



Directors characteristics and stock market performance in Canada

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ABSTRACT

We examine the effect of the characteristics of board of directors on the stock market performance in Canadian settings. Our sample includes fifty of the largest corporations listed on the Toronto Stock Exchange at the end of December 2013 for the period of 2009 to 2013 for the sub-groups of S&P/TSX Composite Index-60. Our results show that the size of the board, remuneration of directors and disclosure of financial information in terms of book value per share and earnings per share, contribute to market performance of firms in S&P/TSX Composite Index-60 listing.

JEL Classification : A12 ; G22; G38.

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1. Introduction

It was suggested by the report of the Kumar Mangalam Birla Committee (2000) that it is imperative for companies to maximize the value and wealth of the shareholders. Therefore, many companies try to adopt better governance practices, particularly through the development of a more responsible and effective board. This is a good way for improving business momentum and hence the financial performance of the company.

The idea of having a board of directors for different tasks existed long before Adam Smith (1776). The outlook of theories of stewardship, agency, stakeholders and stock markets are the board prospect framework in the contemporary era (Hahn and Lasfer, 2011). In the agency theory, due to conflict of interest between shareholders and managers in the organization's structure, the board has the fundamental role of monitoring the business managers and ensure that they act in the best interests of the shareholders (Lin and Lin, 2014).

In fact, maximizing shareholders' value requires good corporate governance and is fundamental in building a high-performance board. Thus, there are three main functions of the board. First, the role of agency, which is expressed in the control of the management team of the company, requires that the board monitors management team behaviour for the benefit of shareholders. Second, in terms of the strategic role of political support, the board initiates decisions on the strategic direction of the company. Third, the board of directors acts as the resource owner. It considers the directors as a means of identification and acquisition of tangible and intangible resources on behalf of the company (Hahn and Lasfer, 2011).

The importance of good corporate governance is to limit conflicts of interest between shareholders and managers. The costs of these conflicts are not a new phenomenon. From another angle, the financial scandals in several

countries have served as justification for new legislation to regulate corporate governance practices, to protect and to maximize shareholder value (Berthelot et al., 2010).

The business performance is closely linked to a good corporate governance, which ultimately maximizes long-term shareholder value by ensuring equity, transparency, integrity and accountability of managers. In the era of economic globalization, companies are led by market forces and competitive pressures. They are mainly judged by investors using financial indicators such as earnings per share, market value of the share, etc. (Prusty, 2013).

The objective of this article is to study the impact of the characteristics of the board on market performance, according to the agency perspective. This research takes into account changes in the market price for Canadian companies listed on the Toronto Stock Exchange, based on sub-grouping S&P/TSX Composite Index-60 as of December 31st, 2013. The longitudinal study covers a five-year horizon, from 2009 to 2013.

1.1 Creation of wealth for shareholders

The creation of value was a main theme of the founding father of economics Adam Smith, in his famous book "Essay on the nature and the Wealth of Nations" (1776). Smith attributed the capacity to create value to the "visible hand" of capitalism and to the "invisible hand" of the market. The value is expressed in terms of price. In a capitalist economy, value is created by the production of enterprises. It is then carried out in exchange for the sale of market products for a profit (Pitelis, 2004). According to Coase (1937), the company is an alternative to market coordination. It is a contractual system that is supposed to ensure the maximization of shareholder value to enrich the owners. As owners, the shareholders' concern is to get a return on their capital in relation to the risk that they take (Charreaux and Desbrières 1998). However, in managerial firms, many studies have highlighted the natural tension between managers and shareholders (Denglos, 2007).

In fact, the structure of governance in both United States and Canada is focused on maximizing shareholder value. In Germany, employees act as a stakeholder group and take a greater role in governance. In contrast, the Japanese shareholders have no role in the monitoring and control of high-level managers (Hitt et al., 2011).

A better understanding of the link between governance and value creation therefore requires the integration of these mechanisms, without rejecting the agency conflicts (Wirtz, 2006). Albouy (1993) noted, "There are few management books that are interested in the role of shareholders and the board in running businesses. Our research is part of the contribution prospect of a new light on the role of the board in the stock market performance, as an indicator of value creation for shareholders.

Performance is a multidimensional concept: it occurs when a company creates value for its shareholders in a sustainable way and is economically efficient (Barney, 1991). For Chatelin and Trébucq (2003), the company's performance is evaluated from the managerial choice to maximize enterprise value.

1.2 Financial reporting, board of directors and stock performance

The agency theory of Jensen and Meckling (1976) suggests that managers are known for their opportunism and must be controlled in order to align their interests with those of shareholders. This control is a schematic transparency in financial reporting (Fiador, 2013). The relevance of financial information in the developed countries has been well documented since the seminal work of Ball and Brown (1968). The financial information of listed companies is the main mode of communication with investors. The relevance of financial information seems to indicate a greater importance for companies with strong governance structures (Fiador, 2013).

The usefulness of the financial information, presented in the financial statements of listed companies, contributes to value creation, strategic alignment of business, risk management and management of company resources (Al-Zwyalif, 2013). The publication of financial information is to create a safe environment for stakeholders through a culture of transparency. Also, transparency makes information on current conditions visible and understandable to all market participants (Fiador, 2013). The disclosure of financial information generally reduces the presence of asymmetric information, prompting the company to voluntarily publish the listed corporate governance practices (Hassan, 2011).

So better financial information reduces the risk estimation for investors, helps to distinguish good from bad managers, thus reduces agency costs, minimizes the level of information asymmetry and helps investors to distinguish good from bad investments (Fiador, 2013). The production of high-quality financial information appears to be related to the presence of excellent corporate governance.

In addition, the board may assist the process of strategic decision making by providing advice and expertise to senior management, and to improve the quality of strategic decision making (Zahra and Pearce, 1989). For Rouyer (2013), the responsibility of the board is to maximize shareholder value and decide the strategic plan of the company to adopt. In addition, the board has the ultimate authority to establish internal control systems; review and approve the financial and operating decisions that lead to the maximization of shareholder value (Shiah and Cheng-Hou, 2012). In addition, the independent directors play a unique role because they are not engaged in enterprise management (Ivashkovskaya and Stepanova, 2011).

The features of the board, subject of our study, are: size, independence, frequency of meetings, size of the audit committee, and remuneration of directors. In this study, we seek the impact of these characteristics on market performance of the share, as a proxy for value creation for shareholders.

2. Literature and hypotheses development

2.1 Board of director's size

The board of directors plays an important role in the corporate governance system (Fama and Jensen, 1983). Researchers in the field of corporate governance argued that the board's size plays a central role as an internal mechanism to reduce conflicts of interest between managers and shareholders of the company (Elsayed, 2011). The composition of the board has an impact on senior management oversight. Similarly, the number of directors is an important factor in terms of effective corporate governance (Dalton et al., 1999). Empirical studies, that have investigated the relationship between the size of the board and corporate performance, result in mixed and inconclusive results (Elsayed, 2011). We note a discrepancy in the literature on the size of the board. Supporters of a small size board, for example Yermack (1996) suggest that a small board is actually focusing on its core tasks; other authors like Postma et al. (2003) give their support to the positive influence of the small size of the board on the companies' performance.

Another current research stream supports that there is a positive influence of the large size of the board on the company's performance (Belkhir, 2009). However, other researchers have shown no relationship between the size of the board and corporate performance (Kaymak and Bektas, 2008). Thus, we argue that the size of the board varies depending on the company, because it would require specific features for each company. Large diversified companies with leverage may have more advisory needs. Therefore, previous studies actually give conclusive arguments about the size of the board to facilitate the board's effectiveness and to improve business performance (Wang et al., 2013). Based on the above, we advance our first hypothesis concerning the role of the size of the board in financial performance:

H1: *The size of the board is positively correlated with stock market performance of the company.*

2.2 Independence of the board

Independent directors are supposed to represent the interests of shareholders by mitigating agency problems between senior management and shareholders. The role of independent directors on the board is to monitor the company's activities. This control will reduce opportunistic behavior of senior management and expropriation of company resources (Fama and Jensen, 1983). In fact, a director is considered independent and external when he is outside of the company and is not part of the management team, has no connection to a leading member in the company or has not been working for the interest of the company during the last five years (Zhang, 2012).

The independent directors should be evaluated based on their skills, knowledge, informal network, professionalism, experience, integrity and expertise (Kassim et al., 2013). Research suggests, indeed, that independent directors are evaluated on their ability to advise, to strengthen professional and personal relationships, and to work for the company (Herman, 1981). Moreover, it is generally accepted that a higher ratio of independent directors can reduce the probability of executive financial fraud (Klein, 2002). A higher ratio of independent directors has a positive effect on the company's performance (Zahra and Pearce, 1992), since the presence of independent directors improves the efficiency of the board (Ghosh, 2006) and business performance (Adams and Mehran, 2003). In addition, Hasnah and Hasnah (2009) indicate that the independent directors are able to provide impartial advice and contribute to the defense of the interests of shareholders through greater value creation. Thus, the second hypothesis is as follows:

H2: *The presence of independent directors on the board is positively affect stock market performance.*

2.3 Frequency of meetings

The lack of time to perform tasks for the board can be a major obstacle to the effectiveness of the board (Lipton and Lorsch, 1992). To make sound decisions, directors must have enough well-organized time periods (Conger et al., 1998). The regular frequency of meetings is often considered in the literature as a determinant of the level of the control activity (Sharma et al, 2009). The frequency of meetings would lead to many benefits for shareholders (Laksmana, 2008). It strengthens the level of supervision on the process of communication for financial information and greater transparency on executive compensation practices (Laksmana, 2008). The boards with a larger number of independent directors, may meet together and subsequently inform the Management on strategic decisions taken by directors (Vafeas, 1999). The author has examined a sample of three hundred and seven companies and noticed that the annual number of board meetings is inversely related to the company's value. This is explained by the fact that the high number of meetings would be used to monitor the potential decline in the share price. The finding is especially true for companies with small previous performance and low control of its transactions. In this context, we state our third hypothesis as follows:

H3: *The frequency of the board's meetings is positively correlated with the stock market performance.*

2.4 Audit committee

The audit function has become an important mechanism for corporate governance in recent years (Garcia et al., 2012). The Audit committee is a corporate governance mechanism and its presence within the board is a change indicator in the area of good corporate governance (Varma and Patel, 2012). An effective audit committee can influence the spread of faithful and relevant financial information and ensure functional risk management for companies. An effective audit committee can also help improve the transparency of the securities markets, resulting in better protection of shareholders' interests and improving the corporate value (DeZoort et al, 2002). A diligent audit committee can reduce financial fraud and can improve the quality of financial information (Abbott et al., 2004).

However, Rahman and Ali (2006) believe that the accounting manipulation of accounts is positively related to the size of the audit committee. Also, Lin et al. (2006) found that there was a negative relationship between the size of the audit committee and earnings management. Garcia et al. (2012) conclude, meanwhile, that big audit committees appear to be ineffective in their oversight functions with respect to smaller committees. Vafeas (1999) believes that the largest audit committees can lead to inefficient forms of governance, because they require more frequent meetings. Furthermore, the audit committee give greater access to more resources and more management expertise enabling more effective monitoring and reducing demands of more meetings (Sharma et al., 2009).

According to Yin et al. (2012), it appears that the audit committees are set up to oversee the preparation of financial statements. Finally, audit committees are considered by many authors as creations of the company management rather than as watchdogs to ensure the interests of shareholders (Weschler, 1989). This leads us to formulate our fourth hypothesis as follows:

H4: *The size of the audit committee is positively correlated with the company's stock market performance.*

2.5 Remuneration of directors

The issue of compensation is one of the most sensitive to handle. In recent years, the remuneration received by the directors has begun to have an increasing attention (Andreas et al., 2012). In fact, the compensation must be perceived as fair and not be directly linked to short-term results thereby avoiding embarrassment and misunderstanding (Rodrigues and Seabra, 2012). A new trend in this area deals with the remuneration of directors and its effect on corporate behavior, such as decisions on diversification or research and development strategy (Jensen and Zajac, 2004). For their part, Linn and Park (2005) suggest that the remuneration of non-executive directors is correlated with growth opportunities and business size.

In the 1980s, American studies have shown a positive relationship between the remuneration of non-executive directors and the frequency of meetings of the board. These studies on the remuneration of directors have focused on the link between compensation and performance of CEO (Jensen et al., 2004). Indeed, the trend of director compensation policy is based on the company's performance (Jensen and Murphy, 2004) and the disclosure of the specific remuneration of each director (European Commission, 2004). The need for transparency, including publication of director's remuneration is to publicly acknowledge the link between compensation and the overall performance of the company (Rodrigues and Seabra, 2012). A positive performance on executive compensation

gives them the legitimacy to have the ability to create value for shareholders. Given the above, we formulate the fifth hypothesis as follows:

H5: *The compensation of directors is positively related to the stock market performance of the company.*

2.6 Financial information

The vital role played by the financial information published in the functioning of capital markets cannot be underestimated. The published financial data provides information for facilitating investors' capital flows and the creation of value (Van Greuning, 2009). Anyway, corporate governance is related to the quality and value of the financial information. Generally, corporate governance aims to improve the value of financial information, demonstrate the effectiveness of management and reduce the manipulation of results (Almeida et al., 2009).

Several studies examine the relevance of financial results for the behavior of stock prices (Chalmers et al., 2010). Some of them focus on the association between financial performance and stock returns (Kothari, 2001). Other research focuses on the relationship between the financial value and equity market value (Barth 1991; Shelvin 1991). Similarly, analysis made by Bao and Chow (1999) and Chalmers et al. (2010), suggest that the earnings per share and the share prices are closely associated in the equity markets. Finally, Berthelot et al. (2012) found positive results between the availability of financial information, accountability and performance of the listed company. The review of previous literature allows us to formulate the sixth hypothesis as follows:

H6: *Disclosure of information on earnings per share is positively affects stock market performance.*

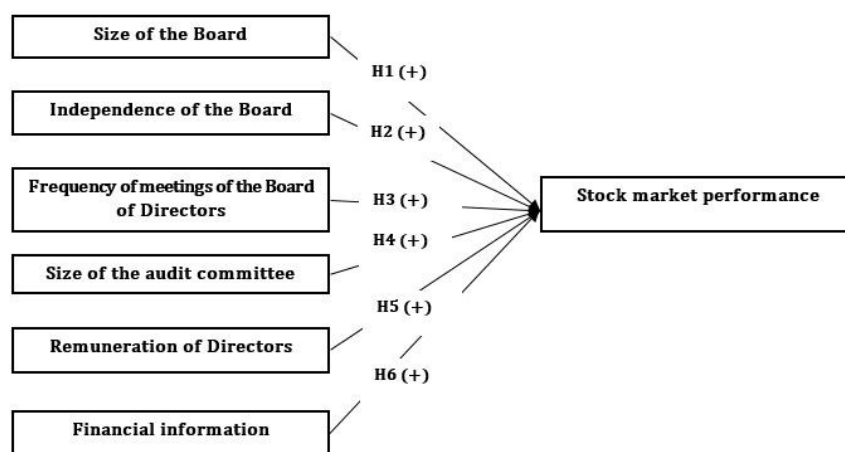


Figure 1: Theoretical model of the study.

3. Materials and methods

The methodological model of this research includes: the type and extent of the research, selection and justification of the sample, data collection, measurement of variables used and the formulation of the empirical model of the stock market valuation.

3.1 Type and scope of the search

In this study, we test the existence of a possible relationship between the different characteristics of the board of directors and the stock market performance. To measure this value, we use prevailing market price three months after the close of the fiscal year. To test our research hypotheses, the latter variable is taken as the dependent variable.

In the following pages, we list the independent variables from the guidelines of the Toronto Stock Exchange "TSX". These variables can characterize a strategist board of directors that is oriented towards the creation of value for common shareholders. These characteristics are modeled on the rules of the Corporate Governance Guidelines of 2005. These policy rules are themselves determined from those of the New York Stock Exchange. One of the reasons why there is a strong resemblance between these two sets of rules is that some companies listed on the Toronto Stock Exchange are also listed on the New York Stock Exchange. To meet our own research question, we have also introduced accounting measures. These measures are paired together with the governance standards

which are used to identify determinants of market performance in companies listed on the Toronto Stock Exchange.

3.2 Sample: Choice and justification

As part of this study, we focus on fifty of the largest companies listed on the Toronto Stock Exchange as of December 31st, 2013, for the period from 2009 to 2013. Since 2002, the Toronto Stock Exchange has adopted a classification of firms in ten sectors, as accepted by the Standard & Poor's (S&P). The latter is an independent financial information and investment services, and at the same time, leader in supplying indexes in various fields. The choice of our sample is based on the sub-grouping S&P/TSX Composite Index-60. This choice of the sixty largest companies listed on TSX in terms of financial capitalization seems very representative of the Canadian economy. From this sample, however, we excluded the 10 banks due to their particular regulatory nature. Thus, our final sample consists of 50 companies in the period that goes from 2009 to 2013.

3.3 Data collection

The data for our research was obtained from three databases, namely: SEDAR, STOCK GUIDE and FPInformat. The operation of the data collection took place in spring 2015. After the purification of our sample, 36 companies remain with complete data sets. Some data are missing or have been removed as they were aberrant. Table 1 provides details of the data. Thus, we analyzed 180 observations spread over five years, using the model of the stock market valuation. This data is compiled using Statistical Package for the Social Sciences software (SPSS), Version 22.

Table 1: Status of sample data

Data State	Companies
Sample from the S & P 60	50
Totally missing data	7
Partially missing data	7
Final sample	36

3.4 Measurement of variables

The measurement of variables covers the dependent, the independent and the control variables. Regarding the measure of the independent variables, we used the information available in certain databases or we calculated them ourselves. Finally, some variables are coded in a binary fashion when we think it is the most appropriate way.

Dependent variable: Stock price

In this model, we use the market price for the period ending three months after the end of the fiscal year. This model is justified by the fact that this is a valuation model which combines financial information on one hand and information related to the characteristics of the board of directors on the other. This puts us in confidence that the information contained in the *Annual Report and Management Proxy Circular* is incorporated into the stock price since Canadian companies have three months to publish these documents. These basic data have been taken from the database "STOCK GUIDE" version of March 2014, in its "Market Data" under "Chart" section.

Size of the board of directors

Size of board of directors is the total number of people on the board of directors. This information is also available in the database "SEDAR", especially in the "Management Proxy Circular" section. This document describes how the company complies with the corporate governance standards required by the Toronto Stock Exchange.

Proportion of unrelated directors

We measure this variable by percentage of outside directors on the total number of company directors; this concept is defined by the guidelines of the Toronto Stock Exchange. Thus, unrelated directors are presented on SEDAR in the circular "Management Proxy Circular".

Frequency of meetings

The frequency of meetings is available in the database "SEDAR" in the "Management Proxy Circular". This information corresponds to the number of meetings held by the board of directors during the fiscal year. Note that we don't consider the meetings that are organized by the various committees of the board, even if it is the same people that are found, and who only «changes hats». This variable is expressed without any unit since it is raw data.

Size of the audit committee

This variable indicates the number of directors on the audit committee. The information comes from circulars "*Management Proxy Circular*", available on the website of the database "SEDAR". This database is managed by the Canadian Securities Administrators (CSA).

Proportion of remuneration of directors

The information of the directors' remuneration is available on the website of the System for Electronic Document Analysis and Research "SEDAR" especially the "*Management Proxy Circular*" which provides information on the remuneration of each director. The latter takes many forms, whether in cash or in shares or in stock options. Amounts paid in a currency other than the Canadian dollar were converted into the latter currency at the exchange rate of the closing date of the fiscal year. The company's total shares are available on the database "*FP Informart*" mainly in the "*Financial Post Corporate Analyzer*" section.

Proportion of shares held by directors

This information is given by the percentage ratio between the number of shares held by directors and the total number of common shares. The total number of common shares is available in "FP Informart" at the level of "*Financial Post Corporate Analyzer*". Moreover, the number of shares held by each director is available in the database "SEDAR" in the "*Management Proxy Circular*".

Book value per share

This financial variable is given by the ratio between equity and the number of outstanding shares of the company. Data on two components are available in the database "*FP Informart*" in the "*Financial Post Corporate Analyzer*".

Earnings per share

This financial variable gives us the amount of annual net profit or annual net loss. The data for this information is available in the database "*FP Informart*" under "*Financial Post Historical Reports*". In this research, different control variables are introduced in our model. A control variable strongly influences other variables. It is kept constant to test the relative impact of independent variables. The control variable also affects other independent variables tested in the model and has an impact on the outcome of the study. Our control variables are: the type of ownership and absence of duality.

Type of ownership

The type of ownership is a binary variable that informs us about the composition of ownership. The latter is either, the managerial type, dispersed ownership which it is coded 1, or the type of ownership that is concentrated which is encoded 0. This information is available in the database "STOCK GUIDE", especially under "*Company Profile*".

Absence of duality

In this research, we considered the absence of duality of Chairman and CEO in the analysis of the relationship between corporate performance and governance variables. This variable is denoted 1 when as Chief Executive Officer and board Chair are separate and 0 otherwise. This information is available on the database "SEDAR" mainly in the "*Management Proxy Circular*" section.

Table 2 gives us a summary of the measures of all variables: dependent, independent and control variables. Also, it contains variables measurement and each variable data source for our market valuation model.

3.5 Empirical model

Our analysis will be based on a multivariate model. In this model, for explaining the relevance of the characteristics of the board of directors in the stock market performance, we considered the prevailing market price three months after the end of the fiscal year as an alternate proxy. Thus, the model of market valuation is defined as follows in the regression equation:

$$\text{PRICE (Share price)} = \beta_0 + \beta_1 \text{SIZE} + \beta_2 \text{INDEP} + \beta_3 \text{MEETING} + \beta_4 \text{AUDIT} + \beta_5 \text{REM} + \beta_6 \text{SHARES} + \beta_7 \text{BOOK} + \beta_8 \text{EPS} + \beta_9 \text{TYPE} + \beta_{10} \text{ABS. DUALITY} + \varepsilon$$

Table 2: Summary of measures and sources of the dependent, independent and control variables

Variable	Symbol	Data Source	Measure
Market valuation	PRICE	STOCK GUIDE	Prevailing stock price three months after the end of the fiscal year.

Board Size	SIZE	SEDAR	Number of directors on the board.
Proportion of unrelated directors	INDEP	SEDAR	Number of unrelated directors* 100 / Total of directors.
Frequency of meetings	MEETING	SEDAR	Number of board meetings held during the financial year.
Audit committee	AUDIT	SEDAR	Number of directors of the audit committee.
Percentage of director compensation	REM	SEDAR, FP INFORMART	Compensation paid to directors * 100 / Total number of shares
Proportion of shares held by directors	SHARES	SEDAR, FP INFORMART	Number of shares held by directors * 100 / Total number of shares.
Book value of the share	BOOK	FP INFORMART	Equity / Total number of shares.
Earnings per share	EPS	FP INFORMART	Profit or loss / Number of shares.
Type of ownership	TYPE	STOCK GUIDE	Binary variable denoted 1, if the shareholding is managerial, type 0 otherwise.
Absence of duality	ABS. DUALITY	SEDAR	Binary variable denoted 1 when there is no duality, 0 otherwise.

4. Results

Statistical analysis of the data includes the following: data analysis approaches, descriptive analysis of the variables, correlation analysis of the model of market valuation and statistical analysis by multiple linear regressions.

4.1 Data and descriptive

To test the accuracy of our hypotheses, the main data analysis approach is the statistical analysis method of multiple linear regressions. But before using this regression, secondary statistical analysis is useful. This will allow us to know the statistical aspects of our sample. We expect to make a descriptive analysis of the independent variables and a correlation analysis of the model of the stock market valuation. This analysis will allow us to identify the possible presence of multicollinearity.

Table 3 describes the minimum and maximum values, mean, standard deviation of each variable and the size of valid cases for each variable. It appears in this table that the percentage of directors' remuneration relative to the total number of shares "REM" with the relative number of shares held by directors "SHARES" are the most volatile of all the independent variables predictors. Indeed, variable "REM" is 11.56 times the average observed over the period of our sample. In addition, the "SHARES" variable is 3.66 times the observed average, which is due to a large enough scope between the minimum and maximum observed for the last two variables. Other variables appear to be relatively stable from one year to another. However, as presented in Table 3, the number "N" of valid observations for this study is 147; we used the purification method in our sample, also called "*Listwise method*".

4.2 Analysis of the distribution of the model variables

The analysis of the distribution of variables in the model is based on the normality test and the shape of the distribution, to the extent that, such a distribution is measured by the asymmetry test and flattening "*skewness and kurtosis*." Skewness test explains asymmetric data around the mean. We conclude that the distribution is symmetrical around the average, according to Karl Pearson. The Kurtosis test, which is a flattening test, request that the correct values are in the range of [-3, +3]. When a kurtosis value equals to 3, the distribution is mesokurtic and corresponds to a normal distribution of data, according to Karl Pearson, see In Table 3.

Table 3: Descriptive statistics for the variables of the model of the stock market valuation

Descriptive Statistics							
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
PRICE	180	3.750	106.760	34.171	17.386	.957	1.869
SIZE	174	7	18	11.44	2.619	.398	-.345
INDEP	164	.000	92.857	77.256	16.739	-2.124	6.900
MEETING	168	4	35	9.45	3.817	2.344	11.736
AUDIT	169	2	10	4.41	1.232	1.002	1.811
REM	176	.000	76.796	.501	5.784	13.262	175.923
SHARES	177	.000	62.649	1.977	7.214	7.142	56.549
BOOK	175	.000	64.604	16.227	12.414	1.558	2.484
EPS	175	0	10	2.09	1.833	1.814	4.085

TYPE	179	0	1	.64	.482	-.574	-1.689
ABS. DUALITY	170	0	1	.95	.225	-4.029	14.400
Valid N (Listwise)	147						

4.3 Correlation Analysis

In Table 4, the correlation analysis enables us to detect the existence of possible multicollinearity problems in our model. By calculating the correlation coefficients between the independent variables taken two by two, we have found no multicollinearity problem. The highest correlation does not exceed 44%, which is below the 80% threshold generally accepted in resorting to the binary Pearson correlation.

4.4 Main results

In Table No. 5, we used multiple linear regressions which allows us to see the explanatory power of the model by considering all the variables in the global model "Model 1". In fact, we have a total of four models to test them. These models are: the global model, the model containing only the accounting variables, the residual model and the overall model within the variable "YEARS". These models are numbered 1 through 4, respectively in Table 5. The global model includes accounting variables, governance variables, control variables and the variable "YEARS". The inclusion of this last variable allows us to understand its effect in the global model. Therefore, we created model 4. In that latter model, we excluded the variable "YEARS". The variable "YEARS" is a nominal variable which contains 147 observations distributed over five years and represents the period of our sample, from 2009 to 2013.

Now, let us compare the parameters of Model 1, which represents the global model of regression and Model 2 which contains only the accounting variables. In the global model, the proportion of explained variance R^2 is 31.6%, while in the second, it is 8.9%. A variation of 28.16% was observed. It is interesting to note here that the Fisher F statistic varies from 5.661 for Model 1 to 8.186 for Model 2. This difference represents a variation with a very high significance of "F (11, 135) = 5.661, $p = .000 < .05$ ". The correlation of coefficient R of the global model "Model 1" is very acceptable, since it is 0.562. In Model 2, containing only the accounting variables, there is a correlation coefficient of 0.299, which is also acceptable. Moreover, the residual model "Model 3" captures a balance of 26.3%. Thus, in the model containing only the accounting variables, there is a significance "F (2, 167) = 8.186, $p = .000 < .05$ ". Therefore, we conclude that in the last two models the regression models are highly significant.

Table 4: Correlation matrix of the model of market capitalization

	1	2	3	4	5	6	7	8	9	10
PRICE	1									
BOOK	.214**	1								
EPS	.261**	.242**	1							
REM	.151*	-.102	-.049	1						
SHARES	.194**	.250**	-.034	-.010	1					
SIZE	.257**	-.062	.125	-.100	.103	1				
MEETING	-.043	.017	.076	.033	.094	-.033	1			
INDEP	-.098	-.017	-.019	.050	-.131	-.263**	-.100	1		
AUDIT	.152*	.013	.012	-.023	.008	.280**	.053	.177*	1	
TYPE	-.297**	-.081	.004	.053	-.275**	-.430**	-.095	.214**	.036	1
ABS.DUALITY	-.012	.113	.115	.017	.059	.135	.041	-.154	-.016	.044

** Correlation significant at 1% (2-tailed).

* Correlation significant at 5% (2-tailed).

What is the effect of the variable "YEARS" in Model 4? Why we excluded this variable? In the comparison between Model 1 and Model 4, we note that there is no statistically significant difference in each model. Then, the Model 1 is in the order of significance of "F (11, 135) = 5.661, $p = .000 < .05$ ". Similarly, in Model 4, the significance is of the order of "F (10, 136) = 6.162, $p = .000 < .05$ ". The difference in the percentage of variance explained in two models, the R^2 is very small. We concluded that the variable "YEARS" has no effect at all in the overall model, and our sample used in the regression analysis is homogeneous and the variation of the distributed data over the five years has no effect on data consistency.

Table 5: Global significance of the model of the stock market valuation

Regression Model	R	R ²	Adjusted R ²	df	Fisher's F	Significance of F.
Model 1	.562	.316	.260	(11, 135)	5.661	.000 ^a
Model 2	.299	.089	.078	(2,167)	8.186	.000 ^b
Model 3	.263	.227	.182		-2.525	.000 ^c
Model 4	.558	.312	.261	(10, 136)	6.162	.000 ^d

Model 1: (Constant), BOOK, EPS, REM, SHARES, SIZE, MEETING, INDEP, AUDIT, TYPE, ABS.DUALITY, YEARS

Model 2: (Constant), BOOK, EPS

Model 3: Residual Model (Model 1-model2): (Constant), REM, SHARES, SIZE, MEETING, INDEP, AUDIT, TYPE, ABS.DUALITY, YEARS

Model 4: Global Model minus the variable "YEARS": (Constant), BOOK, EPS, REM, SHARES, SIZE, MEETING, INDEP, AUDIT, TYPE, ABS.DUALITY

4.5 Additional tests

In this last part of our research, we analyze at first the significant variables to a confidence level of 5% bilateral. Secondly, we comment on the variables that are not significant at this same threshold. The results are shown in Table 6. The empirical regression model is presented in the following empirical equation:

$$\begin{aligned} \text{PRICE (Share price)} &= 27.937 + 1.404 \text{ SIZE} - 0.087 \text{ INDEP} - 0.592 \text{ MEETING} + 1.511 \text{ AUDIT} \\ &+ 0.712 \text{ REM} + .293 \text{ SHARES} + 0.265 \text{ BOOK} + 2.095 \text{ EPS} - 6.026 \text{ TYPE} \\ &- 8.774 \text{ ABS.DUALITY} + \varepsilon \end{aligned}$$

Table 6: Marginal contribution of each explanatory variable in the model of the stock market valuation

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	27.937	13.008		2.148	.034
SIZE	1.404	.621	.205	2.262	.025
INDEP	-.087	.082	-.082	-1.055	.293
MEETING	-.592	.401	-.109	-1.478	.142
AUDIT	1.511	1.130	.105	1.337	.183
REM	.712	.210	.247	3.395	.001
SHARES	.293	.184	.126	1.591	.114
BOOK	.265	.121	.177	2.182	.031
EPS	2.095	.733	.221	2.858	.005
TYPE	-6.026	3.268	-.157	-1.844	.067
ABS.DUALITY	-8.774	5.968	-.110	-1.470	.144
YEARS	-.824	.947	-.064	-.870	.386

Table 7: Research results summary

Hypothesis	Operational variable	Expected direction of the relationship	Direction of relationship according to the results	Test result of the hypothesis
H1	Size of the board "SIZE"	+	+	Supported
H2	Board Independence "INDEP"	+	...	Not supported
H3	Frequency of meetings "MEETING"	+ or -	...	Not supported
H4	Audit committee size "AUDIT"	+	...	Not supported
H5	Proportion of remuneration of directors "REM"	+ or -	+	Supported
H6	book value per share "BOOK" and earnings per share "EPS"	+ or -	+	Supported

5. Discussion of the results

Significant variables for the characteristics of the board are: the size of the board "SIZE" and the proportion of the remuneration of directors "REM". Similarly, the two variables of accounting information are statistically significant. They are: the book value of the share "BOOK" and earnings per share "EPS". On the other hand, non-significant variables are: the independence of the board "INDEP", the frequency of meetings of the board "MEETING", the size of the audit committee "AUDIT" and the proportion of directors' remuneration on shares "SHARES". Furthermore, the control variables have no effect on our model and they are not statistically significant. Thereby, according to the results of this research, we conclude to the relevance of some features of the board on the creation of shareholder value. These characteristics are presented in the size of the board "SIZE" and the proportion of remuneration of directors "REM". The remuneration is shown as the total number of directors' remuneration on the total number of company shares. Similarly, in terms of disclosure of financial information, the accounting variables included in the carrying value of the shares "BOOK" and earnings per share "EPS" have a significant and positive effect on the market price of the share. We conclude that financial information and certain

characteristics of the board have a significant and positive impact on the stock market performance. These variables reflect the value creation for shareholders. Figure 2 (below) illustrates the significant variables in our empirical model of market valuation.

The role of the board is to manage the conflict of agency between the principal and the agent (Rehman and Ali Shah, 2013). The composition of the board, including the magnitude of its size, is significantly correlated to the company's performance level (Afshan et al., 2011). In addition, the main objective of the board is to protect and maximize the wealth of the company's shareholders (Shamsul Nahar, 2004). We suggest that the number of directors is significant and has a positive influence. Thus, for Canadian listed companies during fiscal year 2013, our study suggests that the large size of the board is more valued by the financial markets than the small one.

Our results are conclusive, since the companies in our sample are among the largest companies in terms of capitalization on the Toronto Stock Exchange. To meet the needs of shareholders, a large company requires a large board. Thus, to create shareholder value and mitigate the conflict between managers and shareholders, it is suggested to have large boards. Wang et al. (2013) believe that the size of the board varies with company size. This supports the idea that a great company deserves a large board. Belkhir (2009) has also supported the idea of the necessity of a large board for big businesses.

Wang et al. (2013) believe that the large diversified companies with big leverage may have more advisory needs than the small businesses with a little leverage. The large number of directors in a board is also a key factor in terms of good governance (Dalton et al., 1999). Although in our study the frequency of meetings is not significant, a large board allows more committees and more meetings for both the board itself and for committees of the board.

The results of our study confirm that a large board of directors makes more monitoring and diligence in carrying out the mandate given by shareholders. A large board contains more expertise and more resources for the company and helps lead to more discussion in meetings, these benefits promote better strategic decision-making. A large board gives more openness on the external environment of the company, particularly if it is diversified, and generally doesn't accept the presence of duality in the occupation of the CEO position. The proof is that, in our sample, we found no significant links between the duality of CEO and the stock price. Our research confirms the impact of the proportion of total remuneration of directors "REM" on the creation of shareholder value. However, the proportion of shares held by directors "SHARES" has no effect on the dependent variable, the share price.

Corporate governance researchers have recently turned their attention to the compensation of directors. They show that it is possible to reduce the effect of barriers in monitoring managers (Maug, 1997). Similarly, Perry (2000) estimates that the poor performance of the company is significantly associated with poor remuneration of outside directors. Brick et al. (2006) conclude in the same direction with our results. They find in fact that director compensation is closely linked to the effort required for directors to maximize corporate value. Thus, our results are consistent with those of Shiah-Hou and Cheng (2012). According to these authors the right director compensation enhances business performance. Rodrigues and Seabra (2012) emphasize the link between the remuneration of directors and the overall performance of the company. Moreover, Jensen and Murphy (2004) argue that the compensation is based on the past performance of the company.

Regarding the effect of the disclosure of financial information, it has been considered as the key to ensure the effectiveness of financial markets. The disclosure of financial information in annual reports is an important channel for investors to obtain information about the company. A responsible board of directors that would be in the interest of shareholders shall supervise the preparation of financial reports (Zhizhong et al., 2011). For investors, the disclosure of financial information is reflected in the equity securities prices on the stock market (Chalmers et al., 2010).

The results of our research suggest that the creation of shareholder value lies especially in the earnings per share. This fact makes sense that governance in North-America is focused on creating shareholder value that is still attached to the stock market performance. Value creation is therefore a determining factor for business performance, particularly for publicly traded company in Canada. The disclosure of financial information is one of the strategic responsibilities of the board. It shows that the board of directors carries out its control functions, while ensuring transparent communication of information issued by the upper management of the company.

Fiador (2013) confirms that the financial information disclosed provides better transparency. Similarly, according to Hassan (2011), the practice of disclosure of financial information reduces the asymmetry of information and incentives for the creation of good conditions in public enterprises management, which contributes positively to the improvement of corporate governance. Our results are consistent with those of Bao and Chow (1999);

Chalmers et al. (2010) and Berthelot et al. (2012). These authors certainly confirm that there is a significant and positive relationship between disclosure of financial information and the stock market performance of the company. They attest that shareholders closely follow the market price behavior and expect better remuneration of their investments.

6. Conclusion and policy implications

The phenomenon of good governance has as main objective to encourage the directors to generate the maximum wealth for shareholders. This fact justifies the idea of establishing an effective control system presented in the role of the board for the creation of value for shareholders. In our study in the Canadian context involving 37 companies listed on the Toronto Stock Exchange "TSX", it emerged that some features of the board contributed to the creation of shareholder value.

The significant variables are the size of the board, remuneration of directors and disclosure of financial information in terms of book value per share and earnings per share. The results that we have reached are convincing, since we note that for a large public company, you need a large board that meets the demands of shareholders. But board members must have a good pay to fulfill their responsibilities with due care and diligence. The disclosure of financial information to shareholders also contributes to the rise in the market price and subsequently creating value for the shareholders' interests. The stock price behavior and net income per share "EPS" are statistically significant in our study. Indeed, shareholders follow more closely the evolution of the share price and expect a good return on their investments.

In practice, the agency theory continues to shed light on the importance of the conflict between the agent and the principal. The board, made as an intermediate in this relationship, will mitigate this conflict and cause managers to act in the interests of shareholders. Based on the foregoing, we conclude that to align the interests of managers with shareholders' interests, it is essential that directors are well paid and that the board be large. Thus, in light of the results of this research, we recommend that owners of businesses take care to establish a sufficiently large board in terms of size, taking into account the size of the company. We also recommend that, to align the interests of managers with those of shareholders, it is vital to properly compensate directors. Given our results, share options in remuneration should not be encouraged. We recommend also promoting a transparent financial information disclosure system that meets the needs of shareholders.

We recognize that our study can't be generalized on a large scale because of the nature of our sample. This sample is very specific and has a limit to the generalization of the results of this research. Indeed, of the 60 companies listed on the Toronto Stock Exchange, the number of companies used in this research is only 37. We recommend repeating this study on a larger sample, whether the S&P 300 or the S&P 500. To generalize our results, we also suggest repeating this study on other North American stock exchanges or companies listed on several stock exchanges. Similarly, in the data analysis, we propose to repeat this study while using the analysis of structural equations modeling. The latter method considers measurement errors and helps ensure good adjustment of our empirical model.

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