

The Impact of Board Size, CEO Duality, and Corporate Liquidity on the Profitability of Canadian Service Firms

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Abstract

The purpose of this study is to examine the impact of board size, the CEO (Chief Executive Officer) duality, and corporate liquidity on the profitability of Canadian service firms. This study also seeks to extend the findings of Kajola [1] and Gill [2]. A sample of 75 Canadian service firms listed on Toronto Stock Exchange (TSX) for a period of 3 years (from 2008-2010) was selected. This study applied co-relational and non-experimental research design. The results indicate that larger board size (large number of directors) negatively impact on the profitability of Canadian service firms. The findings of this paper also show that the CEO duality and corporate liquidity positively impact the profitability of Canadian service firms. In addition, firm size and firm growth positively impact the profitability of Canadian service firms. This study contributes to the literature on the factors that

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affect firm's profitability. The findings may be useful for the financial managers, investors, and financial management consultants.

JEL classification numbers: G32

Keywords: Board size, CEO duality, corporate liquidity, firm size, firm growth, profitability

1 Introduction

This study examines the impact of board size, the CEO duality, and corporate liquidity on the profitability of Canadian service firms. The improvement in the service firms' profitability is necessary to achieve overall corporate objectives, to keep service organizations in business, and to create a greater prospect for future opportunities. The board of directors, CEO duality, and corporate liquidity play an important role in the improvement of profitability, which in turn, helps to maximize stakeholders' wealth. However, in some Canadian corporations (e.g., Livent Inc. and Corel Corporation), the CEO has been accused of insider trading by the Ontario Securities Commission [3, 4] which is not in the favor of shareholders because it has a negative impact on the firm. This process shows lack of accountability to by the board of directors. Therefore, good corporate governance is necessary to improve the profitability of the firm. Kajola [1] defines corporate governance as the system by which business corporations are directed and controlled.

Most empirical studies on corporate governance, liquidity, and profitability of the firm have been conducted on industrial firms. In the service industry, investment in machinery and equipment is almost non-existent. If service firms lease their facilities (buildings), then their total capital invested is mainly working capital [5, p. 48]. However, there are a very few studies that show the impact of

the board size, CEO duality, and corporate liquidity on firm's profitability. Therefore, this study examines the impact of the board size, CEO duality, and corporate liquidity on the profitability of the Canadian service firms.

Previous authors [1, 6, 7, 8, 9] have examined the relationship between the board size, CEO duality, and firm performance. In addition, Kim *et al.* [10] and Su and Vo [11] have tested relationships between corporate liquidity and firm performance. This study seeks to extend the above studies by analyzing data from Canadian service firms.

The literature cites a number of variables that are potentially associated with the profitability of the firm. In this study, the selection of exploratory variables is based on the previous empirical work. The choice of proxy variables can be limited, however, due to data limitations. As a result, the set of proxy variables includes six factors: board size, CEO duality, corporate liquidity, firm size, and firm growth (sales growth), and profitability (measured by net profit margin after tax divided by sales).

This study contributes to the literature on the relationship between board size, CEO duality, corporate liquidity, and profitability in at least two ways. First, it focuses on Canadian service firms while a very limited research has been conducted on such firms recently. Second, this study validates some of the findings of previous authors by testing the relationships between board size, CEO duality, corporate liquidity, firm size, firm growth, and profitability of the sample firms. Thus, this study adds substance to the existing theory developed by previous authors.

2 Literature Review

The CEO is a part of corporate governance. Corporate governance, in the context of this study, is described as the process and structure used to direct and

manage the business and affairs of the corporation with the objective of enhancing shareholder value. Corporate governance calls for three factors: i) transparency in decision making, ii) accountability which follows from transparency because responsibilities for actions taken or not taken by the board of directors can be ascertained easily, and iii) accountability in the sense of safeguarding the interest of the stakeholders and the investors in the organization [4, p. 62]. Thus, the board of directors and the CEO duality play an important role in the improvement of the service firms' profitability.

Kajola [1, p. 17) describe that the board of directors delegates responsibilities to the CEO and other management staff who manages day to day affairs of the firm. The CEO i) supervises the operations of the firm in an effective and ethical manners and ii) prepares the strategic plans, annual operating plans, and budgets for the board's approval. The CEO is also responsible for the firm's financial reporting to internal and external users by complying with relevant statutory and professional pronouncements. In addition, the CEO is responsible for establishing an effective system of internal controls to give reasonable assurance that the firm's books and records are accurate, its assets safeguarded, and applicable laws complied with. Thus, the CEO plays a major role in the improvement of service firms' profitability.

Larger board size is less effective [12] and has a negative impact on the profitability of the firm. Although, larger board size offers the benefits of increased monitoring in the organizations, it leads to poor communication and poor decision making [1]. Therefore, larger board size is not in the favor of the service firms. However, studies have found CEO duality improves the performance of the firm [2, 9].

Holding a certain level of cash and liquid assets help service firms fulfill precautionary, speculative, and transactional motives. Transaction motive refers to cash which is held for everyday transactions to pay for goods or services; that is, cash is held for day-to-day operations to make routine payments. Precautionary

motive refers to cash held for safety reasons; that is, cash balance is held in reserve for unforeseen fluctuations. From speculation motive point of view, corporations hold cash balance to take advantages of any bargain purchases that may arise [13].

The empirical studies on the relationship between board size, CEO duality, corporate liquidity, and the profitability of the firm are as follows:

Kim *et al.* [10] used data from US industrial firms and found a positive relationship between firm's liquidity and its performance.

Judge *et al.* [6] conducted a survey research on Russia and found a negative relationship between the CEO duality and firm performance.

Kajola [1] took a sample of 20 Nigerian listed firms between 2000 and 2006 and found a positive relationship between the CEO duality and profit margin.

Kaymak and Bektas [7] examined 27 Turkish banks operating in the market between the years 2001-2004 and found a negative relationship between the CEO duality and firm performance.

Jackling and Johl [8] collected data from India and found that larger board size has a positive impact on performance.

Ramdani and Witteloostuijn [9] collected data from Indonesia, Malaysia, South Korea, and Thailand. Through regression analysis, they found a positive relationship between the CEO duality and firm performance.

Su and Vo [11] used data from 261 firms listed on two Vietnam Stock Exchanges [Hanoi Stock Exchange (HSE) and Ho Chi Minh City Stock Exchange (HOSE)] and found a positive relationship between corporate liquidity and firm performance.

Gill [2] collected data from Toronto Stock Exchange, Canada and found a negative relationship between board size and firm performance and a positive relationship between the CEO duality and firm performance.

In summary, literature review shows that the board size, the CEO duality, and corporate liquidity affect the profitability of the firm.

3 Method

3.1 Measurement

To remain consistent with previous studies, measures pertaining to i) board size, CEO duality, and profitability of the firm were taken from Kajola [1], ii) corporate liquidity were taken from Su and Vo [11], and iii) firm size and firm growth were taken from Gill [2]. The measurements of the independent and dependent variables are as follows:

Board size (BS) independent variable was measured as total number of directors on the board.

To measure the CEO duality (CD) independent variable, value one (1) was assigned if the same person occupies the post of the chairman and the chief executive officer and zero (0) for otherwise.

Liquidity (LI) independent variable was measured by liquidity ratio, which is the ratio of cash plus marketable securities to the book value of assets.

In addition, two control variables (firm size and firm growth) were used.

Firm size (FS) control variable was measured by logarithm of the average total assets.

Sales growth (GROW) control variable was measured as current year's sales minus previous year's sales divided by previous year's sales.

To measure profitability of the firm (PM) dependent variable, net income after tax scaled by sales was used.

The regression model is as follows:

$$PM_{i,t} = b_0 + b_1*BS_{i,t} + b_2*CD_{i,t} + b_3*LI_{i,t} + b_4*FS_{i,t} + b_5*GROW_{i,t} + \mu_{i,t}$$

where b_0 = Constant of the regression equation

$b_1, b_2, b_3, b_4,$ and b_5 = Coefficient of BS, CD, LI, FS, and GROW

$PM_{i,t}$ - Profitability of firm i between 2008-2010

$BS_{i,t}$ - Number of directors on the board for firm i in time t

$CD_{i,t}$ - CEO duality for firm i in time t

$LI_{i,t}$ - Cash plus marketable securities to the book value of assets for firm i in time t

$FS_{i,t}$ - Logarithm of total assets for firm i in time t

$GROW_{i,t}$ - Current year's sales minus previous year's sales divided by previous year's sales for firm i in time t

$\mu_{i,t}$ = the error term

3.2 Data Collection

A database was built from a selection of approximately 400 financial-reports that were made public by publicly traded companies between January 1, 2008 and December 31, 2010. The selection was drawn from Mergent Online [<http://www.mergentonline.com/compsearch.asp>] to collect a random sample of Canadian service companies. Out of approximately 400 financial-reports announced by public companies between January 1, 2008 and December 31, 2010, only 75 financial reports were usable. The cross sectional yearly data were used in this study. Thus, 75 financial reports resulted to 225 total observations. Since random sampling method was used to select companies, the sample is considered as a representative sample.

For the purpose of this study, certain industries were omitted due to the type of activity. For example, all the companies from the financial services industry were omitted. In addition some of the firms were not included in the data due to lack of information for the certain time periods.

3.3 Descriptive Statistics

Table 1 shows descriptive statistics of the collected variables. The explanation on descriptive statistics is as follows:

- i) Total observations: $75 \times 3 = 225$
- ii) PM (Profitability): 9%
- iii) BS (Board size): 8.47
- iv) FS (Firm size): 2.66 million
- v) GROW (Sales growth): -.10%

Table 1: Descriptive Statistics of Independent, Dependent, and Control Variables (2008-2010)

	Minimum	Maximum	Mean	Std. Deviation
PM	-0.29	0.52	0.09	0.13
BS	2	28	8.47	3.45
LI	0.00	2.47	0.42	0.52
FS	0.40	4.21	2.66	0.88
GROW	-0.72	0.57	-0.001	0.25

PM = Profitability

BS = Board size

LI = Liquidity

FS = Firm size

GROW = Sales growth

Table 2 provides the Pearson correlation for the variables that were used in the regression model. The Bivariate correlation analysis show that that i) the profitability of Canadian service firms is negatively correlated with the board size and ii) positively correlated with the CEO duality, firm size, and firm growth (see Table 2).

Table 2: Pearson Bivariate Correlation Analysis

	PM	BS	CD	LI	FS	GROW
PM	1	-0.352**	0.407**	0.216	0.228*	0.298**
BS		1	-0.268*	-0.038	0.139	-0.144
CD			1	-0.031	0.254*	0.105
LI				1	-0.291*	0.308**
FS					1	-0.155
GROW						1

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

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

PM = Profitability

BS = Board size

CD = CEO duality

LI = Liquidity

FS = Firm size

GROW = Sales growth

4 Regression Analysis, Findings, Conclusion, Limitations, and Future Research

A negative relationship between BS and PM was found (see Table 3); that is, the larger board size has a negative impact on the profitability of the Canadian service firms. This finding is similar to the findings of Gill [2] but contradicts with the findings of Jackling and Johl [8] who found that larger board size has a positive impact on the firm performance.

While Judge *et al.* [6] and Kaymak and Bektas [7] found a negative relationship between the CEO duality and the firm performance, Kajola [1], Ramdani and Witteloostuijn [9], and Gill [2] found a positive relationship between

the CEO duality and firm performance. A positive relationship between the CD and PM was found (see Table 3). The findings of this paper are similar to the findings of Kajola [1], Ramdani and Witteloostuijn [9], and Gill [2] but contradict with the findings of Judge *et al.* [6] and Kaymak and Bektas [7].

A positive relationship between LI and PM was found (see Table 3); that is, corporate liquidity improves the profitability of the Canadian service firms. This finding is similar to the findings of Kim *et al.* [10] and Su and Vo [11].

Positive relationships between i) FS and PM and ii) GROW and PM were found (see Table 3); that is, firm size and sales growth have positive impact on the profitability of the Canadian service firms.

Table 3: OLS Regression Estimates on Factors Affecting Firm Performance ^{a, b, c}

[R ² = 0.383; SEE = 0.135; F = 8.574; ANOVA's Test Sig. = 0.000]							
Regression Equation: PM = 0.012 - 0.011 BS + 0.066 CEO + 0.061 LI + 0.046 FS + 0.106 GROW							
	Unstandardized		Standardized		Collinearity		
	Coefficients		Coefficients ^c		Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	0.012	0.052		0.228	0.820		
BS	-0.011	0.004	-0.293	-2.900	0.005	0.875	1.143
CD	0.066	0.029	0.236	2.270	0.026	0.830	1.205
LI	0.061	0.026	0.240	2.329	0.023	0.843	1.186
FS	0.046	0.016	0.311	2.957	0.004	0.809	1.237
GROW	0.106	0.052	0.205	2.031	0.046	0.875	1.143

^a Dependent Variable: PM

^b Independent Variables: BS, CEO, LI, FS, and GROW

^c Linear Regression through the Origin

SEE = Standard Error of the Estimate

OLS = Ordinary Least Square

Note that:

- A test for multicollinearity was performed. All the variance inflation factor (VIF) coefficients are less than 2 and tolerance coefficients are greater than 0.50.
- 38.30% ($R^2 = 0.383$) of the variance in the degree of PM can be explained by the degree of GROW, CEO, BS, LI, and FS in the Canadian service industry.
- The analysis of variance (ANOVA) test is also significant at 0.000.

4.1 Conclusion

In conclusion, the larger board size has a negative impact on the profitability of the Canadian service firms. Therefore, Canadian service firms should consider using an optimal board size based on the firm size. In addition, Canadian service firms should seek external board members because they can help improve the profitability. The improvement in profitability will help service firms to maximize shareholders' wealth.

Although, the CEO duality improves the profitability of the Canadian service firms, it may not be beneficial for the very large multinational firms. Therefore, the CEO duality should be used with caution because it may have a negative impact of the profitability of the very large multinational firms.

Corporate liquidity also improves the profitability of the Canadian service firms. Therefore, it is important for service firms to maintain an optimal level of corporate liquidity (e.g., holding liquid assets such as cash and cash equivalents). Higher level of liquidity may have a negative impact on the overall return on assets. In addition, the findings of this study show that the firm size and sales growth improves the profitability of the Canadian service firms.

4.2 Limitations

This study is limited to the sample of Canadian service industry firms. The findings of this study could only be generalized to service firms similar to those that were included in this research. In addition, sample size is small.

4.3 Future Research

Future research should investigate generalizations of the findings beyond the Canadian service sector. Important control variables such as industry sectors from different countries, audit committee, board composition, etc., may also be used to conduct new research.

References

- [1] S.O. Kajola, Corporate governance and firm performance: The case of Nigerian listed firms, *European Journal of Economics, Finance and Administrative Sciences*, **14**, (2008), 16-27.
- [2] A. Gill, The impact of board size and CEO duality on the performance of Canadian manufacturing firms, *GTU - Finance Conference 2011* held on August 27, 2011 at Gujarat Technological University in association with Marwadi Education Foundation Group of Institutions (2011).
- [3] M. Bujaki and B.J. McConomy, Corporate governance: Factors influencing voluntary disclosure by publicly traded Canadian firms, *Canadian Accounting Perspectives*, **1**(2), (2002), 105-39.
- [4] A. Gill, N. Biger, and S. Bhutani, Corporate performance and the chief executive officer's compensation in the service industry, *The Open Business Journal*, **1**, (2008), 62-66.

- [5] A. Gill, N. Biger, C. Pai, and S. Bhutani, The determinants of capital structure in the service industry: Evidence from United States, *The Open Business journal*, **2**, (2009), 48-53.
- [6] W.Q. Judge, I. Naoumova, and N. Koutzevol, Corporate governance and firm performance in Russia: an empirical study, *Journal of World Business*, **38**(4), (2003), 385-396.
- [7] T. Kaymak and E. Bektas, East meets West? Board characteristics in an emerging market: Evidence from Turkish banks, *Corporate Governance: An International Review*, **16**(6), (2008), 550-561.
- [8] B. Jackling and S. Johl, Board structure and firm performance: Evidence from India's top companies, *Corporate Governance: An International Review*, **17**(4), (2009), 492-509.
- [9] D. Ramdani and A.V. Witteloostuijn, The impact of board independence and CEO duality on firm performance: A quantile regression analysis for Indonesia, Malaysia, South Korea and Thailand, *British Journal of Management*, **21**(3), (2010), 607-627.
- [10] C.S. Kim, Mauer, D.C., and A.E. Sherman, The determinants of corporate liquidity: Theory and evidence, *Journal of Financial and Quantitative Analysis*, **33**(3), (1998), 335-359.
- [11] G.S. Su and H.T. Vo, The relationship between corporate strategy, capital structure and firm performance: An empirical study of the listed companies in Vietnam, *International Research Journal of Finance and Economics*, **50**, (2010), 62-71. [http://www.eurojournals.com/irjfe_50_06.pdf]
- [12] M. Lipton and J.W. Lorsch, A modest proposal for improved corporate governance, *Business Lawyer*, **48**(1), (1992), 59-78.
- [13] S. Besley, and E.E. Brigham, *Essential of Managerial Finance*, 13th Edition, Thomson, South-Western, 2005.