derives from responsible decisions that have been perfected at a corporate governance body level but that should permeate the entire organisation. The behaviour of all internal stakeholders within the corporate system (corporate governance bodies and members of the organisations) should be co-ordinately targeted at the creation of sustainable value.

The board of directors, executive directors, managers and employees/staff are required to operate continuously in accordance with effectiveness and efficiency, taking an active part in the formulation of decisions (strategic and operational) and in their implementation, to maintain a balance between all the interests that converge in the company. In this context, the presence of sustainable leadership-oriented staff and their motivation are essential to the creation and development of design and operational teams capable of dealing collectively with the challenge of corporate success. A participatory leadership style tends to encourage the sharing and interiorization of goals (Schein, 2010), with ample opportunity for the adoption of behaviour-based integration between economic and socio-environmental performance.

The achievement of leadership sustainability requires significant changes in the operational guidelines, broadening critical success factors deemed relevant and imposing the refinement of the internal control systems intended to provide essential support for obtaining conscious governance. Leadership aiming at sustainability, therefore, requires CSR to be transferred from the corporate governance bodies to the entire organisation, increasing the ability to handle complexity with respect to the goals to pursue and to prevent and pilot the large series of business risks, particularly those related to environment, safety and future sustainability.

In this regard, it seems appropriate to point out that integration of responsibilities along the triple bottom line, supported by appropriate control systems to foster sustainable culture throughout the organisation, tends to allow for more effective risk management and to increase the ability to limit the negative effects of the same.

The need to identify and manage critical elements underlines the importance of focussing on the development of an internal control system that enables to monitor the risks and the dissemination of a positive approach to reporting and the direction of the same within the organisation.

Internal control systems that are designed to take advantage of opportunities, promptly signalling the uncertainty of the defined phenomena, acting and reacting to threats, ensuring a coordinated and systematic approach to risk, all ensure that one can maintain one's own competitive advantage in an increasingly open, dynamic and uncertain environment. Therefore, the structural and operational characteristics of control processes must ensure the continuous monitoring of the factors that are critical for company success and the proper recognition of the relevant variables for their management, in compliance with the optimisation of economic and social-environmental performance.

The corporate governance body defines the guidelines of internal control in line with the company's needs, with existing regulatory constraints and with internal and external complexity, in order to achieve an appropriate distribution of responsibilities in all managerial behaviours. Internal control is then delegated to specific dedicated bodies (internal control systems manager, internal auditor, risk manager, controller, compliance officer, etc.) but envisages the involvement of the operational management and of the entire organisation, the behaviour of which determines the timing and means to achieve the objectives.

Therefore, the integrated internal control processes can be summarised as being aimed at checking the validity of the adopted procedures; the behavioural transparency and harmony between indications of responsibility and operational processes (internal auditing); the risk management of the company (risk management) and its compliance with rules, regulations, procedures and internal codes (compliance control and supervisory); and at orienting organization towards the realization of strategic select policies in a coordinated way, to responsibly meet the expectations of stakeholders (management control) (Salvioni, 2010). This concerns direct mechanisms aimed at fostering the transfer of corporate governance bodies' strategies into operational behaviours, to ensure the continued achievement of the conditions enabling achievement of long-lasting business success, through the effective management and monitoring of critical elements.

The assertion of a sustainable leadership broadens the traditional framework for the planning of internal control activities. Business success is no longer only based on economic performance criteria, but is connected to the optimisation of environmental and social performance (Székely and Knirisch, 2005). Sustainable companies, therefore, determine their own strategy with reference to the three aforementioned dimensions of performance, according to the logic of global responsibility and consequently, the objectives are divided into medium- to long- and short-term, and processes are aimed at ensuring effective and efficient implementation.

The critical factors in business success, therefore, register significant changes, with the progressive acknowledgement of the critical role of specific intangible components (Franzoni, 2013) associated with the proper exercising of responsibility at all levels. Consequently, internal control systems should be re-designed on the basis of any subsequent changes made in relevant variables and the spreading of a culture of sustainability takes primary importance.

Indeed, the sustainable growth of the company depends on its ability to identify the significant variables that may affect the successful integrated management of corporate responsibility and to intervene seeking to govern the critical factors that determine success.

Direct interventions to implement governance geared towards sustainability, at first, involve an adequate appreciation of the intangible asset of the company. In order for a globally responsible behaviour to produce benefits, intangible resources should be adequately directed and controlled so as to create value and help in the transfer of top management strategies into organisational behaviour, and this in particular as regards organisational capital, human capital and relational capital. The following should be taken into consideration:

- Organisational capital expresses the quality of a company, associated with variables such as corporate values, internal culture, policies and business strategies, organisational structure, business processes and information systems;
- Human capital is the quality of the individuals in a company, due to a set of variables that influence behaviours and results, including the level of education of the employees, their skills and expertise, their qualifications and training;
- Relational capital expresses the quality of relations connected directly to the involvement of stakeholders. In this regard, factors such as the following emerge as relevant: shared values and rules of conduct, the value of the brand and the reputation in the various markets of interaction.

Achieving sustainable leadership therefore requires specific intangible components to grow as expected so as to lay the ground for effectiveness. In this event, the variables to be monitored should be re-defined and the monitoring parameters and related information systems should be adapted.

Therefore, control systems effectiveness is significantly grounded in the observation of dominant critical factors and is still primarily affected by the spread of the culture of sustainability at all levels of the organisation. Culture conditions all corporate behaviour, determining the conditions for internal sharing and the potential of obtaining consent.

The existence of a strong sustainability culture which is shared by the corporate governance bodies

and the entire organisation is therefore a critical element for social interaction and optimisation of performance. Consequently, when designing a control system, the following actions cannot be omitted: analysis of the existing culture, assessment of the ability of the control activity to instil the conditions for corporate responsibility and to contribute to create values which are consistent throughout the entire organisation; verification of optimality of cultural growth processes activated by the company and their constant coherence with the guidelines set forth by corporate governance bodies.

Sustainable leadership thus enhances managing variables that have long been neglected, but that are essential for the coordination of all organisational behaviour. These variables affect the design of effective internal control systems, guiding integration and determining the essential conditions for the transfer of corporate governance guidelines into the behaviour of the entire organisation.

Failure to transfer the principles of sustainability into the various management tasks can disrupt the correct implementation of the decisions of corporate governance bodies, to the detriment of leadership effectiveness. An effective and coherent design of control systems ensures the proper dissemination of the principles of sustainability in all organisational behaviour, optimising the economic and socio-environmental performance.

In summary, the presence of strong and shared values, the fair reconciliation of all expectations and protection of the environment are all aspects that facilitate the coordination between corporate governance bodies and the organisation as well as the effectiveness of the message sent. In this context, the conditions of fairness, transparency and the ability of leaders to involve the various stakeholders, on whom the development of the strategic plan pursued depends, are all of primary importance. Therefore, the adoption of sustainability-oriented governance requires the internal control systems to be re-designed in relation to the changes in the complexity of the variables under observation, to ensure effective guidance of all behaviours towards the co-ordinated achievement of a performance aimed at improving the creation of sustainable value.

5. CSR AS A FACTOR OF CONVERGENCE BETWEEN OUTSIDER AND INSIDER SYSTEMS

Corporate approach towards the creation of sustainable value is a source of global competitive advantage, by means of the overtaking of traditional division between short-term profit and long-term value. Sustainability leadership, because of the combined consideration of economic and social dimensions, tends to align companies' behaviours independently from financial markets' characteristics, shareholders base composition (conditions differentiating insider and outsider systems) and relations between corporate governance bodies (conditions differentiating one-tier and two-tier systems).

According to several scholars, a gradual path of convergence in corporate governance systems is occurring (Carati and Tournai, 2000; Mallin, 2002; Aguilera and Jackson, 2003). The events of convergence between outsider and insider systems can be observed according to these dimensions (La Porta *et al.*, 2000; Gilson, 2004; Khanna *et al.*, 2006; Yoshikawa and Rasheed, 2009; Lazarides and Drimpetas, 2010): convergence *in form* or *de jure* and convergence *in function* or *de facto.*

Convergence *in form* or *de jure* refers to convergence of rules at country level, whereas convergence *in function* or *de facto* refers to corporate behaviours. Both phenomena have accelerated because of changes in traditional competitive environment related to globalization that determined the redefinition of responsibility relations among subjects belonging to economic system.

Referring to *de jure* convergence, national systems are encouraged to the production of rules inspired by high-quality corporate governance standards and principles (e.g. OECD Principles on Corporate Governance, UN Global Compact principles, UE Papers). In fact, these standards about good governance condition, on one hand, national legislations and, on the other hand, the governance practices voluntary adopted by companies to adequately compete on global markets.

Interventions by international bodies focuses also on relations between CSR and corporate governance structure, sharing the idea that a systemic and not occasional approach on CSR requires a strong commitment by leaders.

UN Global Compact Framework recommends the board's commitment in the definition of sustainable strategies: the first condition to participate to Global Compact initiatives is the company's commitment at higher levels and the company's leadership is required to send a clear message that shifting towards sustainability is a strategic priority (UN Global Compact, 2014).

Management engagement is considered crucial not only for strategies about sustainability to be realized in the framework global projects in the long-term, but also for the creation and strengthening of corporate culture inspired to sustainable principles at all levels.

'[…] Consequently, businesses that integrate sustainability into their strategies and operations are increasingly finding themselves in positions of long-term strength. Enhancing this understanding of the overlap between public and private interests is key to inspiring more companies to engage and take action.' UN Global Compact (2013), Building The Post-2015 Business Engagement Architecture.

A research ordered by UN highlights that the majority of CEOs of companies adhering to Global Compact considers sustainability important to the future success of their business (93%), a route to competitive advantage in their industry (80%) and an opportunity for growth and innovation (78%) (UN Global Compact-Accenture CEO Study, 2013). The philosophy of sustainability is becoming a critical factor of success due to systemic risks management and capability to catch growth opportunities in a proactive way.

'Corporate sustainability is imperative for business today – essential to long-term corporate success and for ensuring that markets deliver value across society. To be sustainable, companies must do

five things: Foremost, they must operate responsibly in alignment with universal principles and take actions that support the society around them. Then, to push sustainability deep into the corporate DNA, companies must commit at the highest level, report annually on their efforts, and engage locally where they have a presence'. UN Global Compact, Guide to corporate sustainability, 2014.

On February 2013 the European Parliament adopted a resolution in which the importance of a commitment by the board on CSR matters is stressed. The EU Parliament, in particular, reminds that corporate responsibility must not be reduced to a marketing tool and that the only way to fully develop CSR is to embed it in a company's overall business strategy, implement it and translate it into reality in its day-to-day operations and financial strategy. The EU Commission should encourage companies to decide on a CSR strategy at board level (2012/2098(INI).

Also national interventions can contribute to the diffusion of best practices favouring the intention to imitate phenomena at global level and, so, convergence in corporate governance systems. For example, India puts great emphasis on leaders' engagement in CSR matters. Companies Act (2013) imposes great companies to make a CSR Reporting and to create a CSR Committee composed at least of three directors (two for foreign companies). The CSR Committee is responsible for developing and recommending policies to the board CSR; encouraging the implementation of such policies; monitoring the CSR performance.

De facto convergence can be observed referring to single firm's behaviour, when the same corporate practices are exercised abstract from corporate governance systems' characteristics. *De facto* convergence can stimulate *de jure* convergence; it happens, for example, in case of legislative void or gap and companies autonomously adopt existing best practices to deal with competitive pressure (Gilson, 2001).

Leadership oriented to sustainability at corporate governance bodies' level is a factor of overtaking traditional limits of outsider systems and insider ones. The former are traditionally oriented to the maximization of short-term profit with the aim to obtain positive judgments by the market with regard to the actions of board's members, which are characterized by a high level of independence. The latter, on the other hand, are oriented to the maximization of the value creation over time because of the high capital's concentration and the frequent engagement in management by majority shareholders. The commitment of the board in CSR matters encourages a long-term approach in the value creation with impact on company's objectives and strategies and, as a consequence, promoting the gradual promotion of a sustainability culture in all organizational levels.

As an example, the analysis of 20 companies included in the Global 100 Index[49] for at least 5 years confirms the convergence between insider and outsider systems related to corporate governance based on sustainability leadership (Table 1).

Table 1 shows that, irrespective of corporate governance systems (insider or outsider one), companies that systematically include sustainability matters in their goals and strategies are characterized by:

- long-term business orientation; this refers to the crossing of divergence in time orientation about economic results with the aim to permanently create value satisfying equally ample stakeholder groups. The long-term perspective means that the ultimate goal of an organization is sustainability (Schaefer, 2004, Porter and Kramer, 2006; Mostovicz et al, 2009);
- systematic commitment of the board in sustainability goals also by means of specific committees and chief officers[50];
- belief that a sustainability-oriented board is a change agent (Maritz *et al.*, 2011) able to maintain a constant dialogue with stakeholders and to ensure the dynamic CSR matters are integrated into corporate objectives and business operations.

The effective board's commitment in CSR matters represents the prerequisite for the strategies realization in organizational levels and the consequent obtainment of coherent economic and socio-environmental performance. In this sense the leadership should be intended not only as a hierarchical position, but also as personal engagement of board's members (Mostovicz *et al.*, 2009); in this sense the leadership of the board is based on the CSR values that the members represent. This situation guarantees the company's success over time because the change in leaders' orientation towards sustainability regards mission, vision, company's goals and strategies necessarily involving the entire organization. Therefore, the translation of sustainability values into actual results requires coherent internal control's tools and processes (Salvioni and Astori, 2013).

These mechanisms, favouring the transfer of sustainability concepts in business behaviours at all organizational levels, promote substantial convergence in corporate governance.

The recognition of sustainability principles as corporate cultural factors is differently fulfilled according to company's characteristics and external ties. In fact, corporate governance systems are the result of cumulative processes (Djelic, 1998; Bebchuk and Roe, 1999; Vogel, 2003; Puchniak, 2007; Davies and Schiltzer, 2008): rules about corporate governance structure and processes depend on characteristics of context (financial markets, capital dispersion, importance of banks, etc.) and on the necessity to regulate companies' behaviours (Bebchuk and Hamdani, 2009). Companies' voluntary conducts can pre-empt formal best practices, inciting mutual phenomena of formal and substantial convergence towards the overcoming of traditional corporate governance systems' limits.

[49] The Global 100 Index expresses the "Most Sustainable Corporations in the World" and it is managed by "Corporate Knights Capital", which builds indexing solutions and market-beating portfolios for institutional clients. See www.corporateknights.com.

[50] As Strand states: 'In some cases the Chief Sustainability Officer position was installed temporarily with the specific intent of raising sustainability considerations and related issues on the corporation's strategic agenda, meaning that the removal of the Top Management Team (TMT) position may well be an indicator of its success. In Storebrand, for instance, the TMT position of Executive Vice President (EVP), Corporate Responsibility, held for the 3 years of its existence by Elin Myrmel-Johansen, was put into place in January 2008 and removed in February 2011' (Strand, 2014, p.702).

Table 1. The involvement of company's leadership in sustainable matters

Insider systems	Adidas	[...] want to be successful **in the long run**. We want **to create as much value for all our stakeholders as possible.** As you see, **sustainability thinking** at the Adidas Group is not treated in isolation but **is part of the everyday practice of multiple corporate functions** – integrated into the business model of the Adidas Group. Needless to say, there is room for further strengthening and integrating of sustainability performance measures into our overall performance management. The **Social and Environmental Affairs (SEA)** team is a diverse group of 65 people – engineers, lawyers, HR managers, environmental auditors and former members of non-governmental organizations. The team is organised into three regional teams [...] , as well as the Group-wide functions of Environmental Services and Community Affairs.
	City Developments	**Sustainability [...] is imperative to our long-term viability**. A company-wide **CSR Committee** is responsible for mapping out CSR strategies and measuring key performance. This Committee initiates, drives and monitors various aspects of the Company's CSR practices to ensure these are integrated into our business operations and complement corporate objectives. Above this committee, at the Board Level, is a **CSR & CG Committee** that assumes an advisory role for the Company's CSR strategies. The CSR & CG Committee is chaired by our Deputy Chairman with two independent Directors.
	H&M	We take a **long-term view** on our business and investing in our sustainability means investing in our future. Our **Head of Sustainability** reports directly to our CEO and the responsibility for the implementation of our sustainability strategy is held by our executive management team.
	Kesko	The **Senior Vice President, Corporate Responsibility, Communications and Stakeholder Relations**, a member of Kesko's Group Management Board, is the head of corporate responsibility
	Koninklijke Philips Electronics	With our understanding of many of the **longer-term challenges** our world faces, we see major opportunities to apply our innovative competencies and **create value for our stakeholders**. **Executive Vice President & Chief Strategy and Innovation Officer**. Functions: Group responsibilities: Strategy, Innovation, Design, Sustainability, Accelerate! - Resource to win
	Natura Cosmesticos	Sustainability runs through our entire governance model. The **Sustainability Committee** is an important preparatory discussion forum before decisions are made by Comex, and the issues are also regularly analyzed by the Board. It is overseen by the Sustainability Board, which monitors the execution of the action plans that are run by the various corporate departments.
	Neste Oil	We create **long-term business success**. Sustainability work is steered by the **Senior Vice President, Sustainability and Public Affairs**, who is a member of the Neste Executive Board. The Board of Directors approves policies covering sustainability and monitors how Neste Oil performs in terms of sustainability. The Neste Executive Board is responsible for outlining the company's strategic approach to sustainability and monitoring how sustainability is reflected in business units and support function operations. Matters related to sustainability are reviewed regularly by the Board of Directors, the Neste Executive Board, and the management teams of the Sustainability and HSEQ organization, business areas, and production plants.
	Novo Nordisk	Novo Nordisk has chosen three long-term social targets to support **long-term** financial performance, **balancing responsibility with profitability**, with the aim of creating sustainable value for shareholders and other stakeholders The Board of Directors determines the company's overall strategy and follows up on its implementation, supervises the performance, ensures adequate management and organisation, and as such actively contributes to developing the company as a focused, sustainable, global pharmaceutical company.
	Statoil	[...] by creating **long-term value** for both our shareholders and the societies and economies in which we operate. The **Safety, Sustainability and Ethics Committee** will assist Statoil ASA's (the Company's) board of directors (the Board) in its supervision of the Company's safety, security, sustainability and ethics policies, systems and principle
	Storebrand	It is essential that we are able to take a **long-term perspective**. The Group's corporate sustainability goals are adopted by the Board, and the sustainability scorecard is followed up by the Group's executive management team
	Vivendi	Group's overall performance **over the medium and long term.** Vivendi has a CSR department.
Outsider systems	Agilent Technologies	n.a.
	BG Group	Sustainability is a prerequisite for **long-term performance** and value protection for our shareholders The **Sustainability Committee** of the Board provides direction and oversight of the implementation of the Group's Licence to Operate strategy and provides strategic and operational leadership on HSSE matters
	Centrica	[...] **long-term sustainable value creation for all** of Centrica's **stakeholders**. The Board is responsible for: [...] the Group's corporate responsibility arrangements including health, safety and environmental matters; [...].
	Enbridge	[...]strengthening our company's **longer term future**. The **Corporate Social Responsibility Committee** is responsible for reviewing, approving or recommending to the Board the risk guidelines, policies, procedures and practices relating to CSR matters
	Prologis	Trust and business integrity are critical to the **long-term health** of company. The **Board Governance and Nomination Committee** regularly reviews and develops recommendations for the board regarding corporate governance matters and principles, as well as environmental stewardship and social responsibility matters.
	Sun Life Financial	Our focus on sustainability reflects the **long-term nature of commitments**.
	Suncor Energy	We are going to keep engaging with all of our stakeholders and listening to their concerns as we continue to **develop and pursue long-term goals**. **Environmental, Health, Safety & Sustainable Development (EHS&SD) Committee**
	Unilever	[...] towards our **longer-term goal** of developing a sustainable business. **Corporate Responsibility Committee** reviews and provides input to the Company on the management of current and emerging sustainability matters affecting the Company and provides external and independent oversight and guidance on the environmental and social impact of how Unilever conducts its business. Chief Sustainability Officer.
	Westpac Banking	[...] to support more **sustainable long-term outcomes**. Responsibilities of the Board: [...] considering the social, ethical and environmental impact of our activities and monitoring compliance with our sustainability policies and practices.

6. EMERGING ISSUES

The spread of sustainability principles and a wide concept of responsibility foster, without doubt, a change in relevant corporate performances, modifying business orientation and creating prerequisites for substantial convergence in corporate governance systems.

Sustainable leadership implies a progressive extension of corporate objectives. The traditional governance framework tends to be more complex because of the network of internal and external relations, according with an approach based on information exchange and behaviours optimization with regard to stakeholders' expectations.

Sustainability becomes a formal business driver. This induces to a review of governance tendencies and of interaction between corporate governance bodies and organization. Furthermore, a deep revision of critical variables for performance optimization must be considered.

Assertion and sharing of values that are significant for responsible and sustainable governance are conditions for behaviours' coordination and uniformity, which are important assets for the company's success. In particular, the internalization of values and principles shared by leaders and organization favours the correct exercise of governance, promotes effective and efficient management approach, facilitates the creation of positive relations between company and stakeholders and favours risks control.

Sustainable leadership goes with control structures and processes more and more articulated. In this context the diffusion of ethical values and principles is, at the same time, a factor to be monitored and a requisite for the management effectiveness and the maximization of sustainable value.

Hence, irrespective of characteristics in capital markets and ownership concentration, companies which effectively integrate CSR, sustainability and leadership have modified their corporate policy giving importance to the creation of sustainable values as a condition for their growth and development in the long-term. One of the most important elements of divergence between insider and outsider corporate governance systems, related to the different time tendency to results, decreases.

It is also necessary taking into consideration that globalization - characterized by progressive reduction of differences in space, cultures, information systems, customs and institutions – requests a greater uniformity in corporate governance approaches at global level.

Furthermore, the downfall of barriers among markets and capital circulation, on one hand, increased investors' choices and, on the other hand, highlighted that the creation of value in the long-term can represent an important element for investment risk reduction.

Companies characterized by sustainable leadership can be more attractive for investors, increasing their opportunities in obtaining resources and growth of their capital value. About that, what Larry Fink, BlackRock's Chairman and CEO, said in the Annual Letter to BlackRock's Shareholders of 16/04/2015 appears symbolic. He said: *"This annual report highlights how the platform we've created over time translates into long-term value for clients and shareholders even in the face of global market upheaval. But it also gives us a chance to look toward the future. BlackRock has stayed ahead of the competition over time by thinking long term: building the technology, talent and investment solutions that our clients and shareholders can build on, and that will pay dividends for decades, not just quarters."*

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