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AN INVESTIGATION OF THE IMPACT OF CORPORATE GOVERNANCE ON
DECISION TO EXPENSE EMPLOYEE STOCK OPTIONS

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy at Virginia Commonwealth University.

by

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Abstract

AN INVESTIGATION OF THE IMPACT OF CORPORATE GOVERNANCE ON DECISION TO EXPENSE EMPLOYEE STOCK OPTIONS

By Ling Jiang, Ph.D.

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy at Virginia Commonwealth University.

Virginia Commonwealth University, 2006

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Corporations have the choice of expensing (using the fair value method), or non-expensing (using the intrinsic value method and provide pro forma disclosure in financial statement footnotes) of employee stock options. The current study examines how corporate governance factors affect such choices. Prior studies (Xie et al. 2003; Klein 2002; Peasnell et al. 2000) have indicated that certain corporate governance factors have an impact on corporate accounting behavior, including earnings management. Based on the assumption that expensing employee stock options is a good practice of accounting that improves

earnings quality, it is hypothesized that these corporate governance factors would affect companies' option expensing decisions, in ways similar to how they affect companies' other earnings management choices.

A series of hypotheses relating to specific corporate governance factors are developed. These corporate governance factors include: Board independence (percentage of independent directors on the board, CEO/board chairman split, and tenure of independent directors), board expertise (governance expertise and financial expertise), board diligence, board ownership, board size, CEO tenure, and internal blockholders (cumulative ownership percentage of internal blockholders, and whether the largest blockholder is the CEO).

A sample of firms that elected to expense employee stock options up to early September 2003 is identified from the report of Bear, Stearns & Co., Inc. (2003), and a control sample of non-expensing firms is selected based on certain matching principles. The final sample consists of 235 expensing firms and 235 matched control firms, 470 firms in total.

A logit regression is conducted. The dependent variable is companies' decisions on whether or not to expense employee stock options. The independent variables are corporate governance factors and control variables. Regression results indicate that the following corporate governance factors have statistically significant impact on option expensing decisions in the directions predicted: finance expertise, board diligence, and whether the CEO is the largest blockholder. Regression results indicate a statistically significant impact on option expensing decisions, which is in the opposite direction than predicted, for the

cumulative ownership percentage of internal blockholders. The impacts of all other corporate governance factors are statistically insignificant.

Chapter One INTRODUCTION

Employee Stock Option and Its Usage in Practice

An employee stock option is a call option on a company's own stock granted to employees. It gives the employee-optionholder the right to purchase the company's stock at a specific price (strike price). When the market price exceeds the strike price, the employee can exercise the option to purchase the stock at the strike price and then sell it at the market price, thus realizing a profit from the transaction.

Employee stock options have been widely used in compensation packages, including compensation for directors, different levels of executives, and non-executive employees. Employee stock options have received widespread acceptance from both practitioners and academics. They were considered an important contributor to economic development (Ferri et al. 2003). Ittner et al. (2003) found in "new economy firms,"¹ firm performance tended to be poorer in subsequent years if the value of option grants or extant holdings of stock options were lower than the predicted level. Employee stock options were regarded as an effective tool to align management incentives with shareholders' interest, since the value of the employee stock options increases with the increase in firm

¹ "New economy firms" as defined in Ittner et al. (2003) are "organizations competing in the computer, software, internet, telecommunications, or networking fields" (90).

value (Hanlon et al. 2003; Jensen and Meckling 1976; Haugen and Senbet 1981; Hemmer et al. 1999). Ryan and Wiggins (2002) found that option compensation reduced management's risk-avoiding tendency and encouraged risk-taking investment behavior, and thus aligned management's interest with that of shareholders.

However, after the stock price collapse of the technology companies, that are heavy users of employee stock options, and the series of corporate debacles in 2002 such as Enron, WorldCom, etc. (Aboody et al. 2003), the consequences of employee stock option usage has been questioned by both practitioners and academic researchers. Investors are concerned that options facilitate wealth transfer from shareholders to employee-optionholders (Gao and Shrieves 2002; Liang and Sharpe 1999). Gao and Shrieves (2002) found that the amount "and the incentive intensity of stock options, are positively related to earnings management intensity" (2). In a summary of previous studies, Hanlon et al. (2003) stated that there exist "the incentive alignment and rent extraction perspectives" of stock option grants. With regard to the "rent extraction perspective," they stated that "others claim that stock options do not exhibit empirical relations consistent with the economic motivations behind granting them ... and may even be a politically expedient way of cloaking senior managers' pay as such compensation is generally not recorded in the firms' financial statements Researchers have also presented evidence that managers abuse option grants for their own benefit" (Hanlon et al. 2003, 4).

Accounting for Employee Stock Options: The Debate over Expensing vs. Non-Expensing

Evolution of Standards: From Non-Expensing to Expensing

The evolution of accounting for employee stock options has gone through a long process in the U.S., witnessing the political nature of accounting standard setting and standard application by corporations. One of the major themes of the debates surrounding accounting for employee stock options is whether the cost of employee stock options should be accounted for using the fair value method or the intrinsic value method. In 1972, the Accounting Principles Board (APB) issued APB No. 25 *Accounting for Stock Issued to Employees*, which prescribed the intrinsic value method of accounting for employee stock options. Under this method, the compensation expense to be recognized over the vesting period of the options is the excess of the market price over the strike price at the measurement date, the date on which the strike price and the number of options are known (Aboody et al. 2003). Fixed option grants are those grants for which the exercise price and the number of options are known on the grant date; thus, the measurement date for fixed option grants is the grant date. If the strike price is equal to or above the market price for fixed option grants, no compensation expense needs to be recognized. Therefore, most companies chose to issue employee stock options at a strike price at the market price of the stock, thus avoiding recognizing related compensation expense in financial statements (Aboody et al. 2003; Ferri et al. 2003). While employee stock options have increasingly been used as a form of compensation, no compensation expense is reflected in companies' financial statements. With the appearance of better option pricing models, the FASB

reconsidered the proper method of accounting for employee stock options, and issued in 1993 an Exposure Draft entitled *Accounting for Stock-Based Compensation*, requiring companies to recognize employee stock options as a compensation expense using the fair value method. Other issues that led to this new development in standard setting include the widespread usage of fixed stock options along with the inconsistency of accounting treatment for fixed stock options, variable stock options and stock appreciation rights (Dechow, Hutton and Sloan 1996). The inconsistency is that fixed stock options receive the special treatment of no expense recognition if the stock price does not exceed the strike price at the grant date (Dechow, Hutton and Sloan 1996). Under the fair value method, for fixed option grants, even if the strike price is not below the market price on the grant date, companies still have to recognize a compensation expense in financial statements. This amount is determined by an option pricing model, such as the Black-Scholes model or the binomial model.

The 1993 exposure draft received widespread opposition, even threatening the status of the FASB. In 1995, the FASB issued SFAS No. 123 *Accounting for Stock-Based Compensation*, which is a compromise to political pressure. Unlike the 1993 exposure draft, SFAS No. 123 does not mandate the fair value method. Instead, companies can either use the fair value method, or continue to use the intrinsic value method prescribed by APB No. 25, provided that they disclose pro forma information in footnotes, as if the fair value method had been used. In December 2002, the FASB issued SFAS No. 148 *Accounting for Stock-Based Compensation--Transition and Disclosure--an amendment of FASB Statement No.123*, which prescribed alternative transition methods for companies

that elect to adopt the fair value method and amended disclosure requirements, including requiring disclosure in interim financial reports. In 2004, the International Accounting Standards Board (IASB) issued International Financial Reporting Standard 2 *Share-based Payment* (IFRS 2), which required the recognition of employee stock option related compensation expense.

Both the fair value method and the intrinsic value method require the recognition of employee stock option related compensation expense. The distinction is on how to value employee stock options. Most companies chose to issue to employees fixed option grants (option grants for which the exercise price and the number of options are known on the grant date) with a strike price which is at the market price on the grant date (Aboody et al. 2003; Ferri et al. 2003). Under this situation, the choice between the fair value method and the intrinsic value method results in recognition or non-recognition of employee stock option related compensation expense, respectively. To be consistent with the terminology used in the popular press, in the current study, companies are referred to as expensing employee stock options if they choose the fair value method, and non-expensing if they choose the intrinsic value method.

Corporate Reactions: From Opposition to Expensing

Many companies have been opposed to the expensing of employee stock options (Bodie et al. 2003; Borrus et al. 2002; Guay et al. 2003). The American Stock Exchange reported in a survey of over 200 chief executive officers of companies listed on the exchange that 84 percent were against using the fair value method (Berton 1994).

Corporations lobbied against expensing of employee stock options (Guay et al. 2003). Most of the comment letters on FASB's 1993 Exposure Draft were opposed to the fair value method (Dechow, Hutton and Sloan 1996). "Opponents included the six major accounting firms, venture capitalists, start-up companies, [and] numerous industry associations" (Dechow, Hutton and Sloan 1996, 4). Among the current opponents of option expensing is the International Employee Stock Options Coalition, an organization that advocates for the importance of employee stock options, and represents a wide range of organizations, including high-tech firms.

However, other companies saw an advantage to fair value expensing. In response to the series of accounting scandals including Enron, WorldCom, etc., they have announced their intentions to recognize stock-based compensation expense in financial statements using the fair value method, in order to signal higher quality earnings (Seethamraju and Zach 2003), and "to increase accounting transparency and ... strengthen corporate governance practices" (Plitch 2003). Aboody et al. (2003) found that early (July 2002) announcers of expensing of employee stock options had abnormal returns on their stocks.

Arguments Against Expensing of Employee Stock Options

Ferri et al. (2003) provided a summary of the "arguments against and in favor of expensing stock options ... presented in 2002 proxy statements of firms targeted by option expensing proposals [and] in debate about FASB's 1993 proposal to recognize stock-based

compensation.”² Their summary is comprehensive and representative of the current debate over expensing vs. non-expensing of employee stock options.

According to the summary of Ferri et al. (2003), the arguments against expensing include the following: Since stock options reduce EPS, to expense stock options would “double count” the effect of employee stock options (ESOs); ESOs are not an expense; expensing ESOs reduces earnings and company value, which will lead investors to allocate resources to other companies; the option pricing models for publicly traded options are not suitable for employee stock options (the unique characteristics of which differ from traded options), and will lead to inaccurate information in financial statements; since most companies are not expensing stock options, if the company expenses ESOs, it will reduce the comparability of the company’s financial statements and put the company at a “competitive disadvantage”; the cost of employee stock options is already reflected in financial statement footnotes, recognizing the compensation expense would provide no additional information; employee stock options as compensation helps companies to attract and retain talented employees, expensing ESOs would limit its usage and harm those companies.

High-tech companies are among the most active opponents. The following are the reasons for their opposition, as mentioned by researchers (Aboody et al. 2003; Borrus et al. 2002; Ferri et al. 2003; Grey et al. 2002; Ittner et al. 2003): High-tech firms are

² See Ferri, F., G. Markarian, and T. Sandino (2003), Stock options expensing: Evidence from shareholders’ votes. Working paper, New York University, New York, NY. (Available at: www.ssrn.com.) Pages 33-34: TABLE 2 Arguments Against and In Favor Of Expensing Stock Options. Panel A: Arguments presented in 2002 proxy statements of firms targeted by option expensing proposals; Panel B: Main arguments in debate about FASB’s 1993 proposal to recognize stock-based compensation.

intelligence-intensive, thus they need to attract and retain talented employees. However, many high-tech firms are at the start-up stage, thus are in lack of cash. Employee stock option, as a non-cash compensation tool, has helped solve the cash shortage problem and retain talented employees, thus significantly contributing to the prosperity of high-tech firms. Consequently, employee stock options have been extensively used by high-tech firms. Requiring fair value expensing of employee stock options would deprive these firms an important compensation tool and impair their economic growth. In addition, since many high-tech firms have low earnings even in absence of option expensing, typical of firms at the start-up stage, fair value expensing of employee stock options would have a greater impact on these firms' earnings, compared to firms with better earnings. Many high-tech firms have more volatile stock prices. These firms have to recognize more compensation expense if fair value expensing is required, since according to option pricing models, the more volatile a firm's stock price, the greater the estimated option value (Ross et al. 2004). Because of these unique situations, high-tech firms would be put to a disadvantage if fair value expensing is required.

Merits of Expensing Employee Stock Options

As summarized by Ferri et al. (2003), and similarly mentioned by Bodie et al. (2003) and Borrus et al. (2002), supporters of stock option expensing argue that: expensing employee stock options increases financial reporting transparency; employee stock options have value and are a compensation expense; inaccurate estimation from option pricing models is better and more accurate than no estimation, since no estimation essentially

states that employee stock options have no value; recognizing the compensation expense in financial statements has incremental value to footnote disclosure and disclosure is no substitute for recognition; investors already have access to information of employee stock options through footnote disclosures, recognizing the expense would not have a great impact on companies' stock prices, and would not change investors' resource allocation decisions; and expensing employee stock option helps to constrain its excessive usage in practice and helps to strengthen corporate governance.

It is widely believed that not expensing options has led to excessive usage of stock options for compensation, and this practice in turn fuels earnings management (Bodie et al. 2003; Gao and Shrieves 2002; Baker et al. 2003). According to Grey et al. (2002), the fact that employee stock options are not required to be recognized as an expense has an influence on companies' policies. They stated that "firms that grant ESOs and thus avoid a charge against income, artificially boost earnings. Managers may favour share repurchases over conventional dividend payments as they buoy up share price with positive implications for the fair value of managers' ESOs. [Requiring] firms to expense ESO costs could have [an impact on] dividend, compensation and financing policies" (12).

Expensing of employee stock options has received increasing support from standard-setters and academics. Standard-setters (IASB 2004; FASB 1995) hold the view that employee stock options are a compensation expense; recognition of such expense improves earnings quality, reduces cost of capital, and thus facilitates better allocation of resources. As mentioned by Ferri et al. (2003), researchers (Aboody 1996; Aboody et al. 2004; Li 2002) have found that stock prices reacted to employee stock option costs

disclosed in footnotes as if such costs exhibit the nature of an expense. Researchers argue for expensing of ESOs since expensing would provide useful information to investors (Guay et al. 2003; Bodie et al. 2003). Extant research has concluded that recognition provides incremental information beyond disclosure (Barth et al. 2003; Bodie et al. 2003; Espahbodi et al. 2002). This incremental information helps to reduce “information asymmetry between the firm and investors” (Aboody et al. 2003). Based on the incremental information argument, Aboody et al. (2003) stated that expensing employee stock options would result in higher quality earnings. Abnormal returns on stocks of companies that elected earlier (in July 2002) than other companies to expense employee stock options indicate investors’ positive reaction to such decisions (Aboody et al. 2003). This is consistent with Seethamraju and Zach’s (2003) argument of the signaling benefit of expensing of ESOs.

The Basic Assumption: The Nature of Employee Stock Options

How employee stock options should be accounted for is directly related to the question of “what is the nature of employee stock options”? Currently, there are different perspectives in academic and empirical discussions regarding the nature of employee stock options: the asset view and the expense view.

Under *the asset view*, employee stock option grants are valuable assets of the company, because these grants help to align employees’ interest with that of the stockholders’, and also help to retain important employees. Bell et al. (2002) estimated valuation equations incorporating different methods of accounting for employee stock

options, and found that the market appeared to value employee stock options as an asset and not as an expense. Rees and Stott (1998) found “a significant association between the disclosed compensation expense using the fair value method and firm value that is in the opposite direction from other income statement expenses.” Keating et al. (2003) in their study attempted to identify factors (including employee stock options related issues) that led to the economic downturn of internet firms in spring 2000, and found that “stock option grants by certain firms are positively associated with value” (191). This finding is consistent with the argument that employee stock options exhibit the nature of an asset. The asset view implies that employee stock options should be accounted for as an asset.

Under *the expense view*, employee stock options are a compensation expense. This view has been adopted by many researchers (Aboody et al. 2003; Bodie et al. 2003; Guay et al. 2003) and regulators, including the FASB (FASB 1993, 1995) and the International Accounting Standards Board (IASB 2004). Aboody (1996) found a negative correlation between his estimated outstanding option values and share prices for the sample firms. This suggests the expense nature of employee stock options. Similar findings have been provided by Aboody et al. (2004) and Li (2002). Under the expense view, employee stock options should be accounted for as compensation expense, and thus reduce net income.

This study is based on a similar assumption as that in previous studies (Aboody et al. 2003; Ferri et al. 2003; Seethamraju and Zach 2003), that is, expensing of employee stock options is a sound accounting practice, improves earnings quality, and is in compliance with stockholders’ interest. In other words, employee stock options are a

compensation expense. The expense view has received widespread support, which is the reason that the current study is based on this assumption.

Objective of the Study

The view that expensing employee stock options is a good accounting practice that improves earnings quality has received increasing support (Bodie et al. 2003; Borrus et al. 2002; FASB 1993, 1995; IASB 2004). More and more companies have elected to recognize options related compensation expense. What factors affect companies' decisions to expense employee stock options? Aboody et al. (2003) investigated a series of factors and found that "the likelihood of recognizing stock-based compensation expense is significantly related to the effect of the expense on reported earnings and accounting-based contracts, the firm's investor base and governance structure, the extent to which the firm is active in the capital market, and whether the firm is a leader in its industry" (1).

Ferri et al. (2003) examined factors influencing shareholders to vote for and against proposals of expensing employee stock options. They found that "the magnitude of excessive option compensation of the CEO," institutional holdings and size had a positive impact on shareholders' votes for expensing, whereas "the expected earnings impact of expensing options," insider holdings, and past performance had a negative impact on shareholders' votes for expensing employee stock options.

Seethamraju and Zach (2003) found that companies with greater publicity exposure and companies for which the market interpreted option expensing as good news were more

likely to expense employee stock options. They did not find any impact of corporate governance on expensing decisions.

Corporate governance and accounting for employee stock options are receiving increased attention in practice and in research. The impact of corporate governance factors (specifically board characteristics) on corporate accounting behavior in general has been well documented in the literature. However, studies on the relation between corporate governance and financial reporting issues specifically related to employee stock options have not been many. A few studies (Baker 1999; Aboody et al. 2003; Ferri et al. 2003; Seethamraju and Zach 2003) have addressed questions in this area. In his study of the influence of unexplained compensation and institutional ownership on firms' underreporting of estimated executive stock option values in proxy statements, Baker (1999) included certain corporate governance related variables in his analysis. He found that companies with larger boards and companies with the CEO as the chairman of the board tended to report lower estimated executive stock options values in their proxy statements. He did not find significant impact of CEO's ownership and stockholdings "by the non-CEO director with the largest block of ownership" on the degree of discount in option value estimates. He found an insignificant and negative impact of the proportion of inside directors on the board on the degree of discount, which is contrary to previous general understanding of the impact of inside directors.

Guay et al. (2003) predicted that corporate "governance of expensing firms is more effective than that of the non-expensers," based on the hypothesis that one of the reasons for corporate opposition to expensing of ESOs is that expensing "would influence

contracting arrangements by making ESO compensation to top executives more visible.” Several recent studies have addressed the impact of corporate governance factors on option expensing decisions. The group of corporate governance related factors that Aboody et al. (2003) tested included “the proportion of equity held by outside directors,” which was found to have a significant and positive impact on the likelihood of a company’s expensing of options; “the extent to which outside directors are compensated in cash” and “whether the CEO is also a director,” for which no significant impact on option expensing was found. Ferri et al. (2003) found that “insiders’ ownership is positively associated to votes against expensing.” They did not find a significant association between cumulative ownership of external blockholders (as a control variable) and shareholders’ votes. Seethamraju and Zach (2003) studied the corporate governance factors of the percentage of outsiders on the board, ownership by outside directors, and ownership by inside directors. They found no evidence that corporate governance factors were associated with the likelihood of expensing options.

The current study attempts to further the understanding of the impact of corporate governance related factors on option expensing decisions. This study seeks to answer the question: Do certain characteristics of the board of directors and certain other corporate governance factors affect companies’ decisions on whether to expense employee stock options? This study differs from previous studies (Aboody et al. 2003; Ferri et al. 2003; Seethamraju and Zach 2003) that have addressed the relation between corporate governance and expensing of employee stock options in that previous studies only examined the impact of limited corporate governance factors along with a series of other

non-governance factors on option expensing decisions, while the current study narrows the scope to corporate governance factors only and expands the set of corporate governance factors. This allows a more comprehensive study on the impact of corporate governance related factors on companies' expensing decisions. Corporate governance related factors not included in previous studies are tested in the current study, and those factors with inconclusive extant results in previous studies are tested again. Prior studies (Xie et al. 2003; Klein 2002; Peasnell et al. 2000) have indicated that corporate governance factors such as board independence, board expertise, board diligence, board ownership (directors' stock ownership in the company) and board size, have an impact on corporate accounting behavior, including earnings management. Based on the assumption that expensing employee stock options is a good practice of accounting that improves earnings quality, it is hypothesized that these corporate governance factors would affect companies' option expensing decisions, in similar ways as they affect companies' other earnings management choices. A series of hypotheses relating to specific corporate governance factors are tested using empirical data.

Method of Inquiry

To address the research question of do certain board characteristics and other corporate governance factors affect option expensing decisions, a sample of firms that had elected to expense employee stock options up to early September 2003 is identified, and a control sample of non-expensing firms is selected based on matching industry membership and market capitalization. The matching principle is similar to that used in other research

studies (Seethamraju and Zach 2003; Aboody et al. 2003). A logit regression is conducted using empirical data. The dependent variable is companies' decisions on whether or not to expense employee stock options. The independent variables are corporate governance factors and control variables. The sign and significance of the estimated coefficients are compared with predictions in order to test the hypotheses.

Significance of the Study

This study contributes to the accounting choice literature. SFAS 123 provides companies the choice between the intrinsic value method and the fair value method in accounting for employee stock options. Specifically, this study focuses on how corporate governance factors affect such choice. In the context of expensing employee stock options, the question is even more interesting since the employee stock option itself, the subject of the accounting choice question, is related to corporate governance issues. As a component of director and executive compensation, employee stock options play an important role in corporate governance.

Prior studies (Aboody et al. 2003; Ferri et al. 2003; Seethamraju and Zach 2003) limited their investigation of corporate governance to factors such as proportion of outside directors on the board, board ownership, etc.. The results were inconclusive. This study expands the variable set to include other corporate governance factors such as directors' tenure, board expertise, board diligence, etc., and retests those factors with inconclusive results. This study focuses solely on corporate governance related factors. This allows a

more detailed study on the impact of corporate governance related factors on companies' expensing decisions.

Organization of the Study

The organization of this dissertation is as follows: Chapter one discusses the employee stock option and its usage in practice, accounting for employee stock options, the basic assumption, objective of the study, method of inquiry, and significance of the study. Chapter two reviews prior literature on the impact of corporate governance factors on corporate behavior, mainly accounting choices, including earnings management. A series of hypotheses are developed, each relating to one corporate governance factor. Chapter three presents the research design, including sample selection, data source, the statistical model, and econometric issues. Chapter four describes the data set, presents and analyzes the statistical results. And chapter five summarizes the study, discusses the limitations of the current study, and makes suggestions for future research.

Chapter Two

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Prior research has found that companies with certain corporate governance characteristics had better quality earnings, and were more likely to act in shareholders' interest. Based on the assumption that expensing employee stock options is a good accounting practice that improves earnings quality and is in compliance with shareholders' interest, it is generally hypothesized in the current study that companies with these corporate governance characteristics are more likely to expense employee stock options. The same prediction has been made by Guay et al. (2003). In this chapter, previous studies on the impact of corporate governance factors on corporate behavior, mainly the impact on accounting choices, including earnings management, are reviewed. A series of hypotheses are developed, relating to specific corporate governance factors. These corporate governance factors include various board characteristics (such as board diligence, board ownership, board size, etc.), CEO tenure, and internal blockholders.

Corporate Governance and the Board of Directors

There are various corporate governance structures, for example, "insider shareholdings, institutional shareholdings, shareholdings by blockholders, the use of

outsiders on the board of directors, debt financing, the external labor market for managers, and the market for corporate control” (Agrawal and Knoeber 1996, 394). The corporate governance structures most relevant to this study are the board of directors and blockholders. Corporate governance structures can be divided into internal and external structures. The board of directors is one type of internal governance structure (John and Senbet 1998).

The board of directors assumes two different roles: the monitoring role and the decision making role (Klein 1998; *ABA Corporate Director's Guidebook* 2004). The current study is concerned with the monitoring role of the board of directors. Agency theory is the central theme of the stream of research related to the monitoring role of the board. According to Jensen and Meckling (1976) and Fama (1980), agency problems are generated by the separation of the risk-bearing of equity owners and the management function. The principal bears the risk while the agent carries out the operation. The party that actually manages the asset does not bear the risk of potential loss due to inferior management. Fama and Jensen (1983) pointed out that stockholders delegate most of the decision and control functions to the board of directors, the board of directors then delegate most of its decision and control functions to the management. Thus, there are two layers of agency relationships. The first is between the stockholders and the board, the second is between the board and the management. The principal does not actually carry out the decision and control functions but monitors the agent's decision and control activities. The board is the agent of stockholders and the principal of the management. It exerts important influence on corporate decisions, which should be consistent with stockholders' interest.

Corporate Governance Related Factors

Board Effectiveness

The National Association of Corporate Directors (NACD 1996) asserted that director independence, diligence, and expertise are imperative to board effectiveness. Researchers also believe that these characteristics are related to the effectiveness of board monitoring (Conger et al. 1998; John and Senbet 1998; Lorsch 1995).

In the subsequent part of this chapter, prior literature related to board characteristics and certain other corporate governance factors, and their effect on the corporation (including earnings management) is reviewed. The studies reviewed include not only board of directors studies, but also audit committee studies, since the audit committee studies are closely related to and provide insight for the current study. The characteristics of independence, expertise and diligence are not confined to the board of directors, but also are characteristics of the audit committee and other committees of the board. They are the most often addressed among board/committee characteristics.

DeZoort et al. (2002) provided a review of the “empirical audit committee literature.” They organized the review in reference to a framework of “determinants of audit committee effectiveness (ACE)” (See Appendix). According to this framework, audit committee effectiveness is determined by various audit committee characteristics, such as committee independence, diligence and expertise. These characteristics and audit committee effectiveness compose a framework which includes input factors, process factors and output factors. Input factors include audit committee composition factors such as expertise and independence of committee members, authority factors such as the

committee's responsibility and influence, and resource factors such as the committee's "access to management, external and internal auditors." The process factor is audit committee diligence, and the output is audit committee effectiveness. Dezoort et al. (2002)'s framework suggests that a similar structure would exist for the determinants of board effectiveness.

Previous studies, as reviewed in this chapter, have found that board/audit committee characteristics and other corporate governance factors had an impact on corporate financial reporting choices, including earnings management. In companies with a more effective board, the occurrence of financial statement fraud was less likely (Beasley 1996), and earnings manipulations leading to SEC enforcement actions were less likely (Dechow, Sloan and Sweeney 1996). Since whether to use the fair value method to account for employee stock options is a choice available to management under the provisions of SFAS 123, it is reasonable to hypothesize that board characteristics and other corporate governance factors would have a significant impact on corporate decisions on such choices.

Board Independence

Board independence is receiving increased attention in practice. The California Public Employees' Retirement System (CALPERS) stated in its 1998 report that "independence is the cornerstone of accountability. It is now widely recognized throughout the U.S. that independent boards are essential to a sound governance structure" (CALPERS 1998, 4). The National Association of Corporate Directors (NACD) issued the

Report of the NACD Blue Ribbon Commission on Director Professionalism (NACD 1998).

The report recommended that a substantial majority of the board should be independent, that independence is the key to a board's credibility and its accountability, and that independent directors should control the key committees. "The NYSE [New York Stock Exchange] and NASD [National Association of Securities Dealers] exchanges proposed new rules that both mandated board independence and tightened the definition of an independent director" (Gillette et al. 2003, 1). In response to the recent public company crisis such as Enron and WorldCom, etc., the New York Stock Exchange in August of 2002 began requiring that more than one-half of the members of the board of directors must be independent members and that membership on the auditing, nominating, and compensation committees must be entirely composed of outside directors (Fields and Keys 2003).

Researchers have found that a more independent board would be more likely to act in the interest of shareholders than in the interest of management (Cotter et al. 1997; Tufano and Sevick 1997; Brickley et al. 1994; Byrd and Hickman 1992; Kosnik 1987). For companies with more independent boards, CEO turnover was more strongly related to firm performance (Weisbach 1988). And the appointment of independent directors was valued by shareholders (Rosenstein and Wyatt 1990). Researchers (Xie et al. 2003; Klein 2002; Beekes et al. 2004; Peasnell et al. 2000) have also found that companies with more independent boards were likely to have better quality earnings.

Since whether or not to use the fair value method to account for employee stock options is an accounting choice available to companies, a decision affecting reported

earnings, it is reasonable to hypothesize that this choice is likely to be influenced by board independence. Companies with more independent boards would be more likely to expense employee stock options. In this study, the alternative measures of board independence used in empirical testing are the percentage of independent directors on the board, CEO/board chairman split, and tenure of independent directors.

Percentage of independent directors on the board

Outside and inside directors may have different advantages to shareholders. “Outside directors may be more important on committees that handle agency issues ..., and insiders may best use their company knowledge on committees that focus on firm-specific issues” (Xie et al. 2003). Since the current study investigates how board characteristics affect corporate decisions on expensing of employee stock options, a decision prone to earnings/financial information management, the agency issue is the relevant aspect to the current study. Therefore, the greater the percentage of outside directors, the better the board will carry out its monitoring duties on such choices.

Besides outside and inside directors, there exist affiliated directors (Carcello and Neal 2003). Affiliated directors are those directors who are not part of the management team, but have “strong economic or personal ties to the company or its management,” thus are not totally independent from the management (Carcello and Neal 2003). As stated by DeZoort et al. (2002), some researchers define independent director by the dichotomy of outside/inside directors, while more recently researchers have begun to use the classification of outside/affiliated/inside directors. In the current study, the latter

measurement of director independence is used, as in a recent study by Carcello and Neal (2003), where affiliated directors were categorized as non-independent.

Researchers have found that companies having greater proportion of independent directors on the board were likely to have better quality earnings. Xie et al. (2003) found that the proportion of outside directors on the board, an indicator of board independence, was significantly and negatively associated with the magnitude of “discretionary current accruals.” Klein (2002) found that abnormal accruals were smaller for companies with more independent directors. Beekes et al. (2004) found that the percentage of outside directors on the board was positively related to the likelihood of recognizing “bad news in earnings on a timely basis” by UK firms. A study by Peasnell et al. (2000) found that certain UK firms were less likely to manage earnings upward if the boards had greater proportions of outside directors.

Several previous studies have tested the relation between the percentage of independent directors and corporate reporting of employee stock options; however, the results are inconclusive. Seethamraju and Zach (2003) did not find an association between the percentage of outsiders serving on the board of directors and the likelihood of expensing options. Baker (1999) found an insignificant and negative impact of the proportion of inside directors on the board on the degree of discount (underreporting) in companies’ estimated executive stock option values in proxy statements, which, according to Baker (1999), is contrary to general conclusions on the impact of inside directors. In the current study, the effect of the percentage of independent directors on corporate reporting

of employee stock options is tested again. Consistent with the general conclusion that board independence improves earnings quality, it is hypothesized that:

H1: A company with a board that has a greater percentage of independent members will be more likely to expense employee stock options.

CEO/board chairman split

Whether the board chairman is the CEO or not the CEO is a relevant issue to board independence. The California Public Employees' Retirement System (CALPERS) stated in its 1998 report that "the independence of a majority of the board is not enough. The leadership of the board must embrace independence, and it must ultimately change the way in which directors interact with management" (CALPERS 1998, 4).

Prior studies have found a negative impact of the power of the CEO on board independence, and on management decisions to act in the best interest of shareholders. Shivdasani and Yermack (1999) examined the director selection process, and found that the involvement of the CEO in the process reduced the independence of the board. They found that "when the CEO serves on the nominating committee ..., firms appoint fewer independent outside directors and more gray outsiders with conflicts of interest. Stock price reactions to independent director appointments are significantly lower when the CEO is involved in director selection" (1829). Klein (2002) found "a positive relation between earnings management and whether the CEO sits on [the compensation] committee" (398). Jensen (1993) pointed out that if the board room culture discourages conflict between

board members and the CEO, then the board is easily to be controlled by the CEO and unable to exercise well its monitoring function.

Results of these studies suggest that influence of the CEO on the board may negatively impact a firm's decision to expense employee stock options. The common measurements of the extent of the CEO's influence on the board used in the literature include "whether the CEO is also the chairman of the board" (Baker 1999; Tsui et al. 2001) and "whether the CEO is a board member" (Aboody et al. 2003). The insignificant impact of "whether the CEO is a board member" on option expensing decisions found in the Aboody et al. (2003) study may have been caused by the lack of variation in this variable, since many companies are likely to have the CEO on the board, and only some companies are likely to have the CEO as the chairman of the board. Thus, the alternative measurement "whether the CEO is also the chairman of the board" is used in the current study. Baker (1999) found that the degree of discount (underreporting) in executive stock option value estimates in proxy statements tended to be greater for a company whose CEO was also the chairman of the board, controlling for firm size. Similar effect is expected for the expensing vs. non-expensing decisions, that is, as hypothesized:

H2: A company whose CEO is also chairman of the board will be less likely to expense employee stock options.

Tenure of independent directors

Prior studies have indicated that the longer the independent directors' tenure with the firm, the more likely they would side with management, thus their independence would

be impaired, and their likelihood to act in the best interest of shareholders would be reduced (Vafeas 2003). The “Preliminary Report of the American Bar Association Task Force on Corporate Responsibility” recommends rotation of directors and that public companies set director term limits (American Bar Association 2002). Thus, it is likely that the increase in independent directors’ years of tenure will negatively affect companies’ option expensing decisions. It is hypothesized in this study that:

H3: A company whose independent directors have fewer years of tenure will be more likely to expense employee stock options.

Board Expertise

Prior studies have indicated a relation between directors’ expertise and earnings management. Xie et al. (2003) found a negative relation between directors’ governance and financial expertise and discretionary accruals, which suggests that a board composed of directors with more governance and financial expertise will be more likely to influence management to act in the best interest of shareholders on accounting choices. Thus, it is reasonable to hypothesize that companies that have boards with greater expertise would be more likely to expense employee stock options. The most relevant role of the board to the decision of expensing employee stock options is the monitoring instead of the advisory role. Since non-independent directors are not likely to be effective monitors, only independent directors’ governance and financial expertise are considered in the current study.

Extant research measures directors' expertise by the number of outside directorships held (governance expertise) and directors' background related to financial knowledge (financial expertise). Prior studies have indicated that the number of outside directorships held is a reflection of director's governance expertise. Kaplan and Reishus (1990) found that executives of companies with bad performance had less chance to serve on other companies' boards. Gilson (1990) found that directors who resigned due to bankruptcy or debt restructuring subsequently held less board seats in other companies. Carcello et al. (2002) measured board expertise by the "number of outside directorships held in other corporations by non-management directors" (372). Carcello and Neal (2003) measured directors' (audit committee members') governance expertise by the average number of directorship positions they hold in other public companies. As in previous studies, in the current study, directors' governance expertise is measured by the average number of directorships held in other companies by independent directors.

Carcello and Neal (2003) used the definition of directors' financial expertise provided by the Blue Ribbon Committee (BRC) on Improving the Effectiveness of Corporate Audit Committees, that is, "past employment experience in finance or accounting, requisite professional certification in accounting, or any other comparable experience or background which results in the individual's financial sophistication, including being or having been a CEO or other senior officer with financial oversight responsibilities" (Blue Ribbon Committee 1999, 25). As in Carcello and Neal (2003), this definition is used for measurement of independent directors' financial expertise in the current study.

The discussion above thus leads to the following hypotheses about the positive impact of directors' expertise on option expensing decisions:

H4: A company whose independent directors have more outside directorships will be more likely to expense employee stock options.

H5: A company whose board has a greater percentage of independent directors with financial expertise will be more likely to expense employee stock options.

Board Diligence

A more diligent board makes more effort to carry out its duties, thus would be more likely to push management to act in shareholders' interest, and would be more effective in monitoring a company's accounting choices. Xie et al. (2003) found a negative association between the number of board meetings and discretionary accruals. Thus, it is probable that companies with more diligent boards would be more likely to expense employee stock options.

Board diligence is exhibited in various ways (DeZoort et al. 2002). One way is an active plan to improve board effectiveness. The *Preliminary Report of the American Bar Association Task Force on Corporate Responsibility* "recommends that public companies consider designating a lead independent director or an independent board chair, establishing policies to set board meeting agendas, considering policies to set term limits or rotate service on board committees, maintaining director training programs, and adopting procedures to evaluate the effectiveness of meetings, information flow, diversity of experience among directors and contributions of individual directors" (American Bar

Association 2002). Diligence is also reflected in how the board actually carries out its duties, and the effort of individual directors (DeZoort et al. 2002). However, due to the lack of data on other diligence measures, the most commonly used measure is the number of meetings disclosed in companies' proxy statements (DeZoort et al. 2002). Carcello et al. (2002) in their study measured board diligence by the number of board meetings as disclosed in companies' proxy statements. The current study uses the same measurement of board diligence. It is hypothesized that:

H6: A company that has more board meetings per year will be more likely to expense employee stock options.

Board Ownership

DeZoort et al. (2002) suggested that researchers study the effect of directors' stock ownership, which in their opinion would possibly affect directors' desire to monitor management behavior. Results on the impact of directors' and executives' ownership in general are inconclusive, as indicated by prior literature. Ownership may align their interests with that of shareholders, if directors and executives intend to be long-term investors. As mentioned by John and Senbet (1998), Noe and Rebello (1996) stated that compensation aligns directors' interest with that of stockholders better than directors' reputation concerns. However, if directors and executives intend to be short-term investors, ownership may motivate them to manage earnings, since the better reported earnings, the higher the stock price in the short-term (Millstein 2002; Pitt 2002). Carcello and Neal

(2003) expressed similar opinion about the long-term versus short-term intention of directors (audit committee members).

With regard to directors' ownership specifically, previous studies have indicated that directors' stock ownership in the company has an impact on their monitoring behavior. Some studies indicated a positive impact. Fields and Keys (2003) stated that "since directors do not have their human capital tied to the firm as managers do, ownership can motivate directors to acquire information on the firm that can be used to monitor management's actions" (8). Kren and Kerr (1997) found that in companies where the directors' ownership was higher, executive compensation was more strongly related with firm performance. Farrell and Whidbee (2000) found that ownership of outside directors increased their monitoring effectiveness in the situation of a "forced CEO succession." However, other research indicated a negative impact of directors' ownership on board monitoring. Carcello and Neal (2003) found a negative relation between directors' (audit committee members') stock ownership and their monitoring effectiveness.

Even in the specific situation of employee stock options reporting, results on the impact of independent directors' equity ownership are inconclusive. Aboody et al. (2003) found that the greater the "the proportion of equity held by outside directors," the more likely that the company would expense employee stock options. In their examination of votes on option expensing proposals, Ferri et al. (2003) found "that on average, insiders' ownership is positively associated to votes against expensing, suggesting at least some insiders might fear that expensing will limit their ability to extract excessive (option) compensation rents" (1). Ferri et al. (2003) defined "insiders" as "executive officers and

directors.” Seethamraju and Zach (2003) did not find any relation between inside/outside directors’ ownership and the likelihood of firms’ expensing of employee stock options. Baker (1999) did not find significant impact of stockholdings “by the non-CEO director with the largest block of ownership” on the degree of discount in option value estimates in proxy statements.

Due to the inconclusive results on the impact of directors’ ownership, it is difficult to hypothesize the direction of such ownership on companies’ option expensing decisions. Thus, no direction of the impact of independent directors’ stock ownership is predicted. It is hypothesized that:

H7: There is no impact of independent directors’ average stock (including stock options) ownership in the company on the likelihood of a company’s expensing of employee stock options.

Board Size

There is conflicting evidence on the effect of board size on board monitoring (Xie et al. 2003). Bushman et al. (2004) stated that relative to board size, smaller boards have the advantage of lower coordination costs and less free riding among board members; however, smaller boards have the disadvantage of fewer advisors and monitors of management. Beasley (1996) found that companies with smaller boards were less likely to have financial statement fraud. Xie et al. (2003) mentioned that “A smaller board may be less encumbered with bureaucratic problems and may be more functional. Smaller boards may provide better financial reporting oversight” (300). Vafeas (2000) found that for

companies with a smaller board, the earnings-returns relationship was stronger, indicating that investors perceived that these companies had better quality earnings. Baker (1999) found that the degree of discount (underreporting) in executive stock option value estimates in proxy statements was greater for companies with larger boards, controlling for firm size.

On the other hand, there are arguments that a larger board is more effective in monitoring. Felo et al. (2003) stated that “a larger audit committee may make it more likely that potential problems in the financial reporting process will be uncovered and resolved. This could arise if a larger committee size increases the resources available to the audit committee and improves the quality of its oversight” (14). Likewise, a larger board would be more effective in monitoring because of greater availability of resources. Xie et al. (2003) mentioned that: “a larger board may be able to draw from a broader range of experience. In the case of earnings management, a larger board may be more likely to have independent directors with corporate or financial experience. If so, a larger board might be better at preventing earnings management” (300).

In summary of previous conclusions on the impact of board size on monitoring effectiveness, smaller boards may be more effective in monitoring because of less bureaucracy, larger boards may be more effective in monitoring because of more resources available to carry out the monitoring function. In the current study, since the effect of directors' governance and financial expertise have already been accounted for with their inclusion in the statistical model, the empirical test result on board size would most likely reflect only the bureaucracy facet of the effect. Thus, it is hypothesized that:

H8: A company with a smaller board will be more likely to expense employee stock options.

Up to now, the corporate governance studies reviewed in this chapter are all related to board characteristics. In the remaining part of this chapter, studies related to other “non-board” corporate governance factors, including CEO tenure and internal blockholders are reviewed, and hypotheses are developed accordingly.

CEO Tenure

CEOs’ power and control increase with the increase in years of their tenure as CEOs. This would impair corporate governance and thus impair shareholders’ interest. Based on the analysis of the change of CEOs’ power over their tenure, Shen (2003) proposed that “the risk of managerial opportunism is low during the early years of CEO tenure; however, it increases significantly after the CEO has proven his or her leadership on the job,” that is, in the later years of CEO tenure. Thus, it is hypothesized that:

H9: A company where the CEO has more years of tenure will be less likely to expense employee stock options.

Internal Blockholders

Because of the significance of the percentage of shares held by blockholders (>5%), their influence on corporate governance cannot be ignored. Blockholders can be internal or external. Internal blockholders are executive officers and (outside) directors. According to prior studies, large ownership by directors, the CEO and other executive

officers impairs corporate governance (Denis et al. 1997; Gordon and Pound 1993). Denis et al. (1997) found that the likelihood of top executive turnover decreased with the increase in ownership by directors and officers. They stated that such ownership affects efforts of internal monitoring. Gordon and Pound (1993) stated that there are different effects of outside directors owning more than 5% stock of the firm. The significance of the ownership may motivate them to monitor the company more effectively. While on the other hand, since “most outside directors who are blockholders attain their ownership and board positions in friendly transactions with management,” such outside director-blockholders are likely to “side with management” in their voting on shareholder proposals (Gordon and Pound 1993, 708). The findings of Gordon and Pound (1993) support the latter argument. Thus, it is likely that ownership by internal blockholders (executive officers and outside directors) will impair corporate governance. It is hypothesized that:

H10: A company with greater percentage of cumulative internal blockholder (>5%) ownership will be less likely to expense employee stock options.

Because of the significant influence of the CEO on corporate decisions, when the CEO is the largest blockholder, it is very likely that corporate decisions will deviate from shareholders' interest. It is hypothesized that:

H11: A company where the largest blockholder is the CEO will be less likely to expense employee stock options.

Summary

In summary, previous studies reviewed in this chapter have found significant impact of various corporate governance factors on the corporation. These corporate governance factors include various board characteristics and other non-board governance factors (CEO tenure and internal blockholders). The board characteristics studies include those related to board independence, board expertise, board diligence, board ownership and board size. It is based on the conclusions of these studies that similar impact of these corporate governance factors on option expensing decisions is hypothesized. The following table lists the major studies reviewed in this chapter that are related to the various corporate governance factors:

Table 2-1
SUMMARY OF MAJOR STUDIES RELATED TO CORPORATE GOVERNANCE FACTORS

Corporate Governance Factors	Previous Studies	Main Conclusions	
Board Independence	Xie et al. (2003)	Xie et al. (2003) found that the proportion of outside directors on the board, an indicator of board independence was significantly and negatively associated with the magnitude of “discretionary current accruals.”	
	Klein (2002)	Klein (2002) found that abnormal accruals were less for companies with more independent directors.	
	<i>Percentage of independent directors on the board</i>	Beekes et al. (2004)	Beekes et al. (2004) found that the percentage of outside directors on the board was positively related to the likelihood of recognizing “bad news in earnings on a timely basis” by UK firms.
		Peasnell et al. (2000)	Peasnell et al. (2000) found that certain UK firms were less likely to manage earnings upward if the boards had greater proportions of outside directors.
		Seethamraju and Zach (2003)	Seethamraju and Zach (2003) did not find an association between the percentage of outsiders serving on the board of directors and the likelihood of expensing options.
		Baker (1999)	Baker (1999) found an insignificant and negative impact of the proportion of inside directors on the board on the degree of discount (underreporting) in companies’ estimated executive stock option values in proxy statements, which, according to Baker (1999), is contrary to general conclusions on the impact of inside directors.
<i>CEO/board chairman split</i>	Baker (1999)	Baker (1999) found that the degree of discount (underreporting) in executive stock option value estimates in proxy statements tended to be greater for a company whose CEO was also the chairman of the board, controlling for firm size.	

Table 2-1 (Continued)			
SUMMARY OF MAJOR STUDIES RELATED TO CORPORATE GOVERNANCE FACTORS			
Corporate Governance Factors		Previous Studies	Main Conclusions
Board Independence (Continued)	<i>Tenure of independent directors</i>	Vafeas (2003)	Vafeas (2003) indicated that the longer the independent directors' tenure with the firm, the more likely they would side with management, and thus their independence would be impaired, and their likelihood to act in the best interest of shareholders would be reduced.
Board Expertise		Xie et al. (2003)	Xie et al. (2003) found a negative relation between directors' governance and financial expertise and discretionary accruals.
Board Diligence		Xie et al. (2003)	Xie et al. (2003) found a negative association between the number of board meetings and discretionary accruals.
Board Ownership		Kren and Kerr (1997)	Kren and Kerr (1997) found that in companies where the directors' ownership was higher, executive compensation was more strongly related with firm performance.
		Farrell and Whidbee (2000)	Farrell and Whidbee (2000) found that ownership of outside directors increased their monitoring effectiveness in the situation of a "forced CEO succession."
		Carcello and Neal (2003)	Carcello and Neal's (2003) study indicated the negative impact of directors' (audit committee members') stock ownership on directors' monitoring effectiveness.
		Aboody et al. (2003)	Aboody et al. (2003) found that the greater the "the proportion of equity held by outside directors," the more likely that the company would expense employee stock options.
		Ferri et al. (2003)	In their examination of votes on option expensing proposals, Ferri et al. (2003) found "that on average, insiders' ownership is positively associated to votes against expensing."

Table 2-1 (Continued)		
SUMMARY OF MAJOR STUDIES RELATED TO CORPORATE GOVERNANCE FACTORS		
Corporate Governance Factors	Previous Studies	Main Conclusions
Board Size	Beasley (1996)	Beasley (1996) found that companies with smaller boards were less likely to have financial statement fraud.
	Vafeas (2000)	Vafeas (2000) found that for companies with a smaller board, the earnings-returns relationship was stronger, indicating that investors perceived that these companies had better quality earnings.
	Baker (1999)	Baker (1999) found that the degree of discount (underreporting) in executive stock option value estimates in proxy statements was greater for companies with larger boards, controlling for firm size.
CEO Tenure	Shen (2003)	Based on the analysis of the change of CEOs' power over their tenure, Shen (2003) proposed that "the risk of managerial opportunism is low during the early years of CEO tenure; however, it increases significantly after the CEO has proven his or her leadership on the job," that is, in the later years of CEO tenure.
Internal Blockholders	Denis et al. (1997)	Denis et al. (1997) found that the likelihood of top executive turnover decreased with the increase in ownership by directors and officers.
	Gordon and Pound (1993)	Gordon and Pound (1993) found that outside directors owning more than 5% stock of the firm were likely to "side with management" in their voting on shareholder proposals.

Chapter Three RESEARCH DESIGN

Sample Selection and Data Source

Included in the sample for this study are a set of firms that have elected to expense employee stock options and a control sample. The set of 356 firms that announced their intention to recognize employee stock options as a compensation expense is identified from a report compiled by Bear, Stearns & Co., Inc. (2003).³ According to this report, 101 (28%) of the 356 firms are S&P 500 firms. This accounts for “20% of the index based on number of companies and 39% of the index based on market capitalization.” These 356 firms had either expensed or expressed their intention to expense employee stock options by the report date of September 4, 2003. The authors of the report anticipated that more companies would join the option expensing group in the remaining three months of 2003 because of the likelihood of FASB issuing a standard in early 2004 mandating expensing, and because of a favorable prospective transition method (which limited the application of the fair value method to option grants in the current and subsequent years only) permitted under SFAS 148, which only applies to companies

³ Ferri et al. (2003) mention that: “A list of voluntary expensers and announcement dates compiled by Bear Stearns & Co. is available on the web site www.thecorporatelibrary.com” (Ferri et al. 2003, p.20). From the website www.thecorporatelibrary.com, search “Bear Stearns & Co.” The PDF file “ExpensingStockOptions09-4-03” is among the search results. The 356 option expensing firms included in Appendix A of this report are selected for the current study.

adopting the fair value method in fiscal years starting before December 16, 2003. The current study uses the report date September 4, 2003 as the cutoff date for sample selection. This excludes confounding factors that induced companies to rush to expense employee stock options, and makes the selected sample better for testing the impact of corporate governance factors on option expensing decisions.

The matching sample is selected from the S&P 500, S&P 400 mid-capitalization, and S&P 600 small-capitalization firms from the Research Insight (COMPUSTAT) database. The matching principle is similar to those used in previous studies (Seethamraju and Zach 2003; Aboody et al. 2003). The procedure followed in selecting the matching sample is as follows: (1) For each firm that elected to expense employee stock options, a matching firm that did not choose to do so is identified. (2) The matching firm should be in the same industry as the expensing firm, that is, they have the same four-digit SIC codes. If a matching firm with the same four-digit SIC code cannot be found, a firm with the same three-digit SIC code is identified. If this is still not possible, then the two-digit SIC code is used. (3) The matching firm should also have similar market capitalization as the expensing firm, that is, the market capitalization should not be below or above 20 percent of that of the expensing firm. The market capitalization used is the average of the beginning and end of the announcement year for an option expensing company, and is the same for the matching company that did not choose to expense options. Companies selected to the matching sample are checked to ascertain that they did not elect to expense

employee stock options after September 4, 2003.⁴ If a company in the matching sample has become an option expensing company, another company that meets the matching criteria was identified.

The initial sample is composed of 356 expensing firms, for which a matching control sample is selected. Data on corporate governance factors are collected from their proxy statements.⁵ “Schedule 14A (the proxy statement) requires firms to disclose each director’s name, business experience during the last 5 years, other current directorships, family relationships between any director, nominee or executive officer, significant current or proposed transactions with management, ‘significant business relations’ with the firm and number of shares held” (Klein 2002, 380). The date of the proxy statement used for each expensing company is the one that most closely precedes the date that the company announced the stock option expensing decision. Such “announcement date” is indicated by the Bear, Stearns & Co., Inc. report (2003). The date of the proxy statement used for the matching company is the same as that for the expensing company.

Statistical Model

The following logistic regression model (equation 1) is estimated using the SPSS statistical program. A logistic instead of linear regression will be used since the dependent variable is a discrete choice variable with values of one or zero.

⁴ Search companies’ annual reports and news announcements from the Lexis-Nexis Academic database, and from the Factiva database.

⁵ Proxy statements are searched from the EDGAR database, or if not available from EDGAR, from the Lexis-Nexis Academic database.

$$\begin{aligned}
 \text{EXPDEC} = & \alpha + \beta_1 \text{INDPNT} + \beta_2 \text{CEOCHR} + \beta_3 \text{DIRTNR} + \beta_4 \text{DIRSHP} + \\
 & \beta_5 \text{FINEXP} + \beta_6 \text{MEETING} + \beta_7 \text{STOCK} + \beta_8 \text{BRDSIZE} + \\
 & \beta_9 \text{CEOTNR} + \beta_{10} \text{INTBLK} + \beta_{11} \text{CEOBLK} + \beta_{12} \text{SIZE} + \\
 & \beta_{13} \text{PUB} + \beta_{14} \text{OPTEXP} + \beta_{15} \text{RET12} + \beta_{16} \text{RET123} + \\
 & \beta_{17} \text{RISK} + \beta_{18} \text{GROWTH} + \beta_{19} \text{LEVERAGE} + \varepsilon
 \end{aligned} \tag{1}$$

EXPDEC is the company's decision on whether to expense employee stock options. This variable is coded one if the company elected to expense employee stock options, and coded zero if the company chose not to do so.

INDPNT is the percentage of independent directors on the full board. Independent directors are neither management directors nor affiliated directors. The definition of affiliated directors is the same as that used in the study by Carcello and Neal (2003), that is, directors "who have strong economic or personal ties to the company or its management ... [which] include current or former officers or employees of the company or of a related entity, relatives of management, professional advisors to the company (e.g., consultants, bank officers, legal counsel), officers of significant suppliers or customers of the company, and interlocking directors" (97). It is predicted that the estimated coefficient of this variable will have a positive sign.

CEOCHR is a variable that represents whether the CEO is chairman of the board, which is coded one if yes, and zero if no. It is predicted that the estimated coefficient of this variable will have a negative sign.

DIRTNR is the independent directors' average years of tenure on the board. The estimated coefficient of this variable is predicted to have a negative sign.

DIRSHP is the average number of outside directorships held by independent directors. The estimated coefficient of this variable is predicted to have a positive sign.

FINEXP is the percentage (relative to the full board) of independent directors with financial expertise. Financial expertise is defined as “past employment experience in finance or accounting, requisite professional certification in accounting, or any other comparable experience or background which results in the individual’s financial sophistication, including being or having been a CEO or other senior officer with financial oversight responsibilities” (Blue Ribbon Committee 1999, 25). The estimated coefficient of this variable is predicted to have a positive sign.

MEETING is the number of board meetings in the year. The estimated coefficient of this variable is predicted to have a positive sign.

STOCK is independent directors’ average stock ownership (including stock options). As in Carcello and Neal (2003), independent directors’ stock ownership is measured by the average percentage of common stock (including stock options) held by the independent directors. There is no predicted sign of the estimated coefficient of this variable.

BRDSIZE is the number of directors on the board. The estimated coefficient of this variable is predicted to have a negative sign.

CEOTNR is the CEO’s tenure in the firm. The estimated coefficient of this variable is predicted to have a negative sign.

INTBLK is internal blockholders’ cumulative ownership percentage in the firm. The estimated coefficient of this variable is predicted to have a negative sign.

CEOBLK represents whether the largest blockholder is the CEO, which is coded one if yes, and zero if no. The estimated coefficient of this variable is predicted to have a negative sign.

Control Variables

In addition, the study includes SIZE, PUB, OPTEXP, RET12, RET123, RISK, GROWTH and LEVERAGE in the main equation (equation 1) as control variables, based on insights from previous studies as follows.

Firm Size

Previous studies have included firm size as one of the factors related to companies' decisions on whether or not to expense options. Aboody et al. (2003) found a positive impact of firm size on the likelihood of companies' expensing of employee stock options. Ferri et al. (2003) found that in larger companies, shareholders were more likely to vote "FOR" proposals of expensing of employee stock options. Seethamraju and Zach (2003) found that larger companies were more likely to expense employee stock options.

The reasons provided in these studies (Aboody et al. 2003; Ferri et al. 2003; Seethamraju and Zach 2003) for the positive impact of firm size are as follows: Larger firms are more likely to have larger earnings (in absence of expensing employee stock options), thus, expensing employee stock options will not have significant negative impact on their earnings; instead, the slight reduction in earnings will mitigate political costs for these firms. For larger companies, information about employee stock option compensation

has most likely already been reflected in their stock prices, thus the recognition of such expense would not provide additional information to the capital market, and therefore would not affect the companies' stock prices (Aboody et al. 2003; Ferri et al. 2003). Because of the publicity effect, recognizing employee stock options compensation expense would signal higher quality earnings for larger firms, thus would improve their investor relations (Aboody et al. 2003; Ferri et al. 2003; Seethamraju and Zach 2003).

Aboody et al. (2003) measured firm size by the log of market value of equity. Ferri et al. (2003) measured firm size by the log of total assets. Seethamraju and Zach (2003) measured firm size by the log of market capitalization. In the current study, company size is measured by the log of market value of equity, as in the Aboody et al. (2003) and Seethamraju and Zach (2003) studies. The reason for this choice is that, for companies with greater total assets caused by a high leverage, the expensing decisions may be partly due to the intention to reduce the debt-to-equity ratio, as shown by the results of the Aboody et al. (2003) study. If the log of total assets is used, the leverage reduction motivation may confound the political effect motivation related to firm size, and cause the estimated coefficient to be insignificant. The estimated coefficient of this control variable is predicted to have a positive sign.

Publicity

Seethamraju and Zach (2003) found that the greater the public attention a company received, the more likely the company would expense employee stock options. They found that most of the impact of company size on option expensing decisions was attributable to

the publicity effect. When the publicity variable was added to their model, the size variable became insignificant. The current study includes the variable “PUB” (publicity) from their study as a control variable. The measurement of this variable is similar to that used in the Seethamraju and Zach (2003) study, that is, the log of the number of articles mentioning the company in the headline or lead paragraph in The Wall Street Journal in the year preceding the year of announcement of option expensing decisions. The estimated coefficient of this control variable is predicted to have a positive sign.

Option Expense

The amount of option expense is one of the most important factors that affect firms' decisions on stock option expensing. Previous studies (Aboody et al. 2003; Ferri et al. 2003; Seethamraju and Zach 2003) have found that the greater such expense, the less likely that firms would expense stock options, due to the greater impact on the earnings. In the current study, the amount of option expense (OPTEXP) is included as a control variable. It is measured in a similar way as in previous studies (Aboody et al. 2003; Ferri et al. 2003), by option expense deflated by market value of equity. Option expense is the difference between net earnings and SFAS 123 pro forma earnings disclosed in financial statement footnotes. The estimated coefficient of this control variable is predicted to have a negative sign.

Ret12

The variable “RET12” in Seethamraju and Zach’s (2003) study is also included in the current study as a control variable. In the current study, “RET12” is “the size-adjusted return on sample firms’ stock” (Seethamraju and Zach 2003) in the fiscal year preceding the year of announcement of the option expensing decision. Seethamraju and Zach (2003) predicted both a positive and a negative impact for this variable. The positive prediction is based on the reasoning that the stronger a firm is financially, the more likely the firm can endure the burden of expensing options. The negative prediction is based on the reasoning that a firm with worse past stock performance would be more motivated to signal through expensing employee stock options. In the current study, no prediction is made about the sign of the estimated coefficient of this variable.

Ret123

Seethamraju and Zach (2003) found that the variable “RET123,” “the three-day size-adjusted return around January 21, 1992, the date on which FASB announced its intention to undertake a project requiring firms to expense stock option compensation” had a significant positive impact on option expensing decisions. Their interpretation was that, for some firms, expensing of employee stock options was perceived as good news by the market. For other firms, option expensing was perceived as bad news. The former would be more likely to expense employee stock options, while the latter would be less likely to do so. The variable “RET123” is also included in the current study as a control variable. The estimated coefficient of this control variable is predicted to have a positive sign.

Risk

In the current study, risk is measured by the “beta” of the firm’s stock. The greater the “beta,” the riskier the firm’s stock. A “beta” of 1 indicates that the firm’s stock is as risky as the average in the whole market; a “beta” above 1 indicates that the firm’s stock is riskier than the market; while a “beta” below 1 indicates that the firm’s stock is less risky than the market. There is no prediction about the sign of the estimated coefficient of this variable.

Growth

According to researchers and practitioners (Aboody et al. 2003; Borrus et al. 2002; Ferri et al. 2003; Grey et al. 2002; Ittner et al. 2003; Seethamraju and Zach 2003), high growth firms such as many high-tech firms use employee stock options heavily, which makes them more reluctant than other firms to expense employee stock options, since recognizing the expense would have a greater impact on earnings. Thus “Growth” is included as a control variable. Seethamraju and Zach (2003) tested the impact of the “book-to-market ratio” on option expensing decisions, and found that the impact was insignificant. In the current study, growth is measured by the book-to-market ratio. The estimated coefficient of this variable is predicted to have a positive sign.

Leverage

Leverage has also been found to be positively related to companies’ decisions to recognize employee stock options expense (Aboody et al. 2003; Seethamraju and Zach

2003). Companies with higher leverage ratios have more concerns about violating debt covenants, and thus are more likely to recognize employee stock options expense, since such recognition would lower the leverage ratio (Aboody et al. 2003). In the current study, leverage is measured by the debt-to-equity ratio, as in the study by Aboody et al. (2003). The estimated coefficient of this variable is predicted to have a positive sign.

Data on the control variables SIZE, RISK, GROWTH and LEVERAGE are collected from the Research Insight (COMPUSTAT) database. For the control variable OPTEXP, data on net earnings and SFAS 123 pro forma earnings is collected from companies' 10-K and annual reports, and data on market value of equity is collected from COMPUSTAT. The year of the data used for each expensing company is the year preceding the year of announcement of the expensing decision. The announcement date is indicated by the Bear, Stearns & Co., Inc. report (2003). The year used for each matching company is the same as that for the expensing company.

The following table summarizes the predicted signs, definitions, coding/measurements, and data sources of all variables used in the study.

Table 3-1
DESCRIPTIONS OF VARIABLES

Variable	Predicted Sign	Description (Definition, coding/measurement, and data source.)
EXPDEC		The company's decision on whether to expense employee stock options. Coded one if the company elected to expense employee stock options, and coded zero if the company chose not to do so. Data mainly from Bear, Stearns & Co., Inc. 2003 report.
INDPNT	+	The percentage of independent directors on the full board. Measured by dividing the number of independent directors by the total number of directors on the board. Data from proxy statements.
CEOCHR	-	A variable that represents whether the CEO is chairman of the board. Coded one if yes, and zero if no. Data from proxy statements.
DIRTNR	-	Independent directors' average years of tenure on the board. Measured by dividing the total number of years in tenure of all directors by the total number of directors. Data from proxy statements.
DIRSHP	+	The average number of outside directorships held by independent directors. Measured by dividing the total number of outside directorships held by all independent directors by the number of independent directors. Data from proxy statements.
FINEXP	+	The percentage of independent directors (relative to the full board) who have financial expertise as defined by the Blue Ribbon Committee (1999). Measured by dividing the number of independent directors with financial expertise by the total number of directors. Data from proxy statements.
MEETING	+	The number of board meetings in the year. Data from proxy statements.
STOCK		Independent directors' average stock ownership (including stock options). Measured by the average percentage of common stock (including stock options) held by the independent directors. Data from proxy statements.

Table 3-1 (Continued)
DESCRIPTIONS OF VARIABLES

Variable	Predicted Sign	Description (Definition, coding/measurement, and data source.)
BRDSIZE	-	The number of directors on the board. Data from proxy statements.
CEOTNR	-	The CEO's tenure in the firm. Measured by years. Data from proxy statements.
INTBLK	-	Internal blockholders' cumulative ownership percentage in the firm. Measured by the total percentage of outstanding shares held by internal blockholders. Data from proxy statements.
CEOBLK	-	A variable that represents whether the largest blockholder (shareholder of at least 5% of the company's total outstanding shares) is the CEO. Coded one if yes, and zero if no. Data from proxy statements.
SIZE	+	Firm size. Measured by the log of market value of equity (in units of thousand dollars). Data from COMPUSTAT.
PUB	+	Publicity. Measured by the log of the number of articles mentioning the company in the headline or lead paragraph in The Wall Street Journal in the year preceding the year of announcement of option expensing decisions. Data from the Factiva database.
OPTEXP	-	The amount of option expense (in units of thousand dollars) deflated by market value of equity (in units of thousand dollars). Option expense is the difference between net earnings and SFAS 123 pro forma earnings disclosed in financial statement footnotes. Data from 10-K and annual report (net earnings and SFAS 123 pro forma earnings) and COMPUSTAT (market value of equity).
RET12		"The size-adjusted return on sample firms' stock" (Seethamraju and Zach 2003) in the fiscal year preceding the year of announcement of the option expensing decision. Data from COMPUSTAT.

Table 3-1 (Continued)
DESCRIPTIONS OF VARIABLES

Variable	Predicted Sign	Description (Definition, coding/measurement, and data source.)
RET123	+	“The three-day size-adjusted return around January 21, 1992, the date on which FASB announced its intention to undertake a project requiring firms to expense stock option compensation” (Seethamraju and Zach 2003). Data from CRSP.
RISK		Firm risk. Measured by “beta” of the firm’s stock. Data from COMPUSTAT.
GROWTH	+	Growth of the firm. Measured by the book-to-market ratio. Data from COMPUSTAT.
LEVERAGE	+	Leverage of the firm. Measured by debt-to-equity ratio. Data from COMPUSTAT.

Econometric Issues

The Endogeneity of Corporate Governance Factors

In their review of theoretical and empirical literature of corporate governance, with an emphasis on those related to agency problems and the board of directors, John and Senbet (1998) discussed an emerging line of research that addresses the endogeneity of corporate governance factors, which includes the interaction and co-determination between board composition and management (such as CEO tenure), and between “board composition and compensation.” Based on the insight from the John and Senbet (1998) study, the possible endogeneity among the corporate governance variables are as follows: it is possible that independent directors’ stock ownership is influenced by other board characteristics; that internal blockholders’ cumulative ownership is influenced by board

characteristics; and that CEO tenure is influenced by board characteristics. Similarly, the study of Grey et al. (2002) suggests possible co-determination between the option expensing decision and directors' stock ownership. The above suggests that the endogeneity problem may impair the validity of the regression results if not controlled for. Because of the difficulty of finding instrumental variables to mitigate the potential endogeneity problem, the regression model (equation 1) is estimated based on the assumption that the variables in the equation are strictly exogenous, that is, as if they are randomly assigned, and that there is no omitted variable bias.

Multicollinearity

Even if as assumed, that there is no endogeneity problem, correlations among the variables may lead to multicollinearity, that is, the standard errors will be large. A study by Carcello and Neal (2003) similarly examined a series of audit committee characteristic variables, such as audit committee members' independence, corporate governance expertise, financial expertise, equity ownership, etc. They found that the correlations among the variables were modest. The correlations among the variables will be examined in the next chapter of the current study.

This chapter discusses research design issues such as sample selection, data source, statistical model, and econometric concerns. The initial sample is composed of 356 firms that elected to expense employee stock options, for which a control sample of non-expensing firms is selected. The data are collected from Research Insight (COMPUSTAT), CRSP, Factiva, financial statement footnotes, and proxy statements of the firms. Logistic

regression is used to estimate the statistical model. The following chapter describes the actual data and analyzes the results.

Chapter Four

RESULTS AND ANALYSIS

Data Description and Discussion

As discussed in Table 3-1 Descriptions of Variables (Chapter 3, page 51), data for this study are collected from the following sources. Corporate governance data (INDPNT, CEOCHR, DIRTNR, DIRSHP, FINEXP, MEETING, STOCK, BRDSIZE, CEOTNR, INTBLK, CEOBLK) are collected from companies' proxy statements. Data on publicity (PUB) are collected from Factiva. Data on option expense (for calculation of OPTEXP) are collected from companies' 10-K and annual reports. Data on stock price for computing stock return around the specific event date (RET123) are collected from CRSP. Data on other variables (SIZE, RET12, RISK, GROWTH, LEVERAGE) are collected from Research Insight.

The initial sample of 356 expensing firms is reduced due to the unavailability of data for some expensing firms in Research Insight, and the unavailability of proxy statements for some expensing firms. In addition, matching control firms for some expensing firms could not be identified, particularly in cases where in some SIC code groups a large number of firms chose to expense options. Table 4-1 illustrates the sample selection process. The final sample consists of 235 expensing firms and 235 matched control firms, 470 firms in total. Stock price data for computing RET123 is only available

for 245 firms due to the fact that many firms did not exist or were not traded on a stock exchange on the event date January 21, 1992, “the date on which FASB announced its intention to undertake a project requiring firms to expense stock option compensation” (Seethamraju and Zach 2003). Data on pro forma option expense (OPTEXP) was only available for 400 firms, since other firms did not disclose such information in their 10-K or annual reports, or their 10-K or annual reports for the specific year were not available. For the remaining variables, data are available for most of the firms.

Table 4-1
SAMPLE SELECTION

<u>Procedure</u>	<u>No. of Firms</u>
Initial list of expensing firms from the Bear, Stearns, & Co., Inc. 2003 report	356
Less firms not in Research Insight	40
Less firms for which proxy statements are unavailable	56
Less firms with no matching control firms	25
Final sample of expensing firms	235
Control sample	235
Total sample	470

Table 4-2a, Table 4-2b, and Table 4-2c report the descriptive statistics (number of observations, minimum, maximum, mean, and standard deviation) of each raw data item, for the full sample, expensing firms, and non-expensing firms, respectively. Most variables in the regression model have the same values as the raw data items, while some variables

were computed using the values of one or more raw data items. Certain observations for RISK and RET12 had values that clearly showed them to be outliers. These were deleted. In addition, observations with negative values for the Price to Book ratio and LEVERAGE were also deleted.

The descriptive statistics show that the percentage of independent directors on the board (INDPNT) ranges from 12.5% to 100%. Independent directors' average years of tenure (DIRTNR) ranges from 0.667 to 26 years. Independent directors' average outside directorships (DIRSHP) ranges from 0 to 7. The percentage of financially-expertised independent directors on the board (FINEXP) ranges from 0% to 90.9%. The number of board meetings per year (MEETING) ranges from 1 to 28. Independent directors' average stock ownership (STOCK) ranges from 0% to 20.6%. The number of directors on the board (BRDSIZE) ranges from 3 to 24. CEOs' tenure ranges from 0 to 47 years. Cumulative ownership by internal blockholders ranges from 0% to 88.5%. And the number of articles mentioning the firm in the Wall Street Journal (Article Count) ranges from 0 to 190.

A t-test is conducted to test if the means of each raw data item of expensing firms are significantly different from those of non-expensing firms. The results, which are reported in Table 4-3, indicate that means of several corporate governance data items are significantly different between expensing and non-expensing firms. Independent directors in expensing firms hold more outside directorships (DIRSHP) than their peers in non-expensing firms; the boards of expensing firms have greater percentages of independent directors with financial expertise (FINEXP) than the boards of non-expensing firms; the

CEOs of expensing firms have fewer years of tenure (CEOTNR) than their peers in non-expensing firms; and the CEOs of expensing firms are less likely to be the largest blockholder (CEOBLK) than their peers in non-expensing firms. Means of the remaining corporate governance-related data items INDPNT (percentage of independent directors on the board), CEOCHR (whether the CEO is board chairman), DIRTNR (independent directors' average years of tenure), MEETING (number of board meetings per year), STOCK (independent directors' average stock ownership in the firm), BRDSIZE (number of directors on the board), and INTBLK (internal blockholders' cumulative ownership in the firm) do not differ at conventional statistical levels between expensing and non-expensing firms. In addition, it is seen that expensing firms are larger (Market Value of Equity) than non-expensing firms; expensing firms are less risky (RISK) than non-expensing firms; and non-expensing firms tend to be higher-growth firms (GROWTH). These results, while not conclusive, show modest support for some of the hypotheses developed earlier.

In the possible case of multicollinearity, the coefficient estimation, although unbiased, will have large standard errors. To address the concern for multicollinearity, correlations among the variables are computed. Table 4-4 reports the correlations among the variables, including the dependent variable and each independent variable. The results indicate that most of the correlations are below 0.1 in absolute value. A small number of correlations are above 0.3 in absolute value. The correlations above 0.5 in absolute value are that between INDPNT and FINEXP (0.588), that between BRDSIZE and SIZE (0.535), that INTBLK and CEOBLK (0.550), and that between SIZE and PUB (0.516). It is

understandable that larger firms (SIZE) tend to have more directors on the board (BRDSIZE), those firms with the CEO as the largest blockholder (CEOBLK) also tend to have greater cumulative ownership by internal blockholders (INTBLK), and larger firms (SIZE) tend to have more articles mentioning the firm in the Wall Street Journal (PUB). The correlation of 0.588 between INDPNT and FINEXP suggests that firms with a greater percentage of independent directors, which is an indicator of good corporate governance, also tend to have a greater percentage of financially-expertised independent directors on the board.

Table 4-2a
DESCRIPTIVE STATISTICS FOR THE FULL SAMPLE

<u>Data Item</u>	<u>N</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Standard Deviation</u>
EXPDEC	470	0	1	.50	.501
INDPNT	467	12.5	100.0	69.596	17.5010
CEOCHR	463	0	1	.68	.466
DIRTNR	449	.667	26.000	7.42267	3.865229
DIRSHP	466	.000	7.000	1.94165	1.182258
FINEXP	466	.0	90.9	43.682	19.2221
MEETING	461	1	28	7.75	3.847
STOCK	460	.000	20.600	.61839	1.972493
BRDSIZE	467	3	24	10.06	3.581
CEOTNR	465	0	47	8.22	8.061
INTBLK	454	.0	88.5	8.563	15.2417
CEOBLK	455	0	1	.15	.357
Market Value of Equity*	465	.749	207430.830	7924.54220	19804.809973
Article Count*	470	0	190	8.14	20.455
Option Expense*	400	-1514000.000	1043000.000	28853.93543	126224.198732
RET12	457	-95.320	169.895	3.59714	34.862351
RET123*	245	-.125	.182	.00114	.035007
RISK	447	-.634	3.559	.69357	.600295
Price to Book*	456	.000	39.418	2.46834	2.897592
LEVERAGE	461	.000	665.615	68.12259	85.196582

Please see Table 3-1 for descriptions of variables.

* Raw values are provided here for Market Value of Equity (in thousand dollars), Article Count (actual number), Option Expense (in thousand dollars), and Price to Book. Transformations as shown below are used for the regression analysis.

PUB = natural log of Article Count

OPTEXP = Option Expense / Market Value of Equity

SIZE = natural log of Market Value of Equity

GROWTH = 1 / (Price to Book)

RET123 = $\{[(\text{High } 6 + \text{Low } 6)/2] / [(\text{High } 4 + \text{Low } 4)/2]\} - 1$. (The following stock price data were collected from CRSP, and were used to compute the variable RET123: HIGH4 is highest stock price on January 20, 1992; HIGH5 is highest stock price on January 21, 1992; HIGH6 is highest stock price on January 22, 1992; LOW4 is lowest stock price on January 20, 1992; LOW5 is lowest stock price on January 21, 1992; and LOW6 is lowest stock price on January 22, 1992.)

Table 4-2b
DESCRIPTIVE STATISTICS FOR THE EXPENSING FIRMS

<u>Data Item</u>	<u>N</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Standard Deviation</u>
EXPDEC	235	1	1	1.00	.000
INDPNT	232	12.5	100.0	70.120	18.0287
CEOCHR	233	0	1	.65	.477
DIRTNR	216	.833	26.000	7.19475	3.918782
DIRSHP	231	.000	5.333	2.10567	1.183134
FINEXP	231	.0	90.9	46.021	19.3676
MEETING	227	4	25	7.90	3.812
STOCK	232	.000	17.600	.69120	2.062488
BRDSIZE	232	3	24	10.13	3.600
CEOTNR	232	0	47	7.41	7.560
INTBLK	228	.0	88.5	8.951	16.1956
CEOBLK	230	0	1	.11	.317
Market Value of Equity*	235	1.233	207430.830	9500.54198	23999.582569
Article Count*	235	0	190	9.31	23.926
Option Expense*	201	-1514000.000	1043000.000	34917.24458	167720.505312
RET12	229	-95.320	169.895	5.32742	36.415797
RET123*	119	-.125	.182	.00262	.035693
RISK	222	-.634	3.559	.60971	.596245
Price To Book*	229	.000	10.579	2.02583	1.540743
LEVERAGE	231	.000	523.158	70.95842	79.013254

Please see Table 3-1 for descriptions of variables.

* Raw values are provided here for Market Value of Equity (in thousand dollars), Article Count (actual number), Option Expense (in thousand dollars), and Price to Book. Transformations as shown below are used for the regression analysis.

PUB = natural log of Article Count

OPTEXP = Option Expense / Market Value of Equity

SIZE = natural log of Market Value of Equity

GROWTH = 1 / (Price to Book)

RET123 = $\{[(\text{High } 6 + \text{Low } 6)/2] / [(\text{High } 4 + \text{Low } 4)/2]\} - 1$. (The following stock price data were collected from CRSP, and were used to compute the variable RET123: HIGH4 is highest stock price on January 20, 1992; HIGH5 is highest stock price on January 21, 1992; HIGH6 is highest stock price on January 22, 1992; LOW4 is lowest stock price on January 20, 1992; LOW5 is lowest stock price on January 21, 1992; and LOW6 is lowest stock price on January 22, 1992.)

Table 4-2c
DESCRIPTIVE STATISTICS FOR THE NON-EXPENSING FIRMS

<u>Data Item</u>	<u>N</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Standard Deviation</u>
EXPDEC	235	0	0	.00	.000
INDPNT	235	20.0	93.8	69.078	16.9865
CEOCHR	230	0	1	.71	.453
DIRTNR	233	.667	24.750	7.63397	3.811152
DIRSHP	235	.000	7.000	1.78041	1.161465
FINEXP	235	.0	90.0	41.383	18.8372
MEETING	234	1	28	7.60	3.882
STOCK	228	.000	20.600	.54430	1.878141
BRDSIZE	235	4	24	9.99	3.568
CEOTNR	233	0	45	9.03	8.469
INTBLK	226	.0	68.2	8.171	14.2400
CEOBLK	225	0	1	.19	.391
Market Value of Equity*	230	.749	95640.480	6314.28155	14178.459645
Article Count*	235	0	110	6.98	16.231
Option Expense*	199	-4020.000	624898.000	22729.68850	60142.924405
RET12	228	-79.178	151.941	1.85926	33.218508
RET123*	126	-.095	.167	-.00026	.034431
RISK	225	-.393	3.049	.77632	.594052
Price To Book*	227	.197	39.418	2.91475	3.756335
LEVERAGE	230	.000	665.615	65.27442	91.069706

Please see Table 3-1 for descriptions of variables.

* Raw values are provided here for Market Value of Equity (in thousand dollars), Article Count (actual number), Option Expense (in thousand dollars), and Price to Book. Transformations as shown below are used for the regression analysis.

PUB = natural log of Article Count

OPTEXP = Option Expense / Market Value of Equity

SIZE = natural log of Market Value of Equity

GROWTH = 1 / (Price to Book)

RET123 = $\{[(\text{High } 6 + \text{Low } 6)/2] / [(\text{High } 4 + \text{Low } 4)/2]\} - 1$. (The following stock price data were collected from CRSP, and were used to compute the variable RET123: HIGH4 is highest stock price on January 20, 1992; HIGH5 is highest stock price on January 21, 1992; HIGH6 is highest stock price on January 22, 1992; LOW4 is lowest stock price on January 20, 1992; LOW5 is lowest stock price on January 21, 1992; and LOW6 is lowest stock price on January 22, 1992.)

Table 4-3
COMPARISON OF MEANS-EXPENSING FIRMS VS. NON-EXPENSING FIRMS

<u>Data Item</u>	<u>Expensing Firms</u>	<u>Non-Expensing Firms</u>	<u>t-Statistic</u>	<u>Significance (2-tailed)</u>
INDPNT	70.120	69.078	0.643	0.520
CEOCHR	0.652	0.713	-1.402	0.161
DIRTNR	7.195	7.634	-1.204	0.229
DIRSHP	2.106	1.780	2.995	0.003
FINEXP	46.021	41.383	2.620	0.009
MEETING	7.899	7.603	0.826	0.409
STOCK	0.691	0.544	0.798	0.425
BRDSIZE	10.129	9.987	0.428	0.669
CEOTNR	7.409	9.026	-2.171	0.030
INTBLK	8.951	8.171	0.545	0.586
CEOBLK	0.113	0.187	-2.209	0.028
Market Value of Equity	9500.542	6314.282	1.738	0.083
Article Count	9.306	6.983	1.232	0.219
Option Expense	34917.245	22729.689	0.965	0.335
RET12	5.327	1.859	1.063	0.288
RET123	0.003	0.000	0.643	0.521
RISK	0.610	0.776	-2.959	0.003
Price To Book	2.026	2.915	-3.311	0.001
LEVERAGE	70.958	65.274	0.716	0.474

Please see Table 3-1 for descriptions of variables.

Table 4-4
CORRELATION MATRIX

	<u>EXPDEC</u>	<u>INDPNT</u>	<u>CEOCHR</u>	<u>DIRTNR</u>	<u>DIRSHP</u>	<u>FINEXP</u>	<u>MEETING</u>	<u>STOCK</u>	<u>BRDSIZE</u>	<u>CEOTNR</u>	<u>INTBLK</u>	<u>CEOBLK</u>	<u>SIZE</u>	<u>PUB</u>	<u>OPTEXP</u>	<u>RET12</u>	<u>RET123</u>	<u>RISK</u>	<u>GROWTH</u>	<u>LEVERAGE</u>	
<u>EXPDEC</u>	1.000																				
<u>INDPNT</u>	0.030	1.000																			
<u>CEOCHR</u>	-0.065	0.115*	1.000																		
<u>DIRTNR</u>	-0.057	0.060	0.047	1.000																	
<u>DIRSHP</u>	0.138**	0.257**	0.045	-0.082	1.000																
<u>FINEXP</u>	0.121**	0.588**	0.081	0.148**	0.443**	1.000															
<u>MEETING</u>	0.039	0.048	-0.073	-0.067	0.010	-0.032	1.000														
<u>STOCK</u>	0.037	-0.067	-0.129	-0.043	0.016	0.022	0.063	1.000													
<u>BRDSIZE</u>	0.020	0.264**	0.042	0.129**	0.137**	0.067	0.071	0.204**	1.000												
<u>CEOTNR</u>	-0.100*	-0.097*	0.336	0.184**	-0.169**	-0.152**	-0.059	-0.019	-0.022	1.000											
<u>INTBLK</u>	0.026	-0.331**	-0.002	0.132**	-0.091	-0.167**	-0.050	0.422**	0.227**	0.194**	1.000										
<u>CEOBLK</u>	-0.103*	-0.226**	0.148	-0.084	-0.134**	-0.093*	-0.015	0.023	0.147**	0.375**	0.550**	1.000									
<u>SIZE</u>	0.061	0.315**	0.212	0.149*	0.437**	0.254**	0.042	0.248**	0.535**	0.009	0.263**	-0.099	1.000								
<u>PUB</u>	0.017	0.214**	0.073	0.056	0.294**	0.129**	0.076	-0.081	0.231**	0.015	0.139**	-0.121	0.516	1.000							
<u>OPTEXP</u>	-0.052	-0.053	0.031	-0.035	-0.066	-0.116*	-0.034	-0.005	-0.035	-0.035	0.025	0.117*	-0.112*	-0.067	1.000						
<u>RET12</u>	0.050	-0.034	-0.049	0.076	-0.061	-0.044	-0.026	0.064	-0.040	0.041	0.072	0.035	-0.027	-0.077	-0.107*	1.000					
<u>RET123</u>	0.041	0.017	-0.131*	0.114	-0.053	0.043	-0.027	0.213**	-0.073	0.012	-0.002	-0.046	-0.069	-0.055	0.027	-0.094	1.000				
<u>RISK</u>	0.139**	-0.048	0.079	-0.159	0.170**	0.007	0.131**	-0.046	0.023	0.005	0.069	0.169**	0.198**	0.179**	0.140**	0.346**	-0.029	1.000			
<u>GROWTH</u>	0.060	-0.041	-0.044	-0.113	-0.128**	-0.049	0.021	0.051	-0.110*	-0.001	0.014	-0.021	-0.372**	-0.135**	-0.005	0.214**	-0.009	0.026	1.000		
<u>LEVERAGE</u>	0.033	0.083	0.083	0.019	-0.013	-0.021	0.113*	0.016	0.154**	0.041	-0.024	-0.069	0.160**	0.015	-0.040	0.062	0.080	0.008	-0.067	1.000	

Please see Table 3-1 for descriptions of variables.

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

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

Empirical Results

Table 4-5 reports the results of logistic regression including all variables in the model. Only 178 firms are included in the regression. The small number of valid cases is mostly caused by the missing data on RET123. This may have led to the statistical insignificance of the coefficient estimations. The Pseudo R-square for the estimation is 16.9%. The coefficient of CEOBLK has a negative sign, as predicted, and is statistically significant at a level of $p < 0.10$. This indicates that firms with the CEO as the largest blockholder are less likely to expense options. The coefficient of PUB has a positive sign, as predicted, and is statistically significant at a level of $p < 0.05$. This indicates that firms that receive more public attention are more likely to expense options. The coefficient of RET12 has a positive sign, and is statistically significant at a level of $p < 0.10$. This indicates that the higher the return on the company's stock in the previous year, the more likely the company will expense options. The coefficient of GROWTH has a positive sign, as predicted, with the coefficient being statistically significant at a level of $p < 0.05$. This indicates that high-growth firms are less likely to expense options. The signs of all the remaining estimated coefficients are consistent with predictions except for the variables MEETING and INTBLK. To better facilitate interpretation of the estimated coefficients, Table 4-5 also lists the marginal effects on the probability of option expensing (the dependent variable) of one unit change in each corporate governance factor and control variable (the independent variables) from its sample mean. For example, if the average number of outside directorships held by independent directors increase by 1 from the

sample mean of 1.94, the probability of expensing options will increase by 0.010412. However, these results should be interpreted with caution because of the small sample size.

Given that some observations have missing values for RET123, the model is estimated excluding the variable RET123. The results are reported in Table 4-6. 326 firms were included in the estimation. The Pseudo R-square for the estimation is 16.4%. The model Chi-square is 42.722, and the model is significant at $p < 0.01$. The coefficient of FINEXP has a positive sign, as predicted, and is statistically significant at a level of $p < 0.05$. This indicates that firms with a greater percentage of independent directors with financial expertise are more likely to expense options. The coefficient of MEETING has a positive sign, as predicted, and is statistically significant at a level of $p < 0.10$. This indicates that firms with more board meetings are more likely to expense options. The coefficient of INTBLK has a positive sign, which is contrary to the prediction. The estimate is significant at a level of $p < 0.05$. This indicates that firms with greater cumulative internal blockholder ownership are more likely to expense options. The coefficient of CEOBLK has a negative sign, as predicted, and is statistically significant at a level of $p < 0.05$. This indicates that firms with the CEO as the largest blockholder are less likely to expense options. The coefficient of SIZE has a positive sign, as predicted, and is statistically significant at a level of $p < 0.05$. This indicates that larger firms are more likely to expense options. The coefficient of RISK has a negative sign, and is statistically significant at a level of $p < 0.10$. This indicates that riskier firms are less likely to expense options. The coefficient of GROWTH has a positive sign, as predicted, and is statistically significant at a level of $p < 0.05$. This indicates that high-growth firms are less likely to

expense options. To better facilitate interpretation of the estimated coefficients, Table 4-6 also lists the marginal effects on the probability of option expensing (the dependent variable) of one unit change in each corporate governance factor and control variable (the independent variables) from its sample mean. For example, if the number of board meeting increases by 1 from the sample mean of 7.75, the probability of expensing options will increase by 0.006506.

Table 4-5
SUMMARY OF REGRESSION RESULTS INCLUDING ALL VARIABLES

<u>Variable</u>	<u>Predicted Sign</u>	<u>Estimated Coefficient</u>	<u>Standard Error</u>	<u>Wald Statistic</u>	<u>Significance</u>	<u>Marginal Effect</u>
INDPNT	+	-0.00256	0.015	0.031	0.860	-0.000463
CEOCHR	-	-0.13852	0.408	0.115	0.734	-0.000251
DIRTNR	-	-0.00785	0.049	0.026	0.873	-0.001424
DIRSHP	+	0.05842	0.179	0.107	0.744	0.010412
FINEXP	+	0.01472	0.013	1.366	0.242	0.002654
MEETING	+	-0.00911	0.050	0.033	0.855	-0.001654
STOCK		0.04403	0.143	0.095	0.758	0.007879
BRDSIZE	-	-0.00618	0.069	0.008	0.928	-0.001121
CEOTNR	-	-0.00481	0.024	0.040	0.842	-0.000872
INTBLK	-	0.01108	0.017	0.429	0.512	0.002000
CEOBLK	-	-1.41990	0.790	3.234	0.072*	-0.002580
SIZE	+	0.09102	0.155	0.346	0.557	0.000012
PUB	+	0.00142	0.001	5.749	0.017**	0.066546
OPTEXP	-	-0.00148	0.011	0.019	0.891	-0.000268
RET12		0.00943	0.006	2.784	0.095*	0.001702
RET123	+	3.31918	5.379	0.381	0.537	0.226243
RISK		-0.01812	0.377	0.002	0.962	-0.000033
GROWTH	+	1.11662	0.549	4.140	0.042**	0.002015
LEVERAGE	+	0.00100	0.002	0.292	0.589	0.000002
Constant		-1.42704	1.540	0.859	0.354	

Pseudo R-square = 0.169

Number of Observations = 178

Chi-square = 24.141, Significance Level = 0.191.

* Significant at the 10% level

** Significant at the 5% level

PUB = natural log of Article Count

OPTEXP = Option Expense / Market Value of Equity

SIZE = natural log of Market Value of Equity

GROWTH = 1 / (Price to Book)

RET123 = $\{[(\text{High } 6 + \text{Low } 6)/2] / [(\text{High } 4 + \text{Low } 4)/2]\} - 1$. (The following stock price data were collected from CRSP, and were used to compute the variable RET123: HIGH4 is highest stock price on January 20, 1992; HIGH5 is highest stock price on January 21, 1992; HIGH6 is highest stock price on January 22, 1992; LOW4 is lowest stock price on January 20, 1992; LOW5 is lowest stock price on January 21, 1992; and LOW6 is lowest stock price on January 22, 1992.)

Please see Table 3-1 for descriptions of all other variables.

Table 4-6
SUMMARY OF REGRESSION RESULTS EXCLUDING RET123

<u>Variable</u>	<u>Predicted Sign</u>	<u>Estimated Coefficient</u>	<u>Standard Error</u>	<u>Wald Statistic</u>	<u>Significance</u>	<u>Marginal Effect</u>
INDPNT	+	-0.01566	0.010	2.571	0.109	-0.001901
CEOCHR	-	-0.12772	0.280	0.208	0.648	-0.000154
DIRTNR	-	-0.02903	0.037	0.610	0.435	-0.003540
DIRSHP	+	0.12139	0.124	0.951	0.329	0.014018
FINEXP	+	0.02114	0.009	5.723	0.017**	0.002532
MEETING	+	0.05500	0.033	2.735	0.098*	0.006506
STOCK		0.09749	0.112	0.756	0.384	0.011356
BRDSIZE	-	-0.03762	0.043	0.776	0.378	-0.004602
CEOTNR	-	-0.00115	0.017	0.005	0.946	-0.000139
INTBLK	-	0.02226	0.011	3.877	0.049**	0.002664
CEOBLK	-	-1.53791	0.490	9.844	0.002**	-0.001866
SIZE	+	0.26749	0.111	5.820	0.016**	0.000024
PUB	+	-0.00010	0.000	0.062	0.803	-0.003562
OPTEXP	-	-0.00123	0.002	0.500	0.480	-0.000149
RET12		0.00545	0.004	1.776	0.183	0.000657
RISK		-0.45044	0.245	3.375	0.066*	-0.000544
GROWTH	+	0.64503	0.285	5.132	0.023**	0.000776
LEVERAGE	+	-0.00034	0.001	0.055	0.814	-4.10E-07
Constant		-1.93491	0.971	3.973	0.046**	

Pseudo R-square = 0.164

Number of Observations = 326

Chi-square = 42.722, Significance Level = 0.001.

* Significant at the 10% level

** Significant at the 5% level

PUB = natural log of Article Count

OPTEXP = Option Expense / Market Value of Equity

SIZE = natural log of Market Value of Equity

GROWTH = 1 / (Price to Book)

Please see Table 3-1 for descriptions of all other variables.

Analysis of Results

Table 4-7 summarizes whether each of the hypotheses are supported or not supported by the regression results.

Table 4-7				
CONCLUSIONS OF HYPOTHESIS TESTS				
	Hypothesis		Independent Variable	Conclusion
Board Independence	<i>Percentage of independent directors on the board</i>	H1: A company with a board that has a greater percentage of independent members will be more likely to expense employee stock options.	INDPNT	Not Supported
	<i>CEO/board chairman split</i>	H2: A company whose CEO is also chairman of the board will be less likely to expense employee stock options.	CEOCHR	Not Supported
	<i>Tenure of independent directors</i>	H3: A company whose independent directors have fewer years of tenure will be more likely to expense employee stock options.	DIRTNR	Not Supported
Board Expertise		H4: A company whose independent directors have more outside directorships will be more likely to expense employee stock options.	DIRSHP	Not Supported
		H5: A company whose board has a greater percentage of independent directors with financial expertise will be more likely to expense employee stock options.	FINEXP	Supported

Table 4-7 (Continued)
CONCLUSIONS OF HYPOTHESIS TESTS

	Hypothesis	Independent Variable	Conclusion
Board Diligence	H6: A company that has more board meetings per year will be more likely to expense employee stock options.	MEETING	Supported
Board Ownership	H7: There is no impact of independent directors' average stock (including stock options) ownership in the company on the likelihood of a company's expensing of employee stock options.	STOCK	Not
			Supported
Board Size	H8: A company with a smaller board will be more likely to expense employee stock options.	BRDSIZE	Not
			Supported
CEO Tenure	H9: A company where the CEO has more years of tenure will be less likely to expense employee stock options.	CEOTNR	Not
			Supported
Internal Blockholders	H10: A company with greater percentage of cumulative internal blockholder (>5%) ownership will be less likely to expense employee stock options.	INTBLK	Not
			Supported
	H11: A company where the largest blockholder is the CEO will be less likely to expense employee stock options.	CEOBLK	Supported

Hypothesis 1, 2, and 3 are related to board independence, and are concerned with different measurement of board independence. Hypothesis 1 predicts that a company with a board that has a greater percentage of independent members will be more likely to expense employee stock options. However, contrary to the prediction, the estimated coefficient of the variable INDPNT has a negative sign, and is statistically insignificant. Hypothesis 1 was developed based on findings in the accounting literature of outside directors' impact on earnings management. Previous studies (Xie et al. 2003; Klein 2002; Beekes et al. 2004; Peasnell et al. 2000) found that companies with greater percentage of independent directors are less likely to manage earnings upward. Similar impact of the percentage of independent directors on option expensing decisions was hypothesized based on the assumption that the option expensing decision has the same nature as any other earnings management issue. The regression results in the current study are, however, consistent with accounting researchers' findings about independent directors' impact on option reporting decisions. Seethamraju and Zach (2003) did not find an association between the percentage of outsiders serving on the board of directors and the likelihood of expensing options. Baker (1999) found an insignificant and negative impact of the proportion of inside directors on the board on the degree of discount (underreporting) in companies' estimated executive stock option values in proxy statements, which, according to Baker (1999), is contrary to general conclusions on the impact of inside directors. Together with these studies (Seethamraju and Zach 2003; Baker 1999), the current study suggests that reporting of employee stock options, including the option expensing decision,

may not be a pure earnings management issue, and that such decisions may be complicated by additional factors.

Hypothesis 2 predicts that a company whose CEO is also chairman of the board will be less likely to expense employee stock options. The estimated coefficient of the variable CEOCHR has a negative sign, as predicted, but is statistically insignificant. Aboody et al. (2003) did not find a significant influence of “whether the CEO is a board member” on option expensing decisions. Baker (1999) found that the degree of discount (underreporting) in executive stock option value estimates in proxy statements tended to be greater for a company whose CEO was also the chairman of the board, controlling for firm size. The finding of the current study is consistent with that of Aboody et al. (2003), which examined the impact of CEO board membership on option expensing specifically.

Hypothesis 3 predicts that a company whose independent directors have fewer years of tenure will be more likely to expense employee stock options. The estimated coefficient of the variable DIRTNR has a negative sign, as predicted, but is statistically insignificant.

Hypothesis 4 and 5 are related to board expertise. Hypothesis 4 tests governance expertise of the board, and hypothesis 5 tests the financial expertise of the board. Hypothesis 4 predicts that a company whose independent directors have more outside directorships will be more likely to expense employee stock options. The estimated coefficient of the variable DIRSHP has a positive sign, as predicted, but is statistically insignificant. Hypothesis 5 predicts that a company whose board has a greater percentage of independent directors with financial expertise will be more likely to expense employee

stock options. The estimated coefficient of the variable FINEXP has a positive sign, as predicted, and is statistically significant at $p < 0.05$. Hypothesis 5 is supported. While previous research (Xie et al. 2003) has found board governance and financial expertise tend to constrain earnings management, no prior study has examined the impact of board expertise on option expensing decisions. The current study has found board financial expertise to be an important influence on option expensing decisions.

Hypothesis 6 is related to board diligence. Hypothesis 6 predicts that a company that has more board meetings per year will be more likely to expense employee stock options. The estimated coefficient of the variable MEETING has a positive sign, as predicted, and is statistically significant at $p < 0.10$. Hypothesis 6 is supported. While previous research (Xie et al. 2003) has found board diligence (in terms of number of board meetings) tends to constrain earnings management, no prior study has examined the impact of board diligence on option expensing decisions. The current study has found board diligence to be an influence on option expensing decisions.

Hypothesis 7 is related to board ownership. Hypothesis 7 predicts that there is no impact of independent directors' average stock (including stock options) ownership in the company on the likelihood of a company's expensing of employee stock options. The estimated coefficient of the variable STOCK has a positive sign, which suggests that the greater independent directors' stock ownership, the more likely that the company will expense employee stock options. However, the coefficient is statistically insignificant at conventional levels. In the accounting literature, results concerning the impact of directors' ownership on monitoring effectiveness are inconclusive. Some studies (Kren and Kerr

1997; Farrell and Whidbee 2000) found directors' ownership will increase their monitoring effectiveness, while the study by Carcello and Neal (2003) found an opposite effect. This may be explained by the contrary effects of interest alignment caused by long-term ownership and earnings management incentive caused by short-term ownership (John and Senbet 1998; Noe and Rebbello 1996; Millstein 2002; Pitt 2002; Carcello and Neal 2003). Even in the specific situation of option reporting, the results concerning the impact of directors' ownership on their monitoring effectiveness are inconclusive. Aboody et al. (2003) found that the greater the "the proportion of equity held by outside directors," the more likely that the company would expense employee stock options. In their examination of votes on option expensing proposals, Ferri et al. (2003) found "that on average, insiders' ownership is positively associated to votes against expensing, suggesting at least some insiders might fear that expensing will limit their ability to extract excessive (option) compensation rents" (1). Ferri et al. (2003) defined "insiders" as "executive officers and directors." Seethamraju and Zach (2003) did not find any relation between inside/outside directors' ownership and the likelihood of firms' expensing of employee stock options. Baker (1999) did not find significant impact of stockholdings "by the non-CEO director with the largest block of ownership" on the degree of discount in option value estimates in proxy statements. The coefficient estimation in the current study, although statistically insignificant, suggests that for the sample firms, the interest alignment effect of long-term ownership overweighs speculative incentives of short-term ownership.

Hypothesis 8 is related to board size. Hypothesis 8 predicts that a company with a smaller board will be more likely to expense employee stock options. The estimated

coefficient of the variable BRDSIZE has a negative sign, as predicted, which suggests that a smaller board will be more likely to influence the company to expense options. However, the coefficient is statistically insignificant at conventional levels. There are contrary arguments (Xie et al. 2003; Bushman et al. 2004) in the accounting literature concerning the impact of board size on monitoring effectiveness, some research (Beasley 1996; Vafeas 2000) lends support to the argument that smaller boards may be more effective in monitoring because of less bureaucracy, other research (Felo et al. 2003) lends support to the argument that larger boards may be more effective in monitoring because of more resources available to carry out the monitoring function. Concerning the relation of board size to option reporting specifically, Baker (1999) found that the degree of discount (underreporting) in executive stock option value estimates in proxy statements was greater for companies with larger boards, controlling for firm size. The result of the current study is consistent with the findings of Baker (1999), and supports the argument that smaller boards are better at monitoring because of less bureaucracy costs.

Hypothesis 9 is related to CEO tenure. Hypothesis 9 predicts that a company where the CEO has more years of tenure will be less likely to expense employee stock options. The estimated coefficient of the variable CEOTNR has a negative sign, as predicted, but is statistically insignificant. Shen (2003) proposed that “the risk of managerial opportunism is low during the early years of CEO tenure; however, it increases significantly after the CEO has proven his or her leadership on the job,” that is, in the later years of CEO tenure. The result of the current study supports the argument of Shen (2003).

Hypothesis 10 and 11 are related to internal blockholders. Hypothesis 10 predicts that a company with greater percentage of cumulative internal blockholder (>5%) ownership will be less likely to expense employee stock options. The coefficient of the variable INTBLK is statistically significant at $p < 0.05$, but has a positive sign, which is contrary to the prediction. Gordon and Pound (1993) stated that there are different effects of outside directors owning more than 5% stock of the firm. The significance of the ownership may motivate them to monitor the company more effectively. While on the other hand, since “most outside directors who are blockholders attain their ownership and board positions in friendly transactions with management,” such outside director-blockholders are likely to “side with management” in their voting on shareholder proposals (Gordon and Pound 1993, 708). The findings of prior research (Denis et al. 1997; Gordon and Pound 1993) support the latter argument of Gordon and Pound (1993), that is, internal blockholders’ ownership impairs corporate governance. However, the findings from the current study suggests that, concerning the impact of corporate governance on option expensing specifically, strengthened monitoring incentives of internal (outside directors and executives) blockholders caused by ownership overweights the preference for management’s interests over shareholders’ interests. Hypothesis 11 predicts that a company where the largest blockholder is the CEO will be less likely to expense employee stock options. The estimated coefficient of the variable CEOBLK has a negative sign, as predicted, and is statistically significant at $p < 0.05$. Hypothesis 11 is supported. This result indicates a negative impact of CEO blockholder on corporate governance. Since in the current study, internal blockholders include independent directors and executive officers,

the results of hypothesis testing related to Hypothesis 10 and 11 suggest that independent director blockholders and CEO blockholders may have different influence on corporate governance. The result of hypothesis testing related to Hypothesis 10 is consistent with that of Hypothesis 7 (board ownership). The estimated coefficient of the variable STOCK has a positive sign, which suggests that board ownership enhances corporate governance in the specific question of option expensing.

Summary

The current study examines the impact of corporate governance on corporate option expensing decisions. Each hypothesis tests a specific corporate governance factor. The empirical results related to Hypothesis 5, 6, and 11 support the argument that a company will be more likely to expense options if the board of directors has greater financial expertise, or is more diligent; the company will be less likely to expense options if the CEO is the largest blockholder. Contrary to predictions, the regression results related to hypothesis 10 indicate a significant and positive impact of internal blockholders' cumulative ownership on the option expensing decision. Relating to the argument by Gordon and Pound (1993) about the uncertain impact of internal blockholders' ownership, the findings of the current study suggests that, on the option expensing issue, strengthened monitoring incentives of internal (outside directors and executives) blockholders caused by ownership overweighs their preference for management's interests over shareholders' interests. The negative estimated sign related to the variable INDPNT (percentage of independent directors on the board) is contrary to prediction. This result is consistent with

those of previous studies (Seethamraju and Zach 2003; Baker 1999) on the impact independent directors on option reporting choices specifically, but contrary to the results of studies (Xie et al. 2003; Klein 2002; Beekes et al. 2004; Peasnell et al. 2000) on the impact of independent directors on earnings management in general.

Chapter Five

SUMMARY, LIMITATIONS, AND SUGGESTIONS FOR FUTURE RESEARCH

Summary

An increasing number of firms are issuing employees stock options as a compensation. An employee stock option is an option issued by a company to its employees. It's a call option on the company's own stock. It gives the employee-optionholder the right to purchase the company's stock at a strike price. The stock price can be below, at, or above the strike price at the time when the option is issued. If the stock price is below or at the strike price, the realizable profit to the option holder is zero. However, the profit will be greater than zero once the stock price exceeds the strike price, because the option holder can exercise the option, purchase the stock at the strike price and then sell it at the stock price, thus realize a profit.

The accounting methods for employee stock options include the intrinsic value method and the fair value method. Both the intrinsic value method and the fair value method require the recognition of a compensation expense related to options. The distinction is on how to value the options. If the stock price is above the strike price, both the intrinsic value method and the fair value method acknowledge that the option has value, there is an option related compensation expense, and this expense should reduce net

income. The diversion of opinions rises in the situation when the stock price is below or at the strike price at the time of issuance, that is, the situation where there is no immediate realizable profit. Under this situation, according to the intrinsic value method, the option has no value, but according to the fair value method, the option has value. The value should be determined by an option pricing model.

APB 25 Accounting for Stock Issued to Employees, which was issued in 1972, prescribes the intrinsic value method. The new standard *SFAS 123 Accounting for Stock-Based Compensation*, which was issued in 1995, encourages the usage of the fair value method, but allows the intrinsic value method. If a company chooses to use the intrinsic value method, it has to disclose pro forma information in financial statement footnotes, as if the fair value method had been used. In the terminology of the popular press, a company is said to be expensing options if it uses the fair value method, and non-expensing if it uses the intrinsic value method.

Most companies chose to issue employee stock options with a strike price which is at or above the stock price on the grant date, and use the intrinsic value method, in order to avoid expensing options. Thus, most companies have shown opposition to option expensing. However, in response to the recent accounting scandals, some companies have elected to expense options in order to signal higher quality earnings. Opponents of option expensing argue that: the option pricing models were developed for traded options and are not suitable for employee stock options; option expensing would put high-tech companies and other heavy users of options at a disadvantage because of the significant impact on earnings. Proponents of option expensing argue that: employee stock option is a

compensation expense, recognition of such expense improves earnings quality, reduces cost of capital, and facilitates better allocation of resources.

Should employee stock options be expensed or not? The answer relates directly to the nature of employee stock options. Regarding the nature of options, there exist the asset view and the expense view. According to the asset view, the employee stock option is an asset. According to the expense view, it is an expense. Expense should reduce earnings, but asset should not. The expense view, which is used in several important previous studies, has received widespread support. The current study is based on the expense view assumption.

Why did some companies choose to expense options while others chose not to do so? Several previous studies have examined a series of factors that affect this choice. These studies include: Aboody et al. (2003), Ferri et al. (2003), and Seethamraju and Zach (2003). Baker (1999) also studied some factors that affect other reporting choices related to employee stock options. Prior studies have limited their investigation of corporate governance to factors such as proportion of outside directors on the board, board ownership, etc. The results are inconclusive. The current study expands the variable set to include other corporate governance factors such as directors' tenure, board expertise, board diligence, etc., and retests those factors with inconclusive results. The current study focuses only on those factors related to corporate governance, and seeks to answer this question: Do certain board characteristics and other corporate governance factors affect the expensing vs. non-expensing choice?

In order to answer this research question, previous studies related to corporate governance are reviewed, and hypotheses are developed accordingly. Corporate governance structures include internal and external structures. The board of directors is a kind of internal structure. The board assumes the monitoring and decision making roles. As the monitor, the board monitors management decisions, including accounting choices, to make sure that these decisions are consistent with shareholders' interest. In assuming the decision making role, the board acts as a consultant only, and has no interest conflict with the management. The current study is concerned with the monitoring role of the board.

Previous corporate governance studies have addressed such factors as board independence, expertise, diligence, ownership, size, CEO tenure, and internal blockholders. Researchers believe that board characteristics such as director independence, expertise, diligence, ownership, and size are essential to board effectiveness. They have found that board characteristics and other corporate governance factors have an impact on accounting choices. Based on the literature review, similar impact of these factors on the expensing vs. non-expensing choice is hypothesized in the current study.

Board Independence. An independent board will influence management to act in shareholders' interest, and consequently, to expense employee stock options. The first measurement of board independence is the *percentage of independent directors on the board*. It is hypothesized that a company with a greater percentage of independent directors will be more likely to expense options (H1). The next measurement of board independence is *CEO/board chairman split*. If the CEO is also the board chairman, board independence will be impaired. It is hypothesized that a company with a CEO as the board chairman will

be less likely to expense options (H2). The last measurement of board independence is the *tenure of independent directors*. With the increase in years of tenure, independent directors will become entrenched, and their independence will be impaired. It is hypothesized that a company where independent directors have fewer years of tenure will be more likely to expense options (H3). The hypotheses developed are only concerned with independent directors, because the current study is about how the board monitors management decisions, only independent, or non-management directors are relevant.

Board Expertise. Board expertise enables directors to better monitor management decisions. Board expertise includes governance expertise and financial expertise. Governance expertise is measured by the average number of outside directorships held by independent directors. It is hypothesized that if the independent directors have more outside directorships, the company will be more likely to expense options (H4). Financial expertise is measured by the percentage of financially expertised independent directors on the board. It is hypothesized that, the greater this percentage, the more likely the company will expense options (H5).

Board Diligence. Board diligence is measured by the number of board meetings per year. It is hypothesized that if the board hold more meetings per year, the company will be more likely to expense options (H6).

Board Ownership. Board ownership is measured by independent directors' average stock ownership in the company, including the ownership of stock options. Due to the inconclusive results in the literature regarding the impact of board ownership, it is

hypothesized that there is no impact of independent directors' average ownership on the likelihood of a company's expensing of options (H7).

Board Size. Board size is measured by the number of directors on the board. A smaller board will be better at monitoring because of less bureaucracy. It is hypothesized that a company with a smaller board will be more likely to expense options (H8).

CEO Tenure. CEO tenure is measured by the number of years. The CEO's power increases with the increase in years of tenure, and this will impair corporate governance. It is hypothesized that a company where the CEO has more years of tenure will be less likely to expense options (H9).

Internal Blockholders. Blockholders are those shareholders that hold 5% or more of the company's stock. Internal blockholders are blockholders who are directors or executive officers. Internal blockholders' ownership will impair corporate governance. It is hypothesized that a company with a greater percentage of cumulative internal blockholder ownership will be less likely to expense options (H10). Because of the significant influence of the CEO, when the CEO is the largest blockholder, it is very likely that corporate governance will be impaired. It is hypothesized that a company where the largest blockholder is the CEO will be less likely to expense options (H11).

Using empirical data, a logistic regression is conducted to test the hypotheses. Logit regression is used because the dependent variable is a discrete choice variable with values of one or zero. The dependent variable is the choice of expensing vs. non-expensing. The independent variables are the corporate governance related variables and control variables. The corporate governance related variables are: the percentage of

independent directors on the board, CEO/board chairman split, independent directors' average years of tenure, average number of outside directorships held by independent directors, percentage of financially expertised independent directors on the board, number of board meetings, independent directors' average stock ownership, number of directors on the board, CEO tenure, cumulative ownership of internal blockholders, and whether the CEO is the largest blockholder. The control variables are: firm size, publicity, option expense, Ret12, Ret123, risk, growth and leverage.

An initial sample of 356 firms that had elected to expense employee stock options up to early September 2003 is identified from the report of Bear, Stearns & Co., Inc. (Bear, Stearns & Co., Inc. 2003), and a control sample of non-expensing firms is selected by matching industry membership and market capitalization. Empirical data are collected from Factiva, CRSP, Research Insight, companies' proxy statements, 10-K and annual reports. The final sample consists of 235 expensing firms and 235 matched control firms, 470 firms in total, due to availability of data and control firms.

Table 4-7 in Chapter 4 summarizes the conclusions of hypothesis tests. The empirical results related to Hypothesis 5, 6, and 11 support the argument that a company will be more likely to expense options if the board of directors has greater financial expertise, or is more diligent; the company will be less likely to expense options if the CEO is the largest blockholder. Coefficient estimation related to these hypotheses (5, 6, and 11) are significant. Contrary to prediction, the regression results related to hypothesis 10 indicate a significant and positive impact of internal blockholders' cumulative ownership on the option expensing decision. Relating to the argument by Gordon and

Pound (1993) about the uncertain impact of internal blockholders' ownership, the findings of the current study suggests that, on the option expensing issue, strengthened monitoring incentives of internal (outside directors and executives) blockholders caused by ownership overweighs their preference for management's interests over shareholders' interests. Estimations related to all the other hypotheses are insignificant, but the signs of the coefficients were the same as predicted, except in the case of hypothesis 1. The negative estimated sign related to the variable INDPNT (percentage of independent directors on the board) is contrary to prediction. This result is consistent with those of previous studies (Seethamraju and Zach 2003; Baker 1999) on the impact independent directors on option reporting choices specifically, but contrary to the results of studies (Xie et al. 2003; Klein 2002; Beekes et al. 2004; Peasnell et al. 2000) on the impact of independent directors on earnings management in general. The current study contributes to the accounting choice literature.

Limitations and Suggestions for Future Research

In the current study, certain measurements are used for the corporate governance factors such as board independence, board expertise, board diligence, board ownership, etc. The validity of these measurements is limited, and future study could possibly search for better measurement for these corporate governance factors. Given a certain measurement for a variable, a significant question is what standards should be used to assign values to the variable, and selection of such standards will affect research findings. For example, the definition of financial expertise is borrowed from the Blue Ribbon Committee (1999)

report, as in Carcello and Neal (2003). Similarly, the standard selection question is also relevant to other variables, and there is always room for improvement.

In the current study, certain matching principles have been used to identify the control sample, so that the control firm has similar industry classification and market capitalization as the expensing firm. This procedure has set limits on the sample size. However, it is suitable for the current study. Since most corporate governance data have to be hand-collected from companies' proxy statements, it would be impossible to collect these data for a very large sample of firms. In future studies, when corporate governance data can be readily accessible from proxy statement analytical reports compiled by third parties instead of being collected manually by the researcher from proxy statements, it would become possible to use a larger sample as in Aboody et al. (2003) and Seethamraju and Zach (2003), instead of using the matching principle to identify the control sample. Due to the increased statistical power of hypotheses testing, such a study would probably find significant impact for those corporate governance factors where coefficient estimations are insignificant in the current study. In addition, using proxy statement analytical reports compiled by third parties instead of hand-collecting the corporate governance data from proxy statements can reduce variable measurement error and increase data quality. This effect will also contribute to the increased possibility of finding statistically significant coefficient estimations.

Future studies may explore the unsolved questions suggested by the findings of the current study. The findings in the current study about the impact of the percentage of independent directors on option expensing decisions is contrary to findings in the

accounting literature about such impact on earnings management decisions (Xie et al. 2003; Klein 2002; Beekes et al. 2004; Peasnell et al. 2000), but is consistent with the findings of such impact on option reporting decisions (Seethamraju and Zach 2003; Baker 1999). This suggests that reporting of employee stock options, including the option expensing decision, is not a pure earnings management issue, and that such decisions may be complicated by additional factors. Future studies can clarify this tentative conclusion by re-examining the same question using different data, or by exploring theoretical explanations for the difference between the impact of independent directors on option reporting decisions and such impact on other earnings management issues.

Probable endogeneity of corporate governance factors is another limitation of the current study, which is already discussed in chapter three of this dissertation. Future studies could possibly search for solution to this problem from theoretical and statistical perspectives.

Future studies could possibly extend the current study from theoretical perspectives, and explore such questions as: what is the impact of audit committee characteristics on corporate option expensing decisions; what is the impact of other corporate governance factors (such as institutional investors, market for corporate control, etc.) on option expensing decisions; what is the impact of corporate governance on the timing of option expensing decisions; what is the impact of corporate governance on option reporting choices besides the choice of fair value method and intrinsic value method; and what is the impact of current corporate governance reform on option reporting choices.

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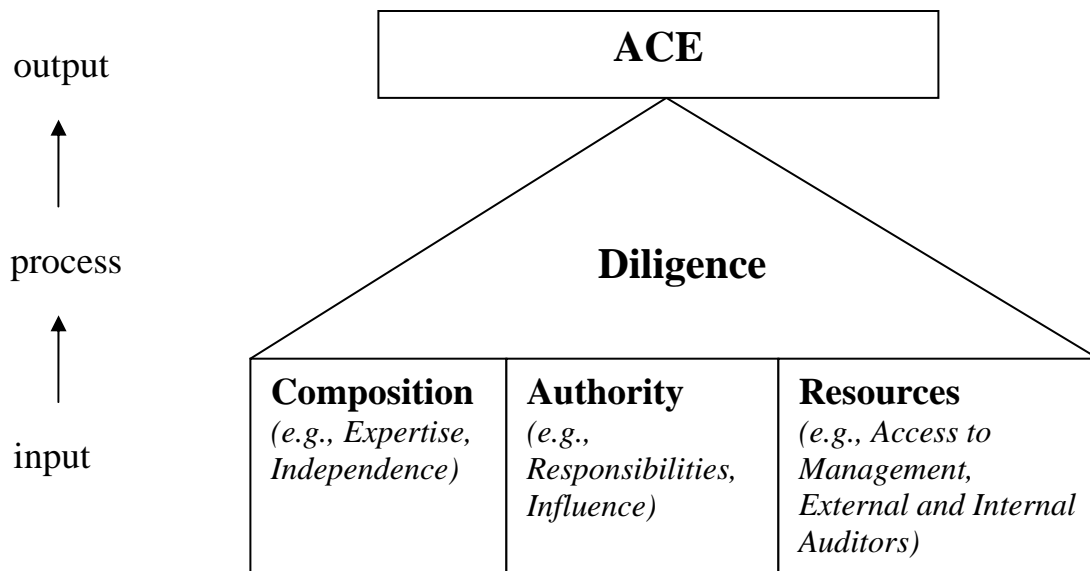
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APPENDIX

THE ACE FRAMEWORK OF DEZOORT ET AL. (2002)

Figure 1

Determinants of Audit Committee Effectiveness (ACE)



Source: DeZoort, F. T., D. R. Hermanson, D. S. Archambeault, and S. A. Reed. 2002. Audit Committee Effectiveness: A Synthesis of the Empirical Audit Committee Literature. *Journal of Accounting Literature* 21: 38-75. Figure 1: Determinants of Audit Committee Effectiveness (ACE), p.43.