

Board Structure and Firm Performance: Evidence from French Firms Listed in SBF 120

Aymen AMMARI¹

High Business School of Tunis, University of Manouba, Tunisia.
Email: ammariaymen@yahoo.com

Mohamed KADRIA

LAREQUAD & FSEGT, University of Tunis-EL Manar, Tunisia, B.P 248,
El Manar II, 2092, Tunis, Tunisia. Email: mohamed.kadria@gmail.com

Abderrazak ELLOUZE

Higher School of Digital Economy, University of Manouba, Tunisia.
Email: ellouzeabdelrazak@yahoo.fr

ABSTRACT: Using a sample of 40 French companies listed on the SBF 120 for the period 2002-2009, we examine if board structure (board size, independence of its members and the cumulative functions of decision and control) relate to their performance. To test the validity of our hypothesis, which states the existence of a certain deterministic between the board structure and financial performance measured by four different ratios, namely ROA, ROE, Tobin's Q and Market to Book, we have developed four dynamic panel system GMM approach to control for relevant sources of endogeneity (simultaneity, reverse causality and unobserved heterogeneity). Our results support the idea, commonly accepted, that board structure is a determinant factor for French firm performance.

Keywords: Board of Directors; board size; independence of the board; accumulation of functions; financial performance; system GMM.

JEL Classifications: G30; G34; J44; L25

1. Introduction

The French context seems particularly interesting to analyze, in term of corporate governance, for various reasons. First, The French model of corporate ownership and control is quite distinct from the Anglo-American model. It has been described as an insider model because it contains a high degree of concentration of ownership, while the wider dispersion of ownership characterized by the U.K. and U.S. models has been termed an outsider model. La Porta et al., (1998) have advanced the view that ownership in capital market is concentrated where there is an absence of strong investor protection embodied in the legal system and regulatory arrangements.

The advantages of ownership concentration in joint stock companies were determined by the concern about the opportunistic managerial behavior. Because of this opportunistic behavior, significant emphasis has been places on how firms govern themselves. Corporate governance begins with the board of directors, whose members are responsible for overseeing managerial activities and approving/disapproving managerial decision and actions.

Second, governance mechanisms have significantly evolved the past few years in French and various corporate governance codes have been drawn up by the French labor union (MEDEF and AFEP) under the names of the Viénot 1 & 2 reports and the Bouton report. Indeed, **the Viénot 1 report (1995)** was mainly interested in the board of directors, expecting to elucidate its mission and to make its work more effective. It endorsed the suppression of cross directorships, the constitution of board committees, recourse to independent directors, and a limitation of the number of board seats

¹Corresponding Author

held. While **the Viénot 2 report (1999)** took on a more general perspective. It privileged an approach allocating companies the possibility to separate the functions of the chairman of the board and the CEO. This report clarifies the notion of director independence and called for enhancing the role of the independent directors as well as the information on management remuneration. It also made recommendations on financial information and communication and on the role of the general shareholder meetings. In fine, **the Bouton report (2002)** was formulated following the Enron crisis and aimed at an improvement to re-establish investor confidence. It suggested a certain number of contributions concerning the board of directors (rugged independence, a higher degree of formalization, better information), the board committees (audit, remuneration, and nominating committees), the independence of legal auditors, and financial information.

One of the empirical regularities found in board structure studies that the number of board directors negatively relates to firm performance (Hermalin and Weisbach, 2003; Yermack, 1996). However, such findings could be undermined if the estimation technique does not properly address the endogeneity problem in the explanatory variables such as board structure variables (Adams et al., 2009; and Hermalin and Weisbach, 2003). For instance, a study on the effect of board size on firm performance should control for endogeneity at least in the board size variable because board size itself is affected by firm characteristics such as firm size. Several other sources of endogeneity in such board structure and performance analysis could be reverse causality and unobserved heterogeneity. Wintoki, Linck and Netter, (2009) illustrate in details the importance of Arellano and Bover (1995) and Blundell and Bond, (1998)'s dynamic panel generalized method of moments estimation technique in corporate finance studies. This methodology is suitable particularly when it is difficult if not impossible to find 'orthogonal' instruments to reduce endogeneity problem in the governance variables such as board size, duality and independence.

It develops a system of two equations, the original equation of variables in level and the transformed one in differenced and hence commonly known as 'system GMM'. The system GMM estimation technique allows treating all the explanatory variables as endogenous and orthogonally uses their 'past' as their respective instruments. It creates an equation of first difference of all variables and estimate the model via GMM using lagged values of the right hand side variables. Using a 'system GMM' estimation technique to control for all the important sources of endogeneity, such as dynamic, fixed and simultaneity in the governance and other firm characteristics, Wintoki et al. (2009) report no relation between board size or board independence and firm performance. Their findings are consistent with the evolving board structure determinants literature that the 'make-up' of boards depends on their unique information and contract environment (e.g., Adams and Ferreira, 2007; Harris and Raviv, 2008; Linck et al., 2006; Coles et al., 2008).

In addition, Wintoki et al. (2009) considers 'dynamic endogeneity' to be an important source of endogeneity which needs to be controlled for in governance and performance relation studies to obtain unbiased estimates. The term 'dynamic endogeneity' refers to the manner in which a firm's current performance affects both its future performance and governance.

The study of the relation between board structure and their performance is also important because the existing literature on board structure-performance relation is still mixed, inconclusive and needs to be resolved.

The sample in this study is considerably larger than samples in prior studies on board structure. Thus, the large sample provides the flexibility in using and reliably interpreting the results from different panel data estimation techniques including system GMM.

In terms of methodology, this study contributes by checking the robustness of the findings with multiple proxies of performance and several estimation methods to control for unobserved heterogeneity, simultaneity, reverse causality and possibly any outliers.

2. Related Literature and Research Hypotheses

2.1. Board size and performance

The earliest literature on board size argued the possibility that larger boards can be less effective than small boards. When boards consist of too many members agency problems may increase, as some directors may tag along as free-riders. Lipton and Lorch (1992) recommended limiting the number of directors on a board to seven or eight, as numbers beyond that it would be difficult for the CEO to control. A large board could also result in less meaningful discussion, since expressing opinions within

a large group is generally time consuming and difficult and frequently results in a lack of cohesiveness on the board (Lipton and Lorch, 1992). In addition, the problem of coordination outweighs the advantages of having more directors (Jensen, 1993) and when a board becomes too big, it often moves into a more symbolic role, rather than fulfilling its intended function as part of the management (Hermalin and Weisbach, 2003). On the other hand, very small boards lack the advantage of having the spread of expert advice and opinion around the table that is found in larger boards. Furthermore, larger boards are more likely to be associated with an increase in board diversity in terms of experience, skills, gender and nationality. Generally, any discussion about governance structure should weigh the pros and cons of various board sizes. Below, we present the key arguments for small and large board that clarifies the issue.

Board with a large number of directors provides enough people to more easily manage the work load of the board; the responsibility is divided among many members and larger size provides more perspectives. On the other hand, bigger board may not be able to engage every board member in a meaningful activity, meetings are difficult to schedule and it may be difficult to create opportunities for interactive discussions.

In small board, Board members get to know each other as individuals, communication and interaction is easier, the potential satisfaction from service can be greater due to constant and meaningful involvement and every person's participation counts. On the contrary, Heavy work load may create burnout in small board, it undermines the effectiveness of large groups and important opinions or points of view might not be represented.

The above arguments were empirically tested and a positive/negative association between board size and performance were reported.

Pearce and Zahra (1989) and Provan (1980) demonstrate the existence of a positive relationship between board size and firm's financial performance. According to Dalton et al. (1999), the positive relationship between board size and firm's financial performance is more intense for businesses to large sizes. Godard and Schatt (2004) argued that more the number of directors is important more the company achieves high performance. Andres and Vallelado (2008) determine that larger boards were more efficient in monitoring and create more value for a firm. The larger the board, the greater knowledge of the various administrators can improve performance and to exercise effective control (Kiel and Nicholson, 2003; Coles et al., 2008; and Linck et al., 2006). According to Pearce and Zahra, (1989) and Adams and Mehran (2011), firms with a large board of directors ensure a better performance. Shukeri et al., (2012) argues that board size had positive influence on firm ROA.

Based on the work of Lipton and Lorsch, (1992), directors in large boards could also face greater difficulties in expressing their opinions in the limited time available during board meetings. Eisenberg et al., (1998) found an inverse relationship between board size and firm performance. Yermack, (1996) found an inverse relationship between board size and firm value measured by Tobin's Q as an estimate of market valuation. When the board is large, this may present a barrier to the management control of the company because of poor coordination, flexibility and communication; so small boards create more value than large boards (Wu, 2000; Bhagat and Black, 2002; Odegaard and Bohren, 2004; Mak and Kusnadi, 2005; and Andres et al., 2005).

A larger size of a board can be a disadvantage in term of planning, work coordination, decision-making and holding regular meetings. A minimum number of directors with adequate experience and knowledge is able to ensure tasks efficiently. Based on the theoretical perspective that larger boards may create free rider problem among directors and the possibility of a lack of cohesiveness with larger boards, the first hypothesis is as follows:

Hypothesis 1 (H1): The financial performance of French companies is negatively related to board size.

2.2. Board independence and performance

In the last decade, public authorities around the world have introduced new governance codes and guidelines. Among other aspects, they focus on board composition and conduct, particularly the independence of boards. The presence of independent directors on boards is supposed to add more value, as these directors impartially oversee the executive directors. This concept seems to have been accepted as conventional wisdom around the world. Many corporate governance advocates suggest that a board should be made up of all or a majority of independent directors, while others suggest that a board should include a balance of independent and executive directors.

Many studies found an insignificant relationship between the fraction of outside directors' on the board and the financial performance (Hermalin and Weisbach, 1991; Bhagat and Black, 2000; and Klein, 2002). For Alexander and Paquerot, (2000), independent members in the board tend to mitigate agency conflicts between leaders and managers. Sarkar and Sarkar, (2009) and Kaymak and Bektas (2008) affirmed that inside directors leads to higher returns on assets (ROA) and not the outside independent directors.

However, Chen et al., (2000) show that high proportion of independent directors on the board improve the quality of financial disclosure and subsequent financial performance of companies. Dehaene et al. (2001) found a significant relationship between the number of outside directors and ROE which supports the notion that outsiders are able to perform a monitoring function as a result of their independence and the interest of the shareholders are well protected. Black and Rachinsky (2006) and Lefort and Urzua (2008) demonstrate that increasing the number of independent directors on the board promotes a positive financial performance of the firm. Kor and Misangyi (2008) argue that outside directors' have good skills and they can positively influence the financial performance of the company. ZainalAbidin et al. (2009) determine the evidence that a higher proportion of independent non-executive directors on the board have a positive impact on firm performance based on value added intellectual coefficient measurement.

High proportion of independent directors can assume the coalition of control and use their power to influence the process of decision on the board and limit the possibilities of implementations of supplementary control mechanisms. Therefore:

Hypothesis 2 (H2): The presence of a significant percentage of independent directors on the board of directors positively influences the financial performance.

2.3. The dual functions of management and control and performance

CEO duality refers to the situation when the CEO also holds the position of the chairman of the board. There is a large body of literature that examines the governance structure in which both the CEO and Chair positions are held by one individual and the impact of this dual leadership role—commonly known as “duality”—on the corporation’s performance.

The roles of the CEO consist to makes major corporate decisions and he is the responsible of the company's performance, he guarantees the understanding of all the aspects of operational activity, keeps a permanent dialog with the Chairman of the company, makes the team of executive managers, he's in charge of the developing and implementing high-level strategies and represents the company in customer relationship and professional associations.

The Chairman of the Board established implementation of the company's strategy by the board, he arranges the boards meetings and he assures the reception of the adequate information, directs and valorizes the board communications, determinates the composition of the board, ensures the company's and the board's management and he's the responsible of planning, managing and developing the effectiveness of the board.

Duality is not only an issue of governance or leadership for the acting chairman or CEO roles. It is also associated with the firm performance and takes the preoccupation of many studies.

Jensen and Meckling (1976) and Jensen (1993) describe how the separation of management and control decisions reduces agency costs and improves the performance. Cannella and Lubtakin (1993) and Sridharan and Marsinko (1997) found that plurality of functions increases the financial performance of the firm that the CEO has all the information for disclosure to members of the board. Weir and Laing, (2002) show that the combined role can project a clear sense of direction and can have a positive effect on financial performance. Godard and Shatt (2004) recommend that firms that opted to combine the positions are more profitable in the long term. Tuggle et al, (2008) also suggest that the sharing of power between the CEO and Chairman of the Board is a factor that may determine the ability of the manager in carrying out its functions. Sarkar and Sarkar (2009) argue that duality is an obstacle to the board's role since it allows weakening the control making by the directors and therefore a control system able to encourage the opportunism of the manager.

Jenny and Lau (2011) found that CEO duality had positive linear relationship with organizational performance in terms of both operation efficiency (ROA and ROE) and financial strength (shareholder’s right ratio). It creates benefits for non-family firms in China, while non-duality is good for family-controlled firms (Tin Yan and ShuKam, 2012). Georgeta and Stefan (2013) found a positive

influence of CEO duality on industry-adjusted Tobin's Q ratio. However, Raluca-Georgiana (2013) found that CEO duality is negatively associated with firm performance.

In France, Godard and Shatt, (2004) found that Duality is more profitable in the long term, confirming the essential role played by the leadership to create value. Hence our third hypothesis:

Hypothesis 3 (H3): the dual of function between leadership and chairmanship of the board negatively affect the financial performance.

3. Data and Methodology

3.1. Presentation of the Sample

Our sample includes 40 French firms (FF) with dimensions to index SBF 120. The financial and managerial data are collected using annual reports, Paris Market Exchange and websites of selected firms. Collected data covers the 2002-2009 period. Our final sample consists of 40 groups over a period of 8 years (320 observations). The use of the panel data give the advantage to benefit from the both, individual and temporal dimension of the available information.

3.2. Measures of performance

Combining both accounting and market information, multiple proxies of financial performance (FPER) are chosen to investigate the relation between board structure and their performance.

In this study, we employ four measures:

- **ROA** (Return on Assets: Profit to Total Assets).
- **ROE** (Return on Equity: Profit to Total Shareholders' Equity).
- **TQ** (Tobin's Q: [equity market value + liabilities book value] over [equity book value + liabilities book value]).
- **MB** (Market to Book ratio: (the company's market capitalization can be divided by the company's total book value from its balance sheet).

3.3. Measures of explanatory variables

The three measures of board structure are: board size (BS), independent directors (IND) and Board duality (BD).

- **BS**: size of the board of directors of the firm i in the year t measured by the number of administrators.
- **IND**: the number of independent directors scaled by the size of the board.
- **BD**: dummy variable having the value 1 if there is separation of the function of chief executive officer and chairman of the board of directors of the firm i in the year t , and 0 otherwise.

Following prior studies, we included two other variables of control: firm size (TA) and Leverage (EL).

- **TA**: the firm size measured by the logarithm of total assets.
- **EL**: the ratio of book value of debt and book value of assets.

3.4. Correlation matrix and descriptive statistics

The estimation of multiple regression models requires the absence of multicollinearity between FFs board structure and performance. This problem refers to a situation in which two or more explanatory variables are highly correlated. A problem of bi-variable multicollinearity arises when two independent variables are strongly correlated. Kervin (1992) estimates that a serious problem of multicollinearity arises starting from a limit of 0.7.

Conforming to Kervin (1992), results in Table 1 indicate that all correlation coefficients are lower than 0.7. We conclude the absence of bi-variable multicollinearity for all models. The descriptive statistics are given in Table 2.

Table 1. Cross correlation Matrix**Panel 1**

	ROA	BS	IND	BD	TA	EL
ROA	1.0000					
BS	-0.0099	1.0000				
IND	-0.0688	0.4317	1.0000			
BD	0.0636	0.0429	-0.0965	1.0000		
TA	-0.0941	0.3466	0.4803	-0.1121	1.0000	
EL	-0.0716	-0.3383	0.2345	-0.0271	0.3586	1.0000

Panel 2

	ROE	BS	IND	BD	TA	EL
ROE	1.0000					
BS	-0.0055	1.0000				
IND	-0.0090	0.4317	1.0000			
BD	-0.0764	0.0429	-0.0965	1.0000		
TA	-0.0557	0.3466	0.4803	-0.1121	1.0000	
EL	-0.0076	-0.3383	0.2345	-0.0271	0.3586	1.0000

Panel 3

	TQ	BS	IND	BD	TA	EL
TQ	1.0000					
BS	0.0136	1.0000				
IND	0.2536	0.4317	1.0000			
BD	0.0356	0.0429	-0.0965	1.0000		
TA	-0.1173	0.3466	0.4803	-0.1121	1.0000	
EL	0.2825	-0.3383	0.2345	-0.0271	0.3586	1.0000

Panel 4

	MB	BS	IND	BD	TA	EL
MB	1.0000					
BS	0.0396	1.0000				
IND	0.2773	0.4317	1.0000			
BD	-0.0241	0.0429	-0.0965	1.0000		
TA	0.0372	0.3466	0.4803	-0.1121	1.0000	
EL	0.0611	-0.3383	0.2345	-0.0271	0.3586	1.0000

Conforming to Kervin, (1992), results in Table 6 indicate that all correlation coefficients are lower than 0.7. We conclude the absence of bi-variable multi-collinearity for all models.

3.5. Empirical model and estimation method**3.5.1. Empirical model**

The aim of this section is to present the relation between the board structure and the performance. The following regression equation is specified as a dynamic panel model that includes one lag of performance as an explanatory variable to empirically test our three main hypotheses, H1, H2 and H3. The model giving this relationship is in equation (1) below:

$$\text{Equation (1)} \left\{ \begin{array}{l} \text{FPER}_{it} = \delta_{it} + \alpha_1 \text{FPER}_{it-1} + \alpha_2 \ln \text{BS}_{it} + \alpha_3 \text{IND}_{it} + \alpha_4 \text{BD}_{it} + \beta_1 \text{TA}_{it} \\ + \beta_2 \text{EL}_{it} + u_i + \varepsilon_{it} \end{array} \right.$$

Where subscripts i denote individual FFs ($i = 1, 2, \dots, 40$), t time period ($t = 2002, 2003, \dots, 2009$) and \ln is the natural logarithm. δ , α , β and Ψ are the parameters to be estimated. u is the “unobserved fixed-effect” for firm i . ε denotes the remaining disturbance term.

Table 2. Descriptive statistics
Size of the board of directors

MEAN	STANDARD DEVIATION	MIN	MAX
11.58	3.85	4	24
	NUMBER	FREQUENCE	
Size <5	03	7,5%	
5< Size <15	30	75%	
15< Size	07	17,5%	
Total	40	100%	

Independence of the board of directors

MEAN	STANDARD DEVIATION	MIN	MAX
5.95	2.66	01	18
	NUMBER	FREQUENCE	
Number<5	18	45%	
5< Number <10	21	52.5%	
10< Number	01	2.5%	
Total	40	100%	

Board duality

MEAN	STANDARD DEVIATION	MIN	MAX
0.63	0.48	00	01
	EFFECTIF	FREQUENCE	
Duality	26	65%	
No Duality	14	35%	
Total	40	100%	

3.5.2. Estimation method

Broadly, the causality between the independent and dependent variables of a model leads to endogeneity. In our study board size can be affected by firm characteristics such as firm size, therefore, traditional econometric methods as (MCO, fixed effect and GLS generalized effect) does not enable us to obtain efficient estimates of such a model. So to solve this problem, we introduce Arellano and Bover (1995) and Blundell and Bond (1998) two-step “system GMM” as our primary estimation technique of equation (1). This approach allows us to orthogonally use the lag of explanatory variables as instruments to reduce endogeneity problem from reverse causality, simultaneity and unobserved fixed effect.

Particularly, the system GMM technique involves stacking the equations in difference with the equations in levels and carrying out GMM estimation using lagged level values of all variables as instruments for the differenced equation and lagged differenced values as instruments for the equations in levels. First differencing eliminates unobserved heterogeneity and omitted variable bias. Then, using the past as instrument for the present reduces potential biases from simultaneity and reverse causality. Following Wintoki et al. (2009), all explanatory variables in equation (1) are included as endogenous except year dummies. In the system GMM, two-step estimates of the standard errors tend to be downward biased (Blundell and Bond, 1998) and hence a finite-sample correction to the two-step covariance matrix is executed following Windmeijer (2005). The reliability of the system GMM estimates is also checked with Hansen test for instruments validity and Arellano and Bond (1991) test for serially uncorrelated error terms.

In order to choose the best model specification, we examined several specifications according to different assumptions about the endogeneity of variables.

4. Empirical Results

The results reported in Table 3 indicate that the coefficients associated with all variables of the model are statistically significant at 1% threshold and this in explaining the financial performance across these different measures. In addition, we note that according to the p-values of the Hansen test and that of Arellano and Bond AR(2), we cannot reject the null hypothesis of validity of instruments and the absence of autocorrelation of second order to usual risk's thresholds, respectively. Note that the instruments used in the some model's specifications are the number of 47.

The empirical investigation includes four regressions with four different proxies for firm performance in order to trace any Impact of board structure on firm performance. With regards to the impact of board structure on firm performance, we find mixed findings. Consistent with theory, board size affects negatively and statistically significant Return on Equity (-2.716) and Market to Book (-4.351). This negative result is consistent with findings of (Eisenberg et al., 1998; Wu, 2000; Bhagat and Black, 2002; Odegaard and Bohren, 2004; Mak and Kusnadi, 2005; and Andres et al., 2005). Board size affects also positively and statistically significant Return on Assets (0.167) and Tobin's Q (0.540) consistent with findings of Andres and Vallelado (2008) and Shukeri et al. (2012).

Table 3. Impact of Board structure on firm performance measures

	ROA	ROE	TQ	MB
Lag of dependant variable	-0.002*** (0.000)	0.121*** (0.000)	0.246*** (0.000)	0.903*** (0.000)
BS	0.167*** (0.005)	-2.716*** (0.042)	0.540*** (0.003)	-4.351*** (0.149)
IND	-0.089*** (0.008)	4.951*** (0.040)	-0.149*** (0.007)	-2.4*** (0.115)
BD	0.891*** (0.039)	-5.530*** (0.259)	-0.530*** (0.025)	23.453*** (1.024)
TA	-1.151*** (0.019)	26.986*** (1.338)	0.135*** (0.018)	7.032*** (0.511)
EL	0.08*** (0.003)	-1.988*** (0.103)	0.218*** (0.001)	0.689*** (0.067)
Constant	8.55*** (0.211)	-225.553*** (14.272)	-4.244*** (0.165)	-7.161 (5.046)
Nombre of Observations	240	240	240	240
Nombre of Instruments	47	47	47	47
P-value Hansen Test	0.712	0.734	0.594	0.599
P-value AR(1)	0.315	0.167	0.089	0.087
P-value AR(2)	0.365	0.523	0.226	0.185

Notes: ROA (Return on Assets), ROE (Return on Equity), TQ (Tobin's Q) and MB (Market to Book ratio) are dependEnt variables. The numbers in parentheses are absolute value of t-statistics. *, **, and *** indicate statistical significance at the 1%, 5%, and 10% level. For System-GMM estimator in two stages, the variables assumed predetermined are the lags of each dependent variable, IND, BD, TA and EL. While the explanatory variable in the model, assumed endogenous, is BS. Furthermore, variables are instrumented by their delays of at most 5 periods. In addition, the reported values in the table are p-values of the Hansen test of instruments' validity and those of Arellano and Bond test AR(2) autocorrelation absence of second-order thresholds usual risk.

Board independence affect positively and statistically significant Return on Equity (4.951) and negatively and statistically significant Return on Assets (-0.089), Tobin's Q (-0.149) and Market to Book (-2.4). We find that board independence has generally a negative impact on 3 firm performance measures, a result which is consistent with previous literature Alexander and Paquerot (2000), who find that independent members tend to mitigate agency conflicts between leaders and managers. The positive results on Return on Equity conform to the findings of (Black and Rachinsky, 2006; Lefort and Urzua, 2008; Awan, 2012).

Indeed, we find that the coefficient associated with the accumulation of functions is positive and statistically significant using Return on Asset (0.891) and Market to Book (23.453). This result is consistent with studies of Cannella and Lubtakin (1993) and Sridharan and Marsinko (1997) which provide that the combination of tasks increases the performance of the firm that the CEO has all the information for disclose the later members of the board.

Board duality affects negatively and statistically significant Return on Equity (-5.530) and Tobin's Q (-0.530). This negative result is consistent with findings of Sarkar and Sarkar (2009), and Raluca-Georgiana (2013).

The overall results, so far, suggest that although board structure relationship with firm performance seems to be non-existent. This finding is in accordance with our three hypotheses according to which Board Structure has an effect on firm performance.

5. Conclusion

The board of director in improving the effectiveness of control has been the subject of lengthy discussions both in academic literature and in the business environments. The aim of this study is to examine whether board structure (size, composition and gender diversity) is related to their performance. The study results show that board structure is a determinant factor for French firm performance. In addition, in contrast with some others findings, a firm's prior performance does not significantly affect its board structure. Thus, the bias in estimates with 'dynamic endogeneity' could be less severe in estimating the relation between board structure and performance. This study was an attempt to understand the phenomenon of firm control influenced by board structure. The relationship between governance (essentially the board of director) and performance continues to be a fundamental issue in the corporate governance literature. Findings of this literature are often inconclusive. Specifically in this study, in 40 French firms, we investigate whether board characteristics (Board size, external directors, Board duality) affects firm performance measured by Return on Assets, Return on Equity, Tobin's Q and Market to Book ratio.

We find that the empirical results support the theoretical framework of this study. According to the GMM System methods of analyze, we find that the majority of our hypotheses are empirically validated and reflect what which is advocated in the literature. Like any research, this study suffers from some shortcomings which should specify them. Indeed, we mention the limitations related to the approximations made to measure some variables. This is especially so in the estimation of Tobin's Q.

Thus, future research could further our research topic by integrating other board features such as the percentage of equity held by outside directors and the impact of the presence of financial or institutional administrators and tenure board and study their impact on performance.

Finally, we note that the study of the impact of board structure on French firm performance can be approached with a specification by industry provided that the number of firms in a given sector is sufficiently representative.

References

- Abidin, Z.Z., Kamal, N.M., Jusoff, K. (2009) Board structure and corporate performance in Malaysia. *International Journal of Economics and Finance*, 1(1), 150-164.
- Adams, R.B., Ferreira, D. (2007) A theory of friendly board. *The Journal of Finance*, 62(1), 217-250.
- Adams, R.B., Mehran, H. (2008) Corporate performance, board structure and their determinants in the banking industry. Federal Reserve Bank of NY Staff Report No 330.
- Adams, R.B., Hermalin, B., Weisbach, M. (2009) The role of boards of directors in corporate governance: a conceptual framework and survey. Charles A. Dice Center Working Paper No. 2008-21
- Alexandre, H.M., Paquerot, M. (2000) Efficacité des structures de contrôle et enracinement des dirigeants. *Finance Contrôle Stratégie*.
- Andrés, P., Azofra, V., López, F.J. (2005) Corporate Boards in some OECD countries: size composition, functioning and effectiveness. *Corporate Governance: An International Review*, 13(2), 197-210.
- Andres, P.D., Vallelado, E. (2008) Corporate governance in banking: The role of the board directors. *Journal of Banking and Finance*, 32(12), 2570-2580.

- Arellano, M., Bover, O. (1995) Another look at the instrumental variables estimation of error-components models. *Journal of Econometrics*, 68(1), 29-51.
- Awan, S.H. (2012) Effect on board composition on firm performance: A case of Pakistan listed companies. *Inter disciplinary Journal of Contemporary Research in Business*, 3(10).
- Bhagat, S., Black, B. (2002) The non-correlation between board independence and long-term firm performance. *Journal of Corporate Law*, 27, 231-274.
- Black, B.S., Rachinsky, A. (2006) Corporate Governance and Firm's Market Values: Time Series Evidence from Russia. *Emerging Mark*, 7, 361-379.
- Blundell, R., Bond, S. (1998) Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(2), 115-143.
- Cannella, A., Lubtakin, M. (1993) Succession as a sociopolitical process: Internal impediments to outsider succession. *Academy of Management Journal*, 36, 763-793.
- Coles, J. L., Daniel, N. D., Naveen, L. (2008) Boards: does one size fit all? *Journal of Financial Economics*, 87(2), 329-356.
- Chen, J.P., Charles, J., Jaggi, B.L. (2000) The Association between independent nonexecutive directors, family control and financial disclosures in Hong Kong. *Journal of Account and Public Policy*, 19(4-5), 285-310.
- Dalton, D.R., Daily, C.M., Johnson, J.L., Ellstrand, A.E. (1999) Number of directors and financial performance: a meta-analysis. *Academy of Management Journal*, 42(6), 674-686.
- Dehaene, A., Vuyst, V.D., Ooghe H. (2001) Corporate performance and board structure in Belgian companies. *Long Range Planning*, 34 (3), 383-398.
- Eisenberg, T., Sundgren, S., Wells, M.T. (1998) Larger board size and decreasing firm value in small firms. *Journal of Financial Economics*, 48(1), 35-54.
- Georgeta, V., Stefan, C.G. (2013) Board of directors independence and firm value: empirical evidence based on the bucharest stock exchange listed companies. *International Journal of Economics and Financial Issues*, 3(4), 885-900.
- Godard, L., Shatt, A. (2004) Caractéristiques et fonctionnement des conseils d'administration français: Un état des lieux. *Cahier du FARGO* (104020).
- Harris, M., Raviv, A. (2008) A theory of board control and size. *Review of Financial Studies*, 21(4), 1797-1832.
- Hermalin, B., Weisbach, M. (1991) The effects of board composition and direct incentives on firm performance. *Financial Management*, 20, 101-112.
- Hermalin, B.E., Weisbach, M.S. (2003) Boards of directors as an endogenously determined institution: A survey of the economic literature. *FRBNY Economic Policy Review*, 9(1), 7-26.
- Jensen M.C, Meckling, W.H. (1976) Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4), 305-360.
- Jensen, M.C. (1993) The modern industrial revolution, exit the failure of internal control systems. *Journal of Finance*, 48(3), 831-880.
- Kaymak, T., Bektas, E. (2008) East meets west? Board characteristics in an emerging market: Evidence from Turkish Banks. *Corporate Governance*, 16(6), 550-561.
- Kervin, J. B., (1992) *Methods for Business Research*. New York: Harpet Collins.
- Kiel, G., Nicholson, G.J. (2003) Board Composition and Corporate Performance: how the Australian experience informs contrasting theories of corporate governance. *Corporate Governance*, 11, 189-205.
- Klein, A. (2002) Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics*, 33, 375-400.
- Kor, Y.Y., Misangyi, V.F. (2008) Outside directors industry-specific experience and firm's liability of newness. *Strategic Management Journal*, 29(12), 1345-1355.
- La Porta, R., Lopez, F., Shleifer, A. (1998) Corporate Ownership Around the World. *Journal of Finance*, 5(2).
- Lefort, F., Urzua, F. (2008) Board independence, firm performance and ownership concentration: Evidence from Chile. *Journal of Business Research*, 61, 615-622.
- Linck, J., Netter, J., Yang, T. (2006) A large sample study on board changes and determinants of board structure. Working Paper, University of Georgia.

- Linck, J. S., Netter, J. M., Yang, T. (2008) A large sample study on board changes and determinants of board structure. *Journal of Financial Economics*, 87(2), 308-328.
- Lipton, M., Lorsch, J. (1992) A modest proposal for improved corporate governance. *Business Lawyer*, 48(1), 59-77.
- Mak, Y.T., Kusnadi, Y. (2005) Size really matters: further evidence on the negative relationship between board size and firm value. *Pacific-Basin Finance Journal*, 13, 301– 318.
- Odegaard, B.A., Bohren, O. (2004) Governance and Performance Revisited. ECGI – Finance Working Paper.
- Pearce, J.A., Zahra, S.A. (1989) Boards of directors and corporate Financial Performance: A Review and Interactive Model. *Journal of Management*, 15(2), 291-334.
- Provan, K.G. (1980) Board Power and organizational effectiveness among human service agencies. *Academy of Management Journal*, 23, 221-236.
- Raluca-Georgiana, M. (2013) Does CEO Duality Really Affect Corporate Performance. *International Journal of Academic Research in Economics and Management Sciences*.
- Sarkar, J., Sarkar, S. (2009) Multiple board appointments and firm performance in emerging economies: Evidence from India. *Pacific-Basin Finance Journal*, 17, 71- 293.
- Shukeri, S. N., Shin, O., Shaari, M, S. (2012) Does board directors characteristics affect firm performance? Evidence from Malaysian public listed companies. *International Business Research*, 5(9), 120-127.
- Sridharan, U.V., Marsinko, A. (1997) CEO duality in the paper and forest products Industry. *Journal of Finance and Strategic Decisions*, 10(1), 59-65.
- Tin-yan, L., Shu-kam, L. (2012) Family ownership, board committees and firm performance: evidence from Hong Kong.
- Tuggle, C.R., Reutzel, C.R., Bierman, L. (2008) CEO duality and boardattention to monitoring and control. *Academy of Management Journal*.
- Weir, C., Laing, D. (2002) Internal and external governance mechanisms: Their impact on the performance of large UK public companies. *Journal of Business Finance and Accounting*, 579-611.
- Windmeijer, F. (2005) A finite sample correction for the variance of linear efficient two-step GMM estimators. *Journal of Econometrics*, 126(1), 25-51.
- Wintoki, M. B., Linck, J. S., and Netter, J. M. (2009) Endogeneity and the dynamics of corporate governance. SSRN Papers.
- Wu, Y. (2000) Honey, CalPERS shrunk the board. Working paper, university of Chicago.
- Yermack, D. (1996) Higher market valuation of companies with a small board of directors. *Journal of Financial Economics*, 40(2), 185-212.