Shareholder Approbation of Board and Performance of Public

Traded Corporations

---Evidence from the Canadian market

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ABSTRACT

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This study empirically tests the hypothesis that boards with higher shareholder confidence level can significantly improve corporate financial performance. The hypothesis is tested by examining the relationship between operating earnings in excess of the cost of capital (Excess Return) for a sample of 196 large publicly traded Canadian firms from 2002–2006. A notable and significant positive relationship exists between Excess Return and the shareholders' evaluation of board performance. High shareholder confidence of the board serves to foster improved corporate financial performance for firms.

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I. INTRODUCTION

The corporate form has consistently proven to be a superior method of business organization. Great industrial economies have grown and prospered where the corporate legal structure has been prevalent. However, multiple problems arising out of the fundamental agency nature of the corporate relationship have continually hindered its complete economic effectiveness. Where ownership and management are structurally separated, how does one assure effective operational efficiencies? The traditional solution laid in the establishment of a powerful monitoring intermediary--the board of directors-whose primary responsibility was management oversight and control for the benefit of the residual equity owners.

The establishment of board of director theoretically should result in the increase in shareholder value and management efficiency, but in reality this hypothesis does not hold in all cases. Started from the early 20th century, professional managers have become major players in the management of large corporations. Through control of the proxy process, incumbent management nominated its own candidates for board membership. The board of directors, theoretically composed of the representatives of various shareholding groups, instead was comprised of individuals selected by management. Therefore, the board can actually be the instrument of management in pursuing for their own interest. For example, large corporations like GM, IBM and Sears had reported more than $32 billion loses in 1992 due to inefficient corporate governance (MacAvoy & Millstein 1998). In 2001 Enron scandal led to the bankruptcy of the largest American company in history. For years, in order to

maximize their performance related compensation, Enron management significantly exaggerated company earnings by utilizing special accounting method and manipulating accounting data. However, Enron's board of director did not pay enough attention to the highly risky accounting method and took no action on risk management. Here, the lesson we can learn is to achieve high performance and stable growth, corporations should enhance corporate governance; especially an effective board of directors should exists to monitor and adjust management operational activities.

In the last several decades, studies on the relationship between board performance and corporate performance have become popular in corporate governance area. While most studies focus on specific topics like: 1. Board composition --usually in terms of the ratio of inside (executive) directors to outside (non-executive) directors (Fama 1980 and Fama and Jensen 1983; Johnson et al., 1996; Dalton et al., 1999; Dalton et al., 2003) 2. Board dynamics – suggest that board should collaborate at group level (Forbes and Milliken, 1999; Langevoort, 2001; Conger et al., 2001; Sherwin, 2003; Cascio, 2004) 3. The role of Board -- role that individual board directors play in contributing to board effectiveness, in term of attitudes, skills and behaviors of the individual directors (Bowman and Kakabadse, 1997; Renton, 1999; Shen 2005; Roberts et al.'s 2005). However, since it is very difficult to observe what happens in the board room, few studies explored this relationship by using a comprehensive and practical evaluation of board activism. In 1994, GM issued its guide lines for the

evaluation of active board. The key provisions included board composition, responsibilities and behavior of independent board members, self-evaluation, CEO evaluation combined with performance of business, etc. In 1995 CalPERS conducted a survey using the GM guide line to evaluate board performance of 300 largest US public companies and assigned grades ranging from "A+" to "F" to each company. Based on this result, Millstein and MacAvay (1998) tested and demonstrated the significant positive relationship between the level of board activism and corporation financial performance.

We seek to contribute to this line of research by looking, for the first time at the evidence for Canadian data and test the robustness of previous findings in the literature. The difference between our study and previous literature is in stead of using board effectiveness; we look from another angle to see shareholders' approbation of the board. We used Board Shareholder Confidence Index (conducted by Rotman School of Business of University of Toronto) to show shareholder's evaluation of board performance and TSE 300 corporate financial data as performance measurement. We tested the null hypothesis that there is no statistically significant relationship between shareholder's confidence level of board performance and corporate financial performance. The test covered the year from 2002 to 2006. The result of our study concluded that among all variables in the model, only data for shareholder confidence level showed significant positive relationship with corporate performance at both group and individual level.

The organization of the paper is as follows. In section II, a brief review of the literature is provided. Section III describes the methodology for the tests as well as the data used in the analyses. Empirical results follow in section IV. The paper concludes with a summary in Section V.

II. LITERATURE REVIEW

A corporation should have at least one director elected by shareholders. The boards are expected and trusted to conduct the corporation's business in a way that will preserve and enhance the shareholders' investment. Directors are responsible for supervising the activities of the corporation and for making decisions regarding those activities. (Canada Business Corporations Act) . For decades, board members have done so by giving managers the authority to run daily operations of the business, to make decisions that incur risks and to respond to changes in the business environment, while monitoring and evaluating management performance, making strategic decisions about the development of the corporation. However, as the separation of corporate ownership and management control occurred during the mid-twentieth century, professional managers with notable leadership and experience began to dominate the boards of directors in addition to their daily operation duties. The consequence of this change was that the management would have the ability to affluence the composition of the board. Some board members were chosen by management from among its own ranks of large-company executives and from among

its professional associates in the law and finance (Adolph Berle & Gardiner Means 1932, Alfred D. Chandler, Jr. 1977, James Gillies 1992)

The arm-length relationship implied in the board's monitoring role over management was replaced by a collegial relationship between the two (Robert A.G. Monks & Nell Minow 1991, Robert A.G. Monks & Nell Minow 1996, Jay W. Lorsch & Elizabeth MacIver 1989). This impaired the board's function of overseeing the management performance. It also facilitated the development of the agency problem that management tried to maximize its own interest at the cost of the shareholder's interest and overall value of the company. Throughout the 1970s and 1980s, many managements controlling large corporations invested in low-return growth and diversification to expand corporation size and scope for their own personal interests; as a result, these companies experienced significant drops in profits and market values. In 1992 alone, large public traded corporations such as IBM, GM and Sears together reported a total loss of $32.4 billion in market values. Low level returns led to greater pressure on board members from various shareholders and investors to pursue their duties actively and seriously.

Early studies have tried to find the solution to overcome the agency problem and restore board efficiency, most of which focus on the composition of the board. Fama (1980) and Fama and Jensen (1983) suggest that it is natural for the most influential members of the board to be the internal managers, due to their valuable, specific

information about the organization's activities obtained from internal mutual monitoring of other managers. Such information assists the board and becomes an effective device for decision control. However, Williamson (1984) notes that because managers have huge informational advantages due to their full-time status and insider knowledge, the board of director can easily become an instrument of management, thereby sacrificing the interests of stockholders. Domination by top management on the board of director can lead to collusion and a transfer of stockholder wealth (Fama 1980). As a result, corporate boards generally include outside members who act as arbiters in disagreements among internal managers and ratify decisions that involve serious agency problems (Fama and Jensen 1983). The findings of Rosenstein and Wyatt (1990) suggest that stockholders value the incorporation of outside directors on boards as evidenced by a positive, abnormal stock return when outside directors are added to boards.

In practice, during the last several decades, the revolution of boards from passive and dependent to active and independent monitors revealed the effort to address or avoid serious performance problems associated with managerial entrenchment. Many large public corporations began to have new, independent members who were selected in consultation with management by a wholly independent board committee such as the 'nomination' or 'governance' committee. Bhagat and Black (1999) showed that according to a 1997 survey of 484 S&P 500 firms, over half (56%) of the surveyed firms had only one or two inside directors, only nine firms (2%) had a majority of

inside directors, and the median firm had over 80% of outside directors.

In addition to board composition, multiple theories have been adopted to explain and predict how boards affect company performance, including agency (Jensen and Meckling, 1976), social network (Granovetter, 1985), stewardship (Davis et al., 1997), institutional (DiMaggio and Powell, 1983) and resource dependence (Pfeffer and Salancik, 1978). Thus far, management researchers have learned a great deal regarding the relationship between board composition, reward structures, board practices, and firm performance using the data available from corporate proxy statements and other archival sources (Finegold et al., 2007; Finkelstein, 1992).

Although there is a growing literature linking corporate governance to company performance there is, equally, a growing diversity of results. The diversity of results can be partly explained by differences in the theoretical perspectives applied, selected research methodologies, measurement of performance and conflicting views on board involvement in decision making and, in part, to the contextual nature of the individual firm. Even studies based on the integrative models of board involvement, incorporating different theoretical perspectives and various board attributes, provide inconclusive results, suggesting that corporate governance has, at least, an indirect effect on company performance (Zahra and Pearce, 1989; Jonnergard and Svensson, 1995; Maassen, 1999).

A prevailing problem among almost all those studies is the limited knowledge of how boards function as a group because it is quite difficult for researchers to access what takes place within boardrooms (Daily et al., 2003). Board members are reluctant to share information about the inner dynamics of boards for many reasons. Primarily, directors fear that revealing boardroom activities, or even just rating the effectiveness of the board, could have adverse effects on relationships with investors and other board members (Kesner and Johnson, 1990). Furthermore, there are concerns that exposure to internal practices could increase the risk of shareholder lawsuits should troubles emerge (Langevoort, 2001). Therefore, the extreme sensitivity of the financial and strategic information discussed in the boardroom has precluded observational studies of boards, while the threat of lawsuits and respect for the privacy of fellow directors has tended to limit detailed information on boardroom operations and practices. Due to this, researches have treated the corporate boardroom as a theoretical 'black box' (Daily et al., 2003; Leblanc, 2004).

Since it is not easy to directly observe board's activity, alternative information that can reflect board's activity and can be easily obtained was used among both researchers and large companies. In the spring of 1994, GM board issued guidelines setting forth procedures designed to ensure that it or any other currently independent board would actively monitor management. Due to GM's status as one of the largest companies in the world at the time, this guideline was adopted by many organizations when setup their own corporate governance evaluation systems. Based on this

guideline, CalPERS conducted a survey among 300 largest public U.S. companies to evaluate their board performance. In May 1995, CalPERS published the result of the survey and assigned a grade, from "A+" to "F" to each company based on their response. Later on, MacAvoy and Millstein (1998) concluded that according to the CalPERS survey data, there existed a significant relationship between board governance and corporate financial performance.

While many similar studies have been conducted, the majority of such studies is based on U.S. company data. In the spring of 2003, the Canadian Board Shareholder Confidence Index was conducted by Clarkson Centre for Business Ethics and Board Effectiveness $(CC(BE)^2)$ at Rotman School of Business of University of Toronto. This index indicates board performance of companies listed on the S&P/TSX Composite Index. Because of difficulties to record the board behavior in the board room, the index captures many factors affecting shareholders' confidence in the Boards' abilities to fulfill their duties. Based on factors available to those outside the walls of the boardroom, they evaluate and rank Boards of Directors by their potential to act efficiently and by their performance, as indicated by past practices. In the end, an overall score from AAA+ [highest] to C [lowest] is assigned to each company. Key factors include: (1) Individual Directors must be able to act independently from the interests of management, and independently from the other Directors. A director should have stock ownership in the company in that he/she can be motivated to act in the best interest of the shareholders. (2) Separation of CEO and Chair position should

be encouraged; the audit and compensation committee should be fully independent. Voting rights between different share classes should follow a proper ratio. (3) Certain past practices should be considered as having negative effects on board performance such as option re-pricing, excessive option granting, taking a company pension plan, and having outstanding loans from the company.

$CC(BE)^2$ score provide an easy and effective method for evaluating the board performance of Canadian companies. However, since it is based on shareholders' perception but not actual board behavior, further analysis on empirical evidence from attempts to prove or disprove the linkage should be conducted.

III. METHODOLOGY AND SAMPLE GENERATION

A. Metrics for Shareholders' Confidence of Boards

The board of director's responsibilities includes participating in strategic planning, incentivizing and monitoring management performance, and negatively rewarding, in a timely manner, failing managers. The major barrier of measuring the effectiveness and efficiency of board of directors is that we can not observe and record their behavior in the board room. Most boardrooms are closed and reluctant to disclose information to the public completely. Therefore, we have to develop alternative approaches based on public information as the agency for indentifying professional boards.

Started in Spring 2003, Clarkson center for business ethics and board effectiveness

(CC(BE^2)) at Rotman School of Business of University of Toronto introduced Board Shareholder Confidence Index, compromised of factors often used by active shareholders to assess Board of Directors. Instead of information that can only be observed within the boardroom, this study captures many factors affecting shareholders' confidence in the Boards' abilities to fulfill their duties. These factors are different from the TSX Guidelines for effective corporate governance in that they take into account the shareholders' perception of risk. Based on factors available to those outside the walls of the boardroom, we can evaluate and rank Boards of Directors by their potential to act in an effective way and by their performance, as indicated by past practices. The result is a transparent, objective, and adaptable rating system that assigns companies listed on the S&P/TSX Composite Index an overall score from AAA+ [highest] to C [lowest]. The score is derived from the consideration of the following three perspectives:

- Individual Potential

- Group Potential

- Past Practices

Each perspective is described by several specific items and a base score is assigned to each of them to indicate the perfect scenario. A deduction is made from the base score of certain items if the fact related to it is considered to have a negative effect on board performance according to the CC(BE)^2 standard. The highest total score for a company is 100, which indicates that no deduction was made on any aspect of board performance. Next we examine the details of each of the three perspectives.

1. Individual Potential:

In order for shareholders' interests to be fully represented by the Board of Directors, individual Directors must be able to act independently from the interests of management, and independently from the other Directors. Stock ownership indicates that a director is aligned to other shareholders and motivated to improve the company's performance. Individual Potential is comprised of these two factors: Director Independence, and Director Stock Ownership.

1.1. Director Independence

1.1.1. Independence

Director Independence measures the independence of individual directors from each other, as well as from company management. Relationships with management increase the potential risk that the director will act in the interests of executives before those of the shareholder. If any of the following apply to a director she/he is considered related to management:

- Employee of the company (currently or within three years).

- Executive of any affiliated company

- Director or director's firm provides legal, auditing, or consulting services to the company (within the last 3 years).

- Kinship to CEO or Chair (if Chair holds >10% of company's shares).

- Any other significant relationship deemed material by CC(BE)2 that does not fall under the above categories.

At least two-thirds of the board must be independent from management, or else a deduction is made. The deduction increases as the proportion of related directors increases.

1.1.2. Interlocks

It is also important that relationships between directors be kept under control. If the same two directors sit on more than one board together, there is a perceived risk that decisions are being made in the interests of another company, known as a director interlock. A deduction is made if there is more than one director interlock present on a Board.

1.1.3. Excessive Board Memberships

In order to perform effectively, a Director must not have too many obligations beyond her/his duties on the Board. A Company receives a deduction for every Director that is a member of more than five S&P/TSX Boards.

1.2. Stock Ownership

A director, however independent and experienced, needs to be motivated to act in the best interest of the shareholders. Motivation is measured as a function of a director's stock ownership in the company.

The calculation is based on the average value of stock owned by the third of the board with the fewest shares, compared to the value of the directors'

annual retainer. Annual retainer figures include the value of any annual deferred share unit grants, which are valued using the company's year-end share price if a grant date is not given. Directors with less than three years' tenure on the Board are not included in this calculation.

$$\text{STOCK OWNERSHIP MULTIPLE} = \frac{\$(\text{AVERAGE SHARE OWNERSHIP OF BOTTOM THIRD OF DIRECTORS})}{\$(\text{ANNUAL RETAINER})}$$

A deduction is made if the multiple is less than four; the graduated deduction increases as the multiple decreases.

2. Group Potential:

Group Potential represents the potential for the board as a whole to best represent the interests of shareholders, without compromising the Individual Potential of the directors. The factors determining Group Potential are Board Meeting Structure, and the implementation of Board Evaluation Processes.

2.1. Structure

A company's score in this category is based on the characteristics of its board meeting structure. The structure of a board and its meetings can either encourage or impede the Individual Potential of its directors, as well as affecting the board's output. Structural measurements include:

1) The separation of CEO and Chair positions

If the CEO and Chair positions are not separated, the perceived

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potential for the Board to operate independently from the influence of management is decreased. A deduction is made if the positions are not fully separated. A smaller deduction is given to companies with no appointed an Independent Lead Director to lead board meetings; or to companies that have split the CEO and Chair positions, but the Chair is related.

2) Independence of Audit and Compensation Committee members

Full-independence of a company's committees is necessary in order to ensure that executive compensation and company accounting are handled without conflict of interest between Management and shareholders.

In order to avoid deductions here, every member of the Audit and Compensation Committees must be fully independent. This means that if any director considered dependent in the Director Independence section sits on either of these committees, the company receives a deduction.

NOTE: EXECUTIVES OF THE PARENT COMPANY ARE CONSIDERED UNRELATED ON THE COMPENSATION COMMITTEE.

If a Compensation Committee interlock exists between executives of two or more companies, the involved directors are considered related with respect to all interlocked Compensation Committees. This is to avoid situations where executives from different

companies are determining each other's salaries.

There are additional restrictions placed on committee membership: deductions are also made if any Related-Independent Directors sit on the Audit or Compensation Committees. The criteria for Related-Independence include:

- Non-Management major shareholder (>30% votes) of company of interest.

- Kinship to non-management major shareholder of company of interest.

If related directors sit on both the Audit and Compensation Committees, separate deductions are made for each respective committee.

3) The ratio of voting rights to share ownership between share classes.

Many companies have several classes of shares, and often the different classes are not allowed equal voting rights. An imbalance of voting rights often means that influence toward Board decisions is taken away from most shareholders.

EXAMPLE:

Class	Votes per Share	Shares Outstanding
Class A Voting	1	10,000
Class B Non-Voting	0	5,000,000

In this case, all of the company's voting rights associated with a small minority of the outstanding shares. Often, these shares are held

by company executives, thus not allowing any voting power to the majority of shareholders.

Deductions in this area are graduated; as the disproportion between shares and voting rights increases, so does the deduction made. No deduction is made for companies with multiple share classes if every class is allowed the same number of votes per share.

2.2. Systems (Evaluations)

In order to receive a perfect score in this category, a company must implement regular and formal evaluation processes for both the board as a whole, and each of its individual directors. Scoring is based on disclosure of details regarding the evaluation processes. In other words, if evaluations are mentioned, but no details are given, a deduction is still made.

3. Past Practices:

The past practices of a board are assessed by evaluating the results of their decisions. Scoring is based on practices that investor surveys generally regard as being opposed to the best interests of shareholders, including:

- Excessive option grants, and/or dilution

Dilution occurs when options granted to executives and directors make up a significant proportion of the outstanding shares, thus diluting returns that would otherwise go to shareholders. A deduction is made if options comprise greater than 10% of a company's outstanding shares. A deduction is also made if options granted to the CEO comprise greater

than 5% of a company's outstanding shares. Both of the above are thresholds set by the TSX.

- Option re-pricing

When a company's share performance has suffered, the cost of exercising stock options can be greater than the cost of purchasing stock at market value. In such a case, a company may decide to lower the exercise price in order to align it with the market value of the stock. Option re-pricing is perceived as relieving directors of their responsibility for the company's performance. A deduction is made if a company has re-priced their options within the last three years.

- CEO compensation significantly UP while share price significantly DOWN

Determination of CEO compensation is a responsibility of the Board of Directors. In order to best represent the interests of the company's shareholders, the compensation of the CEO should be associated with the company's performance. A deduction is made here if a CEO's total compensation increases by more than 25% following a year during which the company's share price decreased by more than 25%. There is a cooling-off period of 3 years before this deduction is removed from a company's score.

- Director Pensions

Some boards offer pension plans to their directors, which can be seen as

creating an unnecessary tie between the directors and the corporation. Director pensions increase the likelihood that a conflict of interest will compromise the directors' responsibilities to shareholders.

- Outstanding loans to directors or executives

Although most companies have discontinued the granting of loans to their directors and executives, many still have outstanding loans on the books, and some still have yet to discontinue granting loans. Loans to employees can be seen as an inappropriate use of shareholder money.

- Evergreen option plans

Many companies are now introducing evergreen option plans, where the maximum number of options approved for issue is a percentage of outstanding shares, instead of a specific number. Generally, shareholder approval must be sought in order to replenish the option plan once a specific number of options have been issued. Evergreen plans allow companies to continue granting options in any amount up to a certain percentage dilution. This takes authority away from shareholders, while increasing the possibility of higher dilution.

Total Scores

Each company begins with 100 points from which Individual Potential, Group Potential, and Past Practices deductions are made. Total letter grades are determined as follows:

Overall Score	Grade
100	AAA+
95	AAA
90	AA
75	A
50	B
<50	C

B. Metrics for Corporate Performance

A variety of measurements have been used to analyze corporate performance based on criteria such as production and allocative efficiency, progress, full employment, and equity (F.M. Scherer & David Ross 1990). Measurement that focuses on goals of investors and access of capital to companies include revenue, earnings, and return to investors. Measurements focus on shareholder returns include earnings per share, earnings growth, discounted future earnings, and economic value added (EVA). Among these popular measurements we choose the last one as our measure of corporate performance because Economic Value Added provides a metric for a company's ability to "generate economic profits, and thereby create wealth for shareholders." (Laura Walbert 1995). EVA is the residual after the cost of capital has been subtracted from returns on the relevant investment (Irwin Ross 1997). Therefore, EVA is also defined as excess return (ER) which is used in many studies. A company can add value to shareholders' wealth if it generates a positive excess return (ER); or hurt shareholders' wealth if it delivers a negative ER.

One of the major advantages of excess return (ER) measurement is that it relies on the

assumption that "the prime financial objective of any company ought to be to maximize the wealth of the shareholders." It is also straightforward, easy to apply to corporations at different stages of growth. (G. Bennett Stewart III 1994). Furthermore, ER provides a breakeven return on investment which will cover opportunity cost of this investment (from investor's view of point) or indicate a cost of equity (from shareholder's view of point) (Timothy J. Sheehan 1994).

The limitation of ER is that it is based on historical but not current financial data. It can be significantly different from the current stock return, which is a preferred measure to shareholders. However, some theories argue that the current stock price is equal to the present value of a stream of future residue cash flows which are measured by ER (Thomas E. Copeland & J. Fred Weston 1998, William F. Sharpe et al. 1995). In addition, to calculate the present values many factor about the company and state of economy have to be predicted (Alfred Rappaport 1986). Thus, stock price would only reflect speculative expectations of future decisions. Theory holds that excess returns only explain less than half of the variance in share value among companies; the rest has to depend on shareholder expectations about future prospects (Cf. Rawley Thomas 1993). Also, since ER measures what the company and its management have accomplished in the past, the result is more objective and free from outside factors that could affect stock price but are not controlled by companies. Therefore, to measure current managerial performance, ER is better than stock price return.

The major problem with EVA (or ER) is the calculation of cost of capital. For companies who have multiple business units whose costs and profits are interrelated, the calculation for cost of capital is very complex and often inaccurate. However, this problem occurs to any performance measure that utilizes cost of capital or tries to measure cost of performance in dollar values.

Finally, by using excess return measure we assume that corporations try to improve performance by maximizing earning returns on their costs of capital. Therefore, although theories suggest that the long term success of corporations are also affected by factors such as benefits received by customer, employees, supplier of labor, technology, capital and etc, in our study, we assume that residual earnings or excess return maximization is the pure measurement for corporate performance and good corporate governance should drive management to increase excess returns to shareholders. Of course, how to efficiently allocate this return to shareholders is the subsequent task for the governance, but that is not addressed in this research.

The calculation of ER is to subtract a company's cost of capital (including both equity and debt) from the net operation income after tax. The result is a dollar excess return. For example, if a company's cost of capital is $50 million, and after tax operational profit is $100 million, then the ER would be $50 million. However, this method has a limitation in that it is difficult to compare two company's performance by comparing the ER in dollar amount. A large corporation can generate a relatively big ER return

than that by a smaller corporation mainly because of its size, while the larger corporation may not be a better performer if we compare how much ER is made from a unit cost of capital. Therefore, we need a ratio to demonstrate the corporation's ability to generate profit based on its cost of capital. In this study, we use Return on Invested Capital (ROIC) to represent after tax profit from operations and Weighted Average Cost of Capital (WACC) for overall cost of capital, and calculate the spread between these two rather than dollar ER as the measure of corporate performance.

We calculate a company's ER by using the exemplified method ER=total capital *(ROIC-WACC). Here total capital is the total capital invested in the company (sum of book value of equity and debt). Return on invested capital (ROIC) is estimated by earnings divided by the value of capital. *

$$ROIC = \frac{NOPLAT}{Operating\ Invested\ Capital}$$

NOPLAT is the Net Operating Profit Less Adjusted Taxes.** The weighted average cost of capital (WACC) is the overall cost of the company's debt and equity, which is calculated by dividing the overall costs by the total capital invested in the operation (book value of debt plus preferred stock and common stock), such that

$$WACC = \frac{\sum Cost\ of\ Capital}{\sum Capital\ Stock} = \frac{Cost\ of\ Debt + cost\ of\ Pref.Stock + Cost\ of\ Common\ Stock}{Debt + Pref.Stock + Common\ Stock}$$

Note:

* *Operating Invested Capital is defined as follows:*

   OIC=Operating Working Capital (OWC) + *net Plant, Property & Property & Equipment* + *Other Assets* + *Other Liabilities* + *Value of Operating Leases* + *Goodwill*

  Here, goodwill is not included in the calculation.

   OWC = Operating Cash + *Excess Marketable Securities* + *Accounts Receivable* + *Inventories* + *Other current Assets(Less Excess Marketable securities)* – *Accounts Payable* – *Other Current Liabilities*

** *NOPLAT = EBIT* – *Taxes on EBIT* – *Change in Deferred Taxes.*

The three components of cost of capital are then weighted according to the proportion that each represents in the overall invested capital.

To calculate total capital stock or total capital invested we need to get the data for total amount of debt, preferred shares, and common stock. To get the cost of capital, we need to decide the interest expenses for debts (less tax shield effect of interest deductibility); the cost of preferred stock, which is the preferred dividends paid to preferred shareholders; and the cost of common stock, which is required rate of return or opportunity cost to investors of holding the stock.

The cost of a company's equity (common stock) is the estimated traditional capital asset pricing model (CAPM), which utilizes the market return, risk free rate and the risk factor that relates company stock return risk to general market return. The cost of equity is defined as:

$$K = R_f + \beta * (R_M - R_f)$$

Here, K is the cost of equity (required rate of return to investors) of a company's

common stock. *Rm* is the rate of return of the market index portfolio, *Rf* is the risk free interest rate, and Beta represents the covariance of stock prices with the market index price divided by the variance of that market index. Every variable is subject to the time period being studied. This equation demonstrate that the company's cost of equity is equal to the risk free rate plus the risk premium the company's share price must provide to attract investors to buy it. The risk premium is calculated by multiplying the risk premium that the general market must provide to attract investors by the company's Beta which represents the risk (volatility) associated with the company's share price to that of the market index portfolio.

C. Data and sample creation

i. Data:

We used CompuSTAT as the major data source for company financial data. If the data is not available in CompuSTAT, we tried to get that in Bloomberg. Before download the data, we match stock tickers listed in the CC(BE)2 score table against tickers in both CompuSTAT and Bloomberg since each database uses different rules to name tickers. We downloaded Bloomberg data manually using its overhead functions. We used GICS (Global Industry Classification Standard) which is provided in the $CC(BE)^2$ index to represent the industry sector information of each company. Standard & Poor's and MSCI Barra jointly developed the Global Industry Classification Standard (GICS®) which establishes a common, global standard of industry classifications for companies worldwide.

ii. Sample creation:

The Clarkson Centre for Business Ethics & Board Effectiveness CC(BE)[2] started to produce Board Shareholder Confidence Index in the year 2003, during the same year the famous SOX act was brought into effect. We chose the data from 2002-2006 which covered a year before the score was made and 3 years after it was made. We tried to obtain the 2001 data for our study, but most of the data was not available in both CompuSTAT and Bloomberg for that year. (We also tried other databases and encountered the same situation). The 5-year period should reflect the effect of the governance on the corporate performance. There were 211 firms in the 2003 CCBE index group, after searching for data in CompuSTAT and Bloomberg, 196 companies were selected; among the rest 15 companies, 9 were acquired by or merged with others after 2003, one was delisted, four had no data for most of the variables we need during 2002 to 2006, and one had no beta to calculate cost of equity. We used Bloomberg overhead functions to calculate beta for companies if that was not available in CompuSTAT. We also tried to get financial data from Bloomberg and compare that with the data from CompuSTAT; however, the historical financial data were not available for most variables in our model. Therefore, for the 196 firms, we tried to get financial data from CompuSTAT to calculate ROIC and WACC; if for a specific year the data was not available for a firm, we dropped that firm from the sample of that year.

Mergers and Acquisitions can have significant impacts on companies organizationally and financially. In our study, M&A activities posed serious problems for the spread calculation. It is because the ROIC uses the operating invested capital figures from the beginning of a given year and compares them with earnings at year-end, M&A activities can skew the results of ROIC calculation. An example of this phenomenon can be found in Teck Cominco Limited (TEK/B), which merged during 2004 (all figures in millions)

	2003	2004	2005
EBITDA	394	1,275	2,077
Operating Invested Capital (Year Start)	3,822	4,106	6,157
Net Sales (Year End)	2,228	3,428	4,415

Thus, the merger boosted sales and earnings during 2004, but OIC was not affected until 2005. For this study the purpose of ROIC calculations is to simulate the investment activity that evaluate the firms at the beginning of the year, using then-current WACC and examine ex post the results of the investment at the end of the year. To counteract this effect, we used SDC database to check data for years and firm combination where companies may have engaged in extensive merger activity. If the reported data was not adjusted for the M&A event, we dropped that firm from that year.

In respect to industry regulations, some industries have regimes that require the price of products or service to be within a specific range, rather than following the market

price. For example, by checking company introduction materials, we found that all utility firms in our sample are regulated companies, which means the price of products and services are regulated by government to certain level and do not reflect the market value of that products or services. Therefore, we could not use company financial performance that did not reflect the market value of the company to measure the performance of board of directors. Thus, we eliminated all utility companies from the samples.

In addition, financial firms frequently exhibited near-zero or negative operating capital, resulting in dramatic fluctuations for returns on invested capital. Accounting valuations of assets, size of asset and liabilities relative to earnings and the fluctuations in assets and liabilities can all lead to negative rates of return even when earnings are positive; as a result, the return on invested capital could be negative or a unreasonable high positive value (when earning is divided by positive but near zero capital). This particular character of financial firms differentiates them from other kinds of firms when calculating financial returns; therefore, we didn't include financial firms in our sample. The distribution of the sample companies by industry and year is shown in Table 1 (see appendix).

iii. Spread Calculation

Once we calculated the value for ROIC and WACC, we generated a spread by subtracting WACC from ROIC. Then we used the five one-year values of spread to

derive the geometric mean which would indicate to what extend the management performance affected the financial performance of the company.

D. Data aggregation and Analysis

196 companies were selected with adequate data for the 5-year series. Once the companies were selected, we eliminated the utility companies that were regulated by the government because their revenue could not reflect the market value of the product or services they provided. Also, financial firms are removed due to the special evaluation of their operating capital. Then we assigned each company to one of the 18 industrial groups. Here is the approach we used to derive company excess return which also incorporated the consideration of the above two factors.

To calculate the excess return that a company achieved during a specific year, we needed to consider two important factors which could largely affect the result. One was the degree of industry concentration which explains to what extend the performance of major companies in an industry can influence the general performance of that industry. Another factor was the capitalization of the company which can also influence the industry performance index with respect to the level of industry concentration. The most straight forward measurement for these two factors is the size of the company which is represented by total company assets.

The following formula was used to calculate the weighted average performance of a company within the industry group it belongs to.

$$Weighted\ Average\ Performance_g = \frac{\sum_{i=1}^{n} Assets_{gi}(ROIC_{gi} - WACC_{gi})}{\sum_{i=1}^{n} Assets_{gi}}$$

Here we did our calculations in the following steps:

- Calculate the WACC and ROIC for each firm over the five year period

- Derive spread values for each firm for each year when there is a ROIC and WACC value

- Generate industry average spreads for each industry group and year from the data on companies in this sample sorted by industry.

- Generate differential spread values for each company for each year by subtracting industry means from firm values.

- For each CCBE grade, find the weighted average differential spread where the weight for each firm is that firm's percent of total assets of all firms with that grade.

- Generate geometric means for differential values for each CCBE2 grade over the five-year period

IV. RESULTS

Company excess return by grade over 2002–2006 is shown in table 2, the 3D version is shown in chart 1 (Appendix). The grades are assigned by CCBE[2] according to the performance scores based on Canadian Board Shareholder Confidence Index data. Companies receiving an AAA+ or A grade achieved significant positive mean differential spread over the five-year-period, which were 13% and 19%. However,

companies receiving B grades performed more than 4% below their weighted average industry peers during 4 out of the 5 yeas of the study, for a total difference of 18.75%. Companies receiving C grades performed more than 6% better than B grade companies during the 2002–2006 period but still 12.27% below the weighted industry average over the 5-year-period. Companies receiving AA or AAA grades generated negative mean differential spreads; however, on average that is still much higher than performance achieved by companies receiving a B or C grade. For example, the overall performance for AAA grade companies is 2.78% below the weighed industry average level; however, it is 12% higher than that of B grade companies.

Table 3 (Appendix) shows the overall weighted excess return for companies which are assigned A level grades and those which are assigned B or C grade. (Chart 2 shows the 3D version of table 3). The A level companies outperformed non-A level companies in each of the five years with differences ranging from 4.64% to 7.06%. Over the five-year-period, A level companies performed 13.24% higher than their weighted industry performance, while non-A level companies performed 16.39% lower than their weighted industry average levels. The performance gap between well and poorly governed firms is almost 30% of the return to investors.

To test the statistical significance of the observed difference, we established a regression model to analyze the relationship between ER and corporate governance performance. The test attempted to figure out whether other factors like industry and

2002–2006 business cycle also have significant effects on excess return spread. The null hypothesis is that in accounting for other factors, no relationship exists between company ER performance and the shareholders' confidence level of board of directors.

We used the same method for our assessment of average spread to derive the sample for this analysis. We removed regulated utilities and financial firms from the sample, and only included the combination of year and firm for years during witch a firm operated. We also removed data for the years before or after which a particular firm had aggressive M&A activities. We defined ER spread as the dependent variable and then regressed it on the following set of (0, 1) independent variables:

Year: 2002, 2003, 2004, 2005, 2006

Industry: Energy; Materials; Capital Goods; Commercial Services & Supplies; Transportation; Automobiles & Components; Consumer Durables & Apparel; Consumer Services; Media; Retailing; Food & Staples Retailing; Food, Beverage & Tobacco; Health Care Equipment & Services; Pharmaceuticals, Biotechnology & Life Sciences; Software & Services; Technology Hardware & Equipment; Semiconductors & Semiconductor Equipment.

CCBE[2] grades: A, AA, AAA, AAA+, B, C

This specifies the form of the regression equation as follows:

$$Company\ Excess\ Earnings = Constant + \sum Coefficient_i * Year$$
$$+ \sum Coefficient_i * Industry_i$$
$$+ \sum Coefficient_i * Grade_i$$

The regression result is shown in table 4 (Appendix). The null hypothesis is that CCBE[2] grade does not affect a firm's economic value. Our results led to a rejection of the null hypothesis in most cases since grades represent high shareholder confidence level are associated with significantly greater excess return throughout the five year period. In terms of CCBE[2] governance performance grades, a C grade company's excess return is 7% to 10% less than that of an A grade company per year on average. This suggests that an active and productive board of director can guide the company operation to achieve much higher cost efficiency which in turn significantly increases a company's economic value and a shareholder's return on investment. We then ran the regression again by assigning all companies into A level group if they received A, AA, AAA or AAA+ CCBE[2] grades and non-A level groups if they received B or C grade. The result is shown in Table 5 (Appendix). In general, an A level grade company generated returns 11% more than that of a company having B or C grade. In both regression results we didn't find any statistical significance to support that industry or the business cycle can affect the spreads, whereas all parameters of variables representing company corporate governance performance were statistically significant.

In order to better demonstrate the above results, consider the example of a typical firm

in the model and the difference in performance associated with that firm having "AAA+" level, as opposed to "C" level, governance. Firstly, we find the industry which has near mean performance in the mode (Transportation); then construct a simple example company with capitalization equal to that of the average of all firms in that industry. The comparative performance during this period equals to the difference in spread between that firm if it received "AAA+" grade from CCBE[2] and if it had received a "C" grade; this is shown in the first three rows in table 6 (Appendix). Then we multiply this percentage differences by the invested capital of this example company to get the difference in dollar value for investors generated by an "AAA+" company over a "C" company, which is CAD 1.704 billion. In table 7 (Appendix), we also present the scenario where the example company received "A" grade to compare against the situation that if it received a "C" grade form CCBE[2]. The total difference in dollar value over the five year period is CAD 2.037 billion.

To gain the robustness of our result test we also tested for heteroscedasticity of the independent variable and Fix /Random effect of the panel data. In statistics, a sequence of random variables is heteroscedastic, or heteroskedastic, if the random variables have different variances. Heteroscedasticity does not cause OLS coefficient estimates to be biased nor inconsistent, but it can cause the variance (and, thus, standard errors) of the coefficients to be underestimated. In our study Breusch–Pagan test was used to test for heteroscedasticity in a linear regression model. It tests whether the estimated variance of the residuals from a regression are dependent on the

values of the independent variables. The null hypothesis is that the residuals are homoskedastic. The test result is shown in table 8 (see Apendix). Breushch-Pagan test follow the Chi-square distribution, and a high value of Chi-Square (or low p value) can let us reject the null hypothesis. According to our results, we could not reject the null hypothesis since the p values was very high (very close to 1); therefore, we conclude that the model is homoscedasticity and the parameter estimates are reliable.

Since our sample has the character of panel data, we also tested the data for group (fixed) and time series (random) effects. The fixed effect model examines group differences in intercepts, assuming the same slopes and constant variance across groups. The random effect model, by contrast, estimates variance components for groups and error, assuming the same intercept and slopes. For example, in our sample, the existence of fixed effect suggests that the spread estimation is significant different among companies (groups), while existence of random effect suggests that the spread estimation is significantly affected by year (time series). Fixed effects are tested by the (incremental) F test, while random effects are examined by the Lagrange Multiplier (LM) test (Breusch and Pagan 1980). Here the hypothesis for fixed effects is that all coefficients for intercepts are the same, which suggests there is no fixed effect. The test result is shown in table 9 (see Appendix). The null hypothesis was rejected; therefore, the spread estimation was significantly affected by the difference between companies. Since each company has a different $CC(BE)^2$ score, we can say that board efficiency has significant influence on corporate performance. For random

effect test, we couldn't get the result for Hausman test; therefore we didn't include

any evidence to support the model.

V. CONCLUSION

In the last two decades, the board of directors has been an increasingly popular topic for corporate governance researches. During this period, boards have become more active and independent, aligning themselves more closely with shareholder interests. We believe that active boards can cause an increase in corporate residual earnings, ultimately for the benefit of shareholders. However, there have been intense debates as to the extent to which active and independent boards have had such an effect on corporate performance. Empirical studies attempted to validate a relationship between independent boards and outstanding corporate performances have produced mixed results. We believe that an active board should have positive impact in the organization to boost earnings. To test this assumption, we designed a study based on Canadian TSE 300 company data through a five-year-period. We used shareholder's confidence level as the agency for board performance. The result of our test indicates that high shareholder confidence generates improved corporate performance.

Since it is difficult to go into a board room to observe the activities of board members, we have to look for alternative agencies for the evaluation of board performance. We believe it is unrealistic to think that singular changes in board structure alone, without accompanying new activist behavior, would affect corporate performance; therefore, more factors should be considered to identify active boards. Using the $CC(BE)^2$ index score we have been able to measure board performance by capturing factors affecting shareholders' confidence in the Boards' abilities to fulfill their duties. Firstly, we

tested whether higher CC(BE)2 score suggesting good board performance could be associated with superior corporate performance. Then, we tested the statistical significance of this relationship. Our results demonstrated a statistically significant relationship between a board with high confidence level and superior corporate performance as measured by earnings in excess of costs of capital over the industry average. Corporations that received an "AAA+" or "A" $CC(BE)^2$ corporate governance grade performed significantly better in generating earnings in the test period than other corporations in the sample. In general, corporations which received A, AA, AAA or AAA+ grades performed significantly better than those received B or C grades. Since a corporate can receive A level grades only if it has more than 75 points after calculations, it is reasonable to conclude that there exists a positive relationship between shareholders confidence level of boards and corporate performance.

To gain robustness for the results, we tested for heteroscedasticity of the dependent variable and fixed/Random effects of the panel data. The test results let us draw the conclusion that the regression mode is homosedastic with constant variance for the estimation error; in addition, the existence of fixed effect of the panel data suggested that companies with different shareholder confidence levels ($CC(BE)^2$ score) have significant differences in performance.

Our study did not attempt to prove the causation for the correlation between

governance and performance. Moreover, we didn't find any research to provide proof on this topic. Factors other than board performance such as business cycle, market concentration and demand volatility could also affect corporate performance. Even so, we still believe the corporate governance revolution has had demonstrable positive effects on the earnings generated by operations of the large Canadian corporations during the period covered by this study.

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31. See, eg., Rappaport, supra note 60, at 51-55(estimating future cash flow from operation and operating profile margins)

32. Cf. Rawley Thomas, The Boston Consulting Group, Economic Value Added(EVA) Versus Cash Value Added (CVA): Stern Stewart Versus BCG/HOLT: Empirical Comparisons 8 (May 22, 1993) (on file with the Columbia Law Review) (chart entitled "Correlations of Market Value Added Versus Stern Stewart's EVA and Holt's CVA" indicates that the R2 of stock price variation explained by variation in EVA never exceeded 0.33 in any year from 1982 to 1991 and was 0.09 in 1986).

APPENDIX

TABLE 1   DISTRIBUTION OF THE SAMPLE COMPANIES BY INDUSTRY AND YEAR

GICS Code	Industry Group	Year					Total
		2002	2003	2004	2005	2006	
1010	Energy	23	25	25	24	21	118
1510	Materials	42	46	45	46	39	218
2010	Capital Goods	9	9	9	8	6	41
2020	Commercial Services & Supplies	3	3	3	3	3	15
2030	Transportation	4	4	4	3	3	18
2510	Automobiles & Components	4	4	5	5	5	23
2520	Consumer Durables & Apparel	3	3	3	2	2	13
2530	Consumer Services	1	1	1	1		4
2540	Media	9	10	10	10	10	49
2550	Retailing	4	4	5	5	4	22
3010	Food & Staples Retailing	9	9	9	9	4	40
3020	Food, Beverage & Tobacco	7	7	6	5	5	30
3510	Health Care Equipment & Services		1		1	1	3
3520	Pharmaceuticals, Biotechnology & Life Sciences	10	11	11	11	11	54
4510	Software & Services	3	4	4	2	2	15
4520	Technology Hardware & Equipment	2	2	4	4	3	15
4530	Semiconductors & Semiconductor Equipment	3	3	3	3	3	15
5010	Tele comm service	6	7	7	6	5	31
Total		142	153	154	148	127	724

Table 2: CORPORATE VALUE-ADDED PERFORMANCE* GIVEN DIFFERENT CC(BE)^2 SCORES

2002 – 2006, Weighted by Assets

Grade	2002	2003	2004	2005	2006	Geometric Mean 2002-2006
			Percentage Annual Rates of Return			
CC(BE)^2						
A	2.73%	3.24%	3.54%	4.29%	3.91%	19.01%
AA	0.08%	-2.25%	-2.48%	-3.61%	-2.92%	-10.73%
AAA	0.65%	0.45%	1.15%	-2.16%	-2.84%	-2.78%
AAA+	0.94%	2.38%	2.92%	2.63%	3.49%	12.96%
B	-4.30%	-3.54%	-4.18%	-4.26%	-4.05%	-18.75%
C	-0.48%	-2.59%	-2.86%	-3.32%	-3.64%	-12.27%

* Measured by Differential Spread. As described in text, differential spread is calculated by subtracting company excess earning rate of return, weighted by company assets, from industry average excess earnings.

Chart 1: CORPORATE VALUE-ADDED PERFORMANCE* GIVEN DIFFERENT CC(BE)^2 SCORES (3D version of Table 1)

45
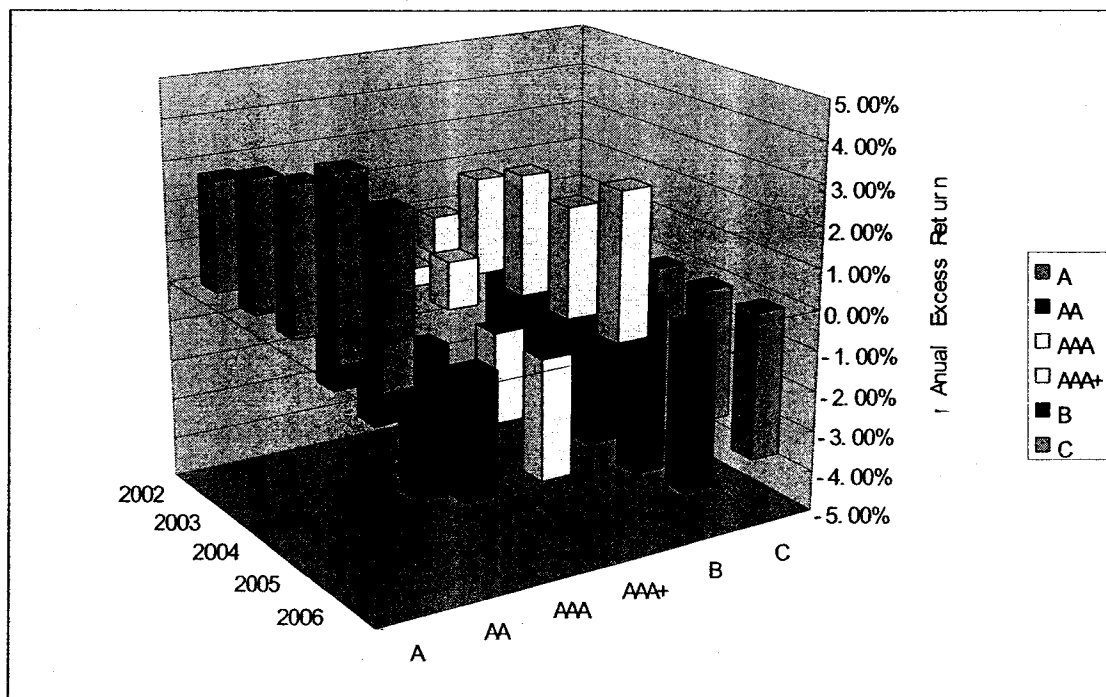
**Table 3: CORPORATE VALUE-ADDED PERFORMANCE* GIVEN
A LEVEL OR NONE A LEVEL CC(BE)^2 SCORES**

						Geometric Mean
Grade	2002	2003	2004	2005	2006	2002-2006
Percentage Annual Rates of Return						
CC(BE)^2						
A	2.04%	2.34%	2.65%	2.79%	2.76%	13.24%
Non A	-2.60%	-3.16%	-3.68%	-4.23%	-3.91%	-16.39%

2002 – 2006, Weighted by Assets

* Measured by Differential Spread. As described in text, differential spread is calculated by subtracting company excess earning rate of return, weighted by company assets, from industry average excess earnings.

**Chart 2: CORPORATE VALUE-ADDED PERFORMANCE* GIVEN
A LEVEL OR NONE A LEVEL CC(BE)^2 SCORES (3D version of table 2)**
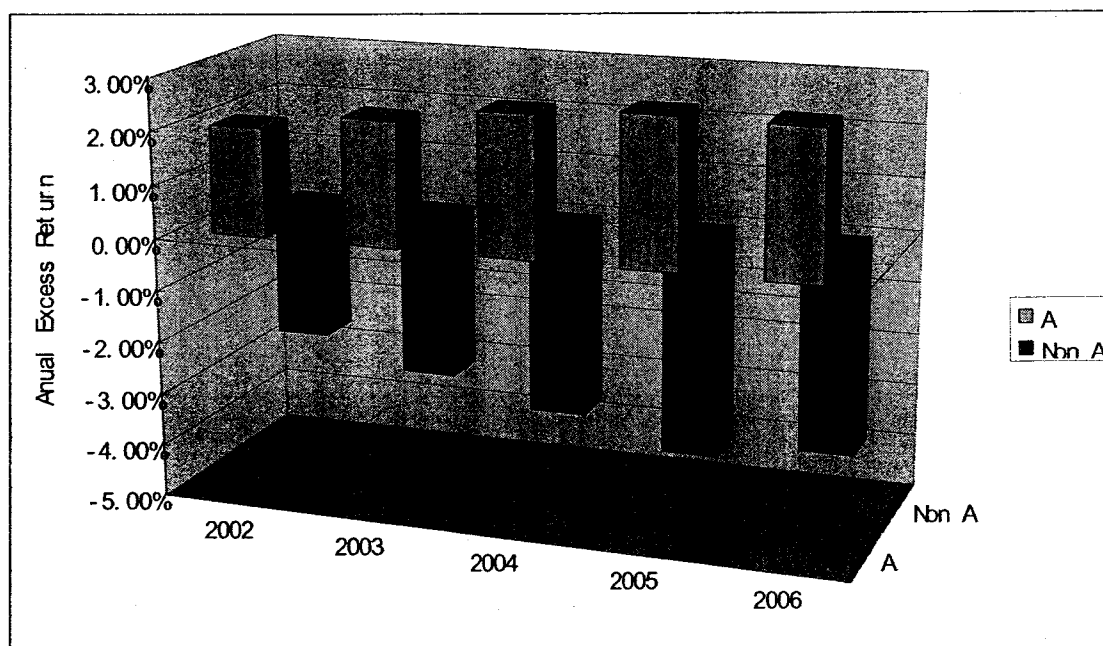
Table 4: REGRESSION RESULTS FOR SINGLE COMPANY ANNUAL SPREAD VS. CC(BE)^2 GRADES AND BOARD ACTIVITY

Variables	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	0.005	0.023	0.22	0.825
Energy	-0.014	0.020	-0.70	0.486
Materials	-0.050	0.018	-2.86	0.004
Capital Goods	-0.027	0.029	-0.94	0.350
Commercial Services & Supplies	-0.017	0.045	-0.37	0.710
Transportation	-0.038	0.041	-0.93	0.352
Automobiles & Components	-0.011	0.037	-0.29	0.769
Consumer Durables & Apparel	0.007	0.048	0.14	0.891
Consumer Services	-0.055	0.087	-0.63	0.528
Media	-0.016	0.027	-0.59	0.557
Retailing	-0.014	0.038	-0.37	0.714
Food & Staples Retailing	-0.002	0.030	-0.08	0.935
Food, Beverage & Tobacco	0.013	0.033	0.39	0.700
Health Care Equipment & Services	-0.017	0.097	-0.17	0.862
Pharmaceuticals, Biotechnology & Life Sciences	-0.334	0.026	-12.71	<.0001
Software & Services	-0.009	0.045	-0.20	0.843
Technology Hardware & Equipment	-0.036	0.045	-0.80	0.422
Semiconductors & Semiconductor Equipment	-0.047	0.045	-1.04	0.298
A	0.109	0.019	5.63	<.0001
AA	0.069	0.032	2.14	0.033
AAA	0.083	0.029	2.89	0.004
AAA+	0.070	0.026	2.73	0.006
B	-0.017	0.019	-0.93	0.352
2002	-0.010	0.018	-0.54	0.588
2003	0.004	0.018	0.21	0.835
2004	-0.003	0.018	-0.18	0.859
2005	-0.008	0.018	-0.46	0.648
R^2(adj.)(%)	24.91			
F Value	11.92	Pr>F	<.0001	
Number of Observations Used	724			

Notes: Sample size=724. All parameter estimates are percentage.

Base Industry: Telecomm service   Base Grade: C   Base Year: 2006

Table 5: REGRESSION RESULTS FOR SINGLE COMPANY ANNUAL SPREAD VS. CC(BE)^2 GRADES (A LEVEL OR NOT) AND BOARD ACTIVITY

Variables	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	-0.010	0.019	-0.55	0.582
Energy	-0.010	0.020	-0.50	0.614
Materials	-0.047	0.017	-2.77	0.006
Capital Goods	-0.031	0.029	-1.08	0.283
Commercial Services & Supplies	-0.007	0.044	-0.15	0.877
Transportation	-0.038	0.041	-0.94	0.346
Automobiles & Components	-0.007	0.037	-0.18	0.857
Consumer Durables & Apparel	0.009	0.047	0.20	0.843
Consumer Services	-0.079	0.083	-0.95	0.344
Media	-0.011	0.027	-0.40	0.691
Retailing	-0.013	0.037	-0.36	0.722
Food & Staples Retailing	0.002	0.029	0.06	0.949
Food, Beverage & Tobacco	0.024	0.033	0.74	0.459
Health Care Equipment & Services	-0.001	0.096	-0.01	0.988
Pharmaceuticals, Biotechnology & Life Sciences	-0.333	0.026	-12.80	<.0001
Software & Services	-0.021	0.044	-0.47	0.640
Technology Hardware & Equipment	-0.030	0.045	-0.67	0.506
Semiconductors & Semiconductor Equipment	-0.044	0.044	-1.00	0.320
Alevel	0.109	0.012	9.17	<.0001
2002	-0.011	0.018	-0.58	0.564
2003	0.003	0.018	0.19	0.847
2004	-0.003	0.018	-0.18	0.858
2005	-0.008	0.018	-0.45	0.651
R^2(adj.)(%)	24.81			
F Value	13.81	Pr>F	<.0001	
Number of Observations Used	724			

Notes: Sample size=724. All parameter estimates are percentage.

Base Industry: Telecomm service   Base Grade: C   Base Year: 2006

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Table 6
COMPARE GAINS FOR INVESTORS IN THE BETTER VERSUS WORSE GOVERNED
STYLIZED COMPANY
(AAA+ VS C)
(SPREAD IN PERCENTAGES; CAPITAL AND RETURNS PROFIT IN $MM)

	02	03	04	05	06	Total
Spread AAA+ Stylized Firm	0.94%	2.38%	2.92%	2.63%	3.49%	12.36%
C Stylized Firm	-0.48%	-2.59%	-2.86%	-3.32%	-3.64%	-12.89%
Difference	1.41%	4.97%	5.78%	5.96%	7.13%	25.25%
Avg Capital for that firm	5,079	5,201	5,601	7,666	8,326	6,375
Excess Return "AAA+" Firm	48	124	164	202	290	827
Excess Return "C" Firm	-24	-135	-160	-255	-303	-877
Difference in Investor Return	72	258	324	457	594	1,704

Table 7
COMPARE GAINS FOR INVESTORS IN THE BETTER VERSUS WORSE GOVERNED
STYLIZED COMPANY
(A VS C)
(SPREAD IN PERCENTAGES; CAPITAL AND RETURNS PROFIT IN $MM)

	02	03	04	05	06	Total
Spread A stylized Firm	2.73%	3.24%	3.54%	4.29%	3.91%	17.72%
C Stylized Firm	-0.48%	-2.59%	-2.86%	-3.32%	-3.64%	-12.89%
Difference	3.21%	5.83%	6.40%	7.61%	7.56%	30.61%
Avg Capital for that firm	5,079	5,201	5,601	7,666	8,326	6,375
Excess Return "A" Firm	139	169	198	329	326	1,160
Excess Return "C" Firm	-24	-135	-160	-255	-303	-877
Difference in Investor Return	163	303	358	584	629	2,037

Table 8
Breusch-Pagan test for Heteroscedasticity (Dependent variable: Spread)

Test on all $CC(BE)^2$ grades			Test on A level / Non A level $CC(BE)^2$ grades		
DF	Chi-Square	Pr>Chisq	DF	Chi-Square	Pr>Chisq
106	65.6	0.9993	152	82.79	1

Table 9							
F Test for No Fixed Effects							
Test on all CC(BE)^2 grades				Test on A level / Non A level CC(BE)^2 grades			
Num DF	Den DF	F Value	Pr > F	Num DF	Den DF	F Value	Pr > F
186	663	9.35	<0.0001	186	663	9.46	<0.0001

Example of CC(BE)² Report

CC(BE)²
Clarkson Centre for
Business Ethics & Board Effectiveness

Board Shareholder Confidence Index

| Ticker | Company | Board Personal | | Group Potential | | Past Practices | Total Score |
		Integrity/Independence	Stock Ownership	Structure	Systems (Functioning)	Output	
ACM.A	Astral Media Inc.	A	C	C	B	AAA	C
ACO.X	ATCO Ltd	B	C	C	B	AAA	C
ATY	ATI Technologies	AA	AAA	C	B	A	C
ATA	ATS Automation Tooling Systems Inc.	AAA	AAA	AAA	AAA	AAA	AAA+
AUR	Aur Resources Inc	A	C	AAA	B	AAA	B
AXP	Axcan Pharma Inc.	AA	AA	A	B	AAA	B
BLD	Ballard Power Systems Inc	AAA	B	AAA	B	B	B
BMO	Bank of Montreal	AAA	AAA	AA	AAA	AAA	AAA
ABX	Barrick Gold Corporation	B	AA	A	B	AAA	B
BTE	Baytex Energy	AA	AA	C	B	AAA	C
BCE	BCE	AAA	AAA	AAA	AAA	AAA	AAA+
IFM	BCE Emergis	AAA	C	A	AAA	AAA	A
BGO	Bema Gold Corporation	A	C	B	B	AAA	C
BVF	Biovail	AAA	AAA	AA	B	AAA	A
BEI	Boardwalk Equities Inc.	AA	AAA	AAA	AAA	AAA	AAA
BBD.B	Bombardier Inc.	B	AAA	B	AAA	AAA	B
BNP	Bonavista	AA	AAA	B	B	AAA	B
BNN.A	Brascan Corporation	B	A	B	AA	AAA	B
BPO	Brookfield Properties Corporation	C	AAA	AAA	B	AAA	B
CIX	C.I. Fund Management	AAA	AAA	AAA	B	AAA	AA
CAE	CAE Inc	AA	AA	A	AAA	AAA	AA
CCO	Cameco Corp.	A	AAA	B	AAA	AAA	A
CM	Canadian Imperial Bank of Commerce	A	AAA	AAA	AAA	AAA	AAA
GNR	Canadian National Railway	AAA	AAA	AAA	AA	AAA	AAA
CNQ	Canadian Natural Resources	AA	AAA	AAA	AAA	AAA	AAA
CP	Canadian Pacific Railway	AAA	AAA	AAA	B	AAA	AA