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An Analysis of Networking Between Top Executives of Companies Suspected of Backdating Stock Options

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AN ANALYSIS OF NETWORKING BETWEEN TOP EXECUTIVES OF COMPANIES SUSPECTED OF BACKDATING STOCK OPTIONS

by
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ABSTRACT

REBECCA LO: An Analysis of Networking Between Top Executives of Companies Suspected of Backdating Stock Options
(Under the direction of Dr. Rick Elam)

"More than 100 companies are under investigation for options backdating... If options backdating problems are found at more companies, Congress may be driven to act." - *Brian Cleary* (Cleary 2007).

The purpose of this thesis is to analyze how the practice of backdating employee stock options has become so widely used. The first hypothesis for this research is that networking between executives and board members of corporations has caused the idea of backdating employee stock options to spread. The second hypothesis is that particular auditing firms are more likely than others to audit corporations accused of backdating employee stock options. A sample of sixteen companies suspected of backdating was used for the testing of these hypotheses. For each of the companies, the names of their executives and board members were collected from the companies' Form 10-Ks covering the period of the suspected backdating. These names were then scrutinized for any overlap between different companies.

The results of the analysis exposed two instances where an executive or board member of a company suspected of backdating employee stock options was also an executive or board member of another company also suspected of backdating employee stock options. Steven P. Jobs contemporaneously served as Chief Executive Officer and a board member of Apple Computer and Pixar. James A. Johnson served as a board member for both KB Home and UnitedHealth Group. It was also discovered that from the six audit firms providing assurance services for the companies in the sample,

PricewaterhouseCoopers, LLP was the auditor for six of the sixteen companies suspected of backdating employee stock options. KPMG, LLP was the responsible firm for four of the companies in the sample.

The findings produced by the research do not lead to conclusive evidence that the pervasive practice of backdating employee stock options is caused by the actions of one or two executives spreading the idea from company to company. Additionally, the discovery that PricewaterhouseCoopers, LLP was the auditor for more companies suspected of backdating employee stock options than other audit firms does not prove that the firm was responsible for carrying the idea for backdating from one client company to another. From the limited sample of companies tested in this research, it does not appear that networking between executives and board members is accountable for the numerous scandals revolving around backdating employee stock options.

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Introduction

"More than 100 companies are under investigation for options backdating... If options backdating problems are found at more companies, Congress may be driven to act."

This quote taken from an article by Brian Cleary in the April 2007 *The CPA Journal* is an example of the numerous headlines splashed across newspapers warning the public about the widespread practice of backdating stock options. The questionable treatment of stock options by executives at companies such as Apple Computer, Inc. and Monster Worldwide suggests top management greed at the expense of stockholders. In an effort to relieve the economy from such illicit activities, the Securities and Exchange Commission is performing extensive investigations into the treatment of stock options as a form of compensation to key employees.

The use of employee stock options was originally hailed as an ingenious method of boosting employee productivity and company loyalty with no immediate impact on the companies' cash flow. By giving employees the right to buy a specified number of shares in the company at a fixed price for a defined period of time, the company expects that employees will be more interested in the profitability of the company. If the company's stock rises, holders of options experience a direct financial benefit (Ruud 3-4). The goals of the employees would therefore be better aligned with the goals of the company.

The amount of executive compensation can be a material amount on a company's financial statements. The discovery of inappropriate backdating of executive stock options can cause the need for restatement of companies' financial statements. Since

much of the world economy depends on the transparency of a company's financial statements, the revaluation of stock options could make equity markets much more volatile.

This research asks the two questions, is there possible networking among the executives and board members from companies under investigation for possible backdating by the Securities and Exchange Commission, and are the backdated options being overlooked and/or suggested by one particular audit firm?

General Description of Stock Options

Stock options are a widely popular form of compensation for key employees. Stock options awarded by the company gives the employee the right to buy a specific number of shares of the company's stock during a time period and at a purchase price set by the employer. The value of the stock options relies directly on the value of the underlying security. If the company's performance has increased the stock price above the purchase price specified by the company, the employee receives extra compensation when he or she buys the stock at the lower price and sells it at the higher price.

The theory behind issuing employee stock options instead of cash compensation is to align company employees' interests with those of shareholders by turning paid managers into part-owners (Rudd 3-4). "An influential article in the Harvard Business Review in 1990 argued that, if top executives were rewarded like bureaucrats, they would behave like them, too" ("Executive Remuneration" 13).

The earliest known use of options trading dates from 7th century BCE in Greece. When Thales of Miletus suspected that the olive harvest would be extremely bountiful for the year, he put a deposit on every olive press in his region. Since the olive harvest later

proved to be huge, the demand for olive presses quickly escalated. Thales then sold his rights, or options, to the olive presses and received a considerable profit ("The Evolution of Modern Options Trading").

Employee stock options should not be confused with stock options that can be bought and sold on the Chicago Board Options Exchange. Modern stock option trading began with the formation of the Chicago Board Options Exchange (CBOE) on April 26, 1973. At that date, the CBOE traded sixteen standardized, exchange-listed equity options. Within the first year of establishment, the CBOE traded over one million option contracts. The Options Clearing Corporation (OCC) was also formed in 1973 in order to help insure the stability and integrity of the options market. As options became more popular over the next few years, other securities exchanges entered the business ("CBOE History"). Though widely traded, this particular form of stock options is not the focus of this paper.

The next section of this thesis presents an overview of the backdating issue and describes the research question and hypotheses followed by a description of data and methods of research.

The Backdating Issue

Employee stock options offer a way to effectively reward key performers while preserving cash needed for corporate operations. For this reason, the use of stock options has become one of the most widely used forms of executive compensation, replacing more costly methods such as large cash bonuses, permanent salary increases, or generous retirement plans (Ruud 3-4).

Stock options are a major focus in the business world, but the practice is no longer receiving the praise it once did. With new stock option scandals being uncovered each day, it is easy to believe that the great wealth that can come from stock option ownership has enticed some executives and their companies into using stock options in unethical and possibly illegal ways.

Backdating of stock options refers to "options that are issued retroactively to coincide with low points in a company's share price to increase the recipient's potential windfall" ("Chummy CEOs Part of Backdating Club"). By setting the grant date of the option to a day when the price of the stock is low, the holder will often receive a much higher reward when the options are exercised. Erik Lie studied the behavior of stock prices before and after stock option grants were made and concluded that the backdating was purposely performed. "[Lie] discovered that unless executives possessed truly extraordinary abilities to forecast precise overall market movements, they had to be backdating the grants" (Colvin). This discovery led to an increased pressure for the Financial Accounting Standards Board and the Securities and Exchange Commission to regulate the rewarding of stock options to top executives and to ensure financial statement transparency. Though backdating seems like it should be illegal, the practice is acceptable as long as it has been properly approved, documented in the minutes of the board of directors, and accounted for in the company's financial statements. Company executives are responsible for clearly communicating to their shareholders which options have been backdated since the shareholders are the people who must pay the inflated compensation that usually results (Lie).

The problem is that many companies have attempted to cover up these events from stockholders and creditor. The Securities and Exchange Commission is currently investigating backdating practices of numerous publicly traded corporations.

Research by Eric Lie and Randall Heron found that 29.2% of companies issuing options to executives and/or directors between 1996 and 2002 have grant date patterns that suggest backdating or other manipulative practices, and 23% of options issued to executives appear to have been backdated or spring-loaded (Rosen).

Spring-loading is another type of option-granting practice that is closely related to backdating. However, instead of retroactively altering the date of the options to a date with a lower stock price, spring-loading anticipates an increase in stock price. Spring-loading a stock option refers to a practice where the stock option is "granted at a time that precedes a positive news event" (Lie, Rosen). With the release of the positive news following the grant of stock options, the value of the underlying stock usually tends to skyrocket and allows the option-holder to receive an almost instantaneous profit (Lie, Rosen).

A question related to the stock option backdating is how the practice became so widespread in such a short period of time. Could the practice have been suggested through a network of executives and corporate board members? Could one CPA firm have carried the idea to clients? Networking allows businesspeople to share their information and thoughts on subjects. Networking is beneficial in creating a business environment of constant innovation. Unfortunately, people may use networking to spread unethical ideas for their own benefit.

"It wouldn't be a surprise if knowledge like this got passed along among executives and had a cascading effect through the community," said James Post, a Boston University professor specializing in corporate governance and business ethics. "Just as networks pass along good ideas, they can play a critical role in passing along bad ideas too." ("Chummy CEOS Part of Backdating Club")

Accounting for Stock Options

Stock options as a form of compensation, especially for executives, have always been a focal point in the business press. However, recent articles are no longer exclaiming the virtues of this so-called "win-win" approach to compensating key employees. With scandals being discovered and reported, much of the financial population are demanding that action be taken to bring accurate financial statement transparency to the world. Before one gets caught in the heated debates over backdating, it is important to gain an understanding about the basic accounting treatment of stock option compensation.

In an effort to assure uniformity among companies' financial statements, the Financial Accounting Standards Board (FASB) was established in 1973. FASB was charged with forming a framework of guidelines for financial accounting. This framework, known as generally accepted accounting principles (GAAP), is a set of accounting principles, standards, and procedures that outline the way accountants should record transactions and prepare and present financial statements. By requiring that companies follow GAAP, users are guaranteed financial statements have a minimum level of consistency that aids in the comparison of the companies' financial positions

("Facts about FASB"). GAAP addresses all areas of the financial statement, including the valuation and accounting for stock option compensation.

Employee stock options are awarded to key employees in order to give them the right, but not the obligation, to buy a certain number of shares in the company at a predetermined price. This fixed price is called the "grant" price and usually equals the market price on the date the options are granted. Employees who have been granted stock options are presumed to have a greater interest in the performance of the company in hopes that the share price will increase. The employee can then "cash in" by exercising, or purchasing, the stock at the lower grant price and then reselling their shares at the higher current market price. The employee only buys the stock if the price has increased. Holders of employee stock options face no financial risk if the stock prices decrease. Gains benefit the holder, or employee, while acting as expense to the writer, or the corporation (Mantzke 24-27).

Before the employee can exercise the options, a required vesting period must pass. A vesting period is the specified waiting period between the grant date of the stock option and the date at which the option may be exercised. "Cliff vesting refers to vesting that occurs at a single point in time. In contrast, graded vesting occurs gradually, with portions of the options vesting at intervals over a number of years" (Mantzke 27). The average length of a vesting period ranges from two to four or more years. The options expire if the employee fails to exercise them by a specified deadline date, often ten years after the vesting date. This built-in expiration date is a mechanism that forces the eventual exercising of the options. Employee stock options are non-transferable, which is a stipulation that keeps the options from being sold to an outside party. The only

exception to this rule is in the case of the employee's death, in which case the spouse gains control of the vested options (Mantzke 27).

Accounting and Auditing Issues

The accounting treatment for stock options is one of the most controversial in the accounting profession. This debate stems from the disagreement over the manner in which stock option compensation should be expensed by the issuing company. The intrinsic value based method was prescribed by the Accounting Principles Board Opinion No. 25. Later the fair value based method was recommended and eventually required in the Financial Accounting Standards Board's Statement of Financial Accounting Standard 123(R).

Issued in 1972, the APB Opinion No. 25 measured stock options using the intrinsic value method. Under the intrinsic value method for measuring stock options, the amount of compensation to be expensed at the time the options are granted was determined as the excess of the market price over the option exercise price (Apostolou and Crumbley 30-31). For example, if the option's grant price is $10 per share and the stock is trading at $12 on the grant date, the option has an intrinsic value of $2 per share. However, because most employee stock options had exercise prices equal to or above current market prices when granted, there was no compensation expense to be recognized. The vast majority of corporations found this method of measurement to be the most beneficial, as there was no expense to subtract from their revenue. Without any stock option compensation expense to be recognized, the intrinsic value based method results in a higher reported net income for the company (Apostolou and Crumbley 31).

In June of 1993, the Financial Accounting Standards Board (FASB) revisited the issue of stock option accounting in an effort to make financial statements more transparent to the public. FASB is the private-sector organization that is responsible for setting standards for financial accounting and reporting in the United States. Their proposal for companies to begin expensing stock options under the fair value method sparked a huge political opposition that led FASB to drop their attempt (Mantzke 28-29).

The reason for this strong resistance was due to the fact that under the fair value method, the value of the stock option is estimated by applying an option pricing model at the date it is granted to an employee. This estimated fair value is then charged to compensation expense over the life of the option's vesting period. Many companies argued that they would suffer losses from having to report this compensation expense that would not be recognized under the intrinsic value method. They also feared that the public's negative reaction to the company having to restate their financial statements would greatly impair their stock price, in addition to the great embarrassment it would cause them in the corporate world (Apostolou and Crumbley 32-33).

In 1995, FASB compromised between its original proposal and the popular intrinsic value method by issuing the Statement of Financial Accounting Standards (SFAS) No. 123, titled "Accounting for Stock-Based Compensation." This statement only recommends, but does not require, that companies expense stock options under the fair value method. This allowed companies to continue the use of the intrinsic value method. However, companies were required to disclose in their footnotes to the financial statements the amount of compensation expense that would have been reported had the company been using the fair value method.

FASB changed its position with the December 2004 release of Statement No. 123(R). Under SFAS 123(R), the opportunity to choose between intrinsic value and fair value is no longer available. This statement significantly changed the standards for financial statement reporting of stock options.

Statement No. 123(R), *Share-Based Payment*, mandated that the use of the intrinsic value method of accounting for stock options would no longer be acceptable. Generally accepted accounting principles (GAAP) would require the fair value based method, which would recognize a compensation expense based on the observable market price of an instrument with similar terms. If a similar option was not available for comparison, the company should use an option pricing model to estimate the fair value of the option. The company should then recognize the compensation cost over the vesting period of the option or the period in which the employee provides service to receive the award.

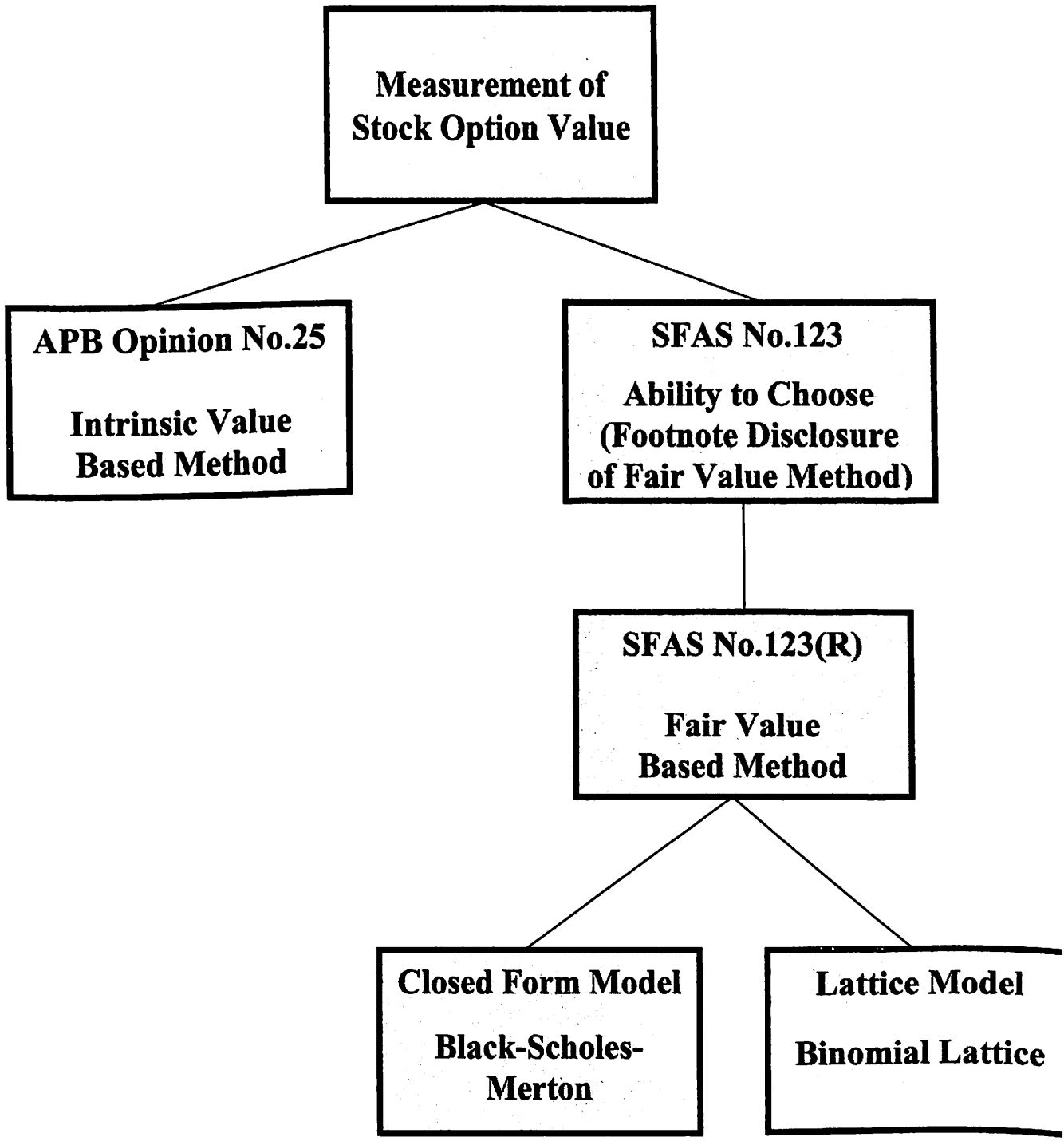
FASB required the new statement be implemented by publicly-traded companies for all reporting periods beginning after June 15, 2005. If the public company is considered a small business issuer (with reported revenue less than $25 million) or the company is not publicly traded, they must implement Statement 123(R) for their first annual reporting period after December 15, 2005 (Eaton and Prucyk 65). According to research by Standard & Poor's, the implementation of this statement would have likely reduced the reported earnings for 2004 among the S&P 500 by approximately 7.4% (Kunkel and Lau 28-29).

Though Statement No. 123(R) requires the use of the fair value based method, it did not specify a particular option pricing model to use to calculate the fair value of the

underlying stock when there is not a similar instrument in the market with which to compare the stock option. Therefore, under the required fair value based method, the company has the choice of using two basic models, the closed-form or the lattice. The model the company chooses to use, however, must encompass the following factors: the exercise price of the option, the expected term of the option, the current market price of the underlying shares, the expected volatility of the price of the underlying shares for the expected term of the option, the expected dividends on the underlying shares, and the risk-free interest rate ("SFAS No. 123(R)" par. A13-A18).

The following chart illustrates the various methods of measuring the value of stock options.

Figure 1: Methods of Valuing Stock Options



The Black-Scholes-Merton model is the most commonly used closed-form model, which results in a greater comparability to other companies who also use this option pricing model. This particular model is easily integrated into a spreadsheet and is popular among companies because it consists of a defined equation (Eaton and Prucyk 66). An example of the use of this equation is shown below in Figure 2.

Figure 2: Black-Scholes-Merton Option Pricing Model

Black-Scholes-Merton is a closed-form model CPAs can use to value options on assets whose volatility is constant over time and which have a constant dividend yield and risk-free rate. It requires these inputs for valuation: (Example numbers provided are for illustration purposes only)

- Current stock price (S), as an example $50.
- Exercise price (X), for example $40.
- Expected time to maturity (T), for example 4 years.
- Risk-free rate (r_f), for example 3.5%.
- Dividend yield (d_y), for example 1.5%.
- Expected volatility of the stock price (σ), for example 35%.
- N() the cumulative normal density function which assigns the probability of a given number falling at or below a given value.
- e is the base of a natural logarithm defined as 2.7182818.

Using this formula the Black-Scholes value of a call option can be written as

$$C = Se^{-d_y T}N(d1) - Xe^{-r_f T}N(d2) \text{ and } d1 = \frac{\ln\left(\frac{S}{X}\right) + \left(r_f - d_y + \frac{\sigma^2}{2}\right)T}{\sigma\sqrt{T}} \quad \text{and } d2 = d1 - \sigma\sqrt{T}$$

Substituting the numbers from the example:

$$d1 = \frac{\ln\left(\frac{\$50}{\$40}\right) + \left(0.035 - 0.015 + \frac{0.35^2}{2}\right)4}{0.35\sqrt{4}} = 0.7831 \text{ and } d2 = 0.7831 - 0.35\sqrt{4} = 0.0831$$

N(.7831) = 0.7832, N(0.0831) = 0.5331

$C = \$50e^{-0.015*4}(0.7832) - \$40e^{-0.035*4}(0.5331) = \$18.34$

Thus the option in this example has a value of $18.34.

(Eaton and Prucyk 64)

Example of Accounting for Employee Stock Options

Using the Eaton/Prucyk example in Figure 2, assume that a company grants 1,000 options to employees on January 1, 2007. On the date of the grant, the company does not make a journal entry, but they do use the Black-Scholes-Merton option pricing model to estimate the amount of compensation expense that will be recorded as an adjusting entry at the end of each year during the vesting period. This amount is then allocated over the four year vesting period, or period in which the employees perform the service. Each option allows the employees to purchase one share of $10 par value common stock at a price of $40. The options are exercisable beginning January 1, 2011. On the grant date, the company's stock was trading at $50, and the Black-Scholes-Merton model determined the total compensation expense to be $18,340 ($18.34 X 1,000). Below are the journal entries the company will make at the end of each year following the granting of the options.

1 / 1 /2007	No entry on date of grant		
12/31/2007	Compensation Expense	4,585	
	Paid in Capital- Stock Options		4,585
	($18,340 X ¼)		
12/31/2008	Compensation Expense	4,585	
	Paid in Capital- Stock Options		4,585
12/31/2009	Compensation Expense	4,585	
	Paid in Capital- Stock Options		4,585
12/31/2010	Compensation Expense	4,585	
	Paid in Capital- Stock Options		4,585

The end of the year adjusting entries for 2007, 2008, 2009, and 2010 all have the same effect on the balance sheet and the income statement for those periods. The overall

stockholders' equity section on the balance sheet is not affected because recognizing the Compensation Expense lowers Retained Earnings, but the credit to Paid in Capital- Stock Options increases the Additional Paid in Capital (part of Contributed Earnings) section of stockholders' equity by an equal amount. The recognition of Compensation Expense in the Operating Expenses section of the income statement works to decrease net income by $4,585 each year.

Assume that on February 1, 2011, all 1,000 options were exercised when the market price for the company's stock was $60 per share. On February 1, 2011, the employees buy stock at the option contract price of $40 per share by paying the company $40,000 in cash. The company makes the following journal entry, and the employees then sell the shares for $60 each through a stock broker.

2 / 1 /2011	Cash (1,000 X $40)	40,000	
	Paid in Capital - Stock Options	18,340	
	($18,340 X 1,000/1,000 = $18,340)		
	Common Stock (1,000 X $10)		10,000
	Paid in Capital in excess of par (Plug Value)		48,340

The effects on the balance sheet and income statement for the year when options are exercised are very different from the previous adjusting entries. The company's asset section of the balance sheet is increased by receiving cash for the amount of the options' exercise price. The overall effect of the exercise is to increase the stockholders' equity on the balance sheet. Though the debit to Paid in Capital- Stock Options decreases this Additional Paid in Capital account by the compensation expense amount estimated on the grant date, the credits to Common Stock, at par value, and Paid in Capital in excess of par, for the remainder, act to increase the Capital Stock and Additional Paid in Capital

sections of stockholders' equity. The accounting entry required when employees exercise stock option has no effect on the income statement.

Now assume that the options must be exercised by December 31, 2013, the expiration date. Instead of exercising all the options on February 1, 2011, the employees only choose to exercise 800 options and the remaining 200 options were not exercised and lapsed at the end of 2013. The entries for the exercise and retirement follow.

2 / 1 /2011	Cash (800 X $40)	32,000	
	Paid in Capital - Stock Options	14,672	
	($18,340 X 800/1,000)		
	Common Stock (800 X $10)		8,000
	Paid in Capital in excess of par		38,672
12/31/2013	Paid in Capital- Stock Options	3,668	
	Paid in Capital - Expired Options		3,668
	($18,340 - $14,672)		

The journal entry for February 1, 2011 had the same effect on the balance sheet by increasing the assets and stockholders' equity. There is still no effect on the income statement. The entry on December 31, 2013 to retire the unexercised options has no overall effect on the stockholders' equity section of the balance sheet. One Additional Paid in Capital account is increased while another Additional Paid in Capital account is decreased by the same amount. This entry also does not have any effect on the income statement.

Other companies prefer to use a lattice model, such as a binomial one, because they feel that it provides more accurate estimates of option compensation expense since it can take more assumptions into account than the Black-Scholes-Merton model. The binomial lattice model is able to incorporate multiple inputs into its computation, while the Black-Scholes-Merton model is only able to consider one set of inputs. For these

reasons, FASB originally made the recommendation that the binomial lattice model be the required model. Many companies did not want to use the lattice model because its computation is so complex. After receiving a great deal of the public's aversion to this requirement, FASB decided to leave the choice to the companies (Eaton and Prucyk 66).

Though Statement No. 123(R) ended the feud between whether to use the intrinsic value method or the fair value method, it still leaves many questions unanswered about share-based compensation. By allowing companies to choose which option pricing model they would prefer to use, different amounts of compensation expense can be reported by choosing to use the Black-Scholes-Merton model over the binomial lattice model or vice-versa. This lack of comparability among companies may force FASB to require the use of a particular model in the future. Furthermore, a company can use various estimates based on their own expectations within the computation of each model (Eaton and Prucyk 67-68). The FASB needs to find a way to standardize these estimates in order to have amounts on the financial statements that are transparent and easily comparable to competing corporations in their industry.

Impact of FASB Statement No. 123(R) on Privately Held Companies

For the first annual reporting period after December 15, 2005, privately held companies were required to implement FASB Statement No. 123(R) in the valuation of employee stock options. While a publicly-traded company has stock being traded on an exchange, privately held companies do not trade stock on an exchange. Similar to publicly-traded companies, Statement No. 123(R) requires stock options granted by privately held companies to be expensed based on the fair value at the time of the grant.

However, privately held companies face several issues that are unique to the valuation of their employee stock options.

Statement No. 123(R) prescribes the use of an option pricing model to value stock options that do not have an observable market price of an instrument with similar terms. A particular option pricing model is not required to be used, but FASB stated that both the lattice model and closed-form model meet the criteria ("SFAS No. 123(R)" par. A13-A14). Most publicly-traded companies use the Black-Scholes-Merton model, but this pricing model is not easily adapted to fit the needs of employee stock options granted by privately held companies.

When a stock option granted by a publicly-traded company is exercised by an employee, he or she receives a share of the company's stock that has already been authorized for sale. As the share was already in existence and available to be bought and traded, the exercise of the stock option had no effect on the value of the underlying shares. Unlike the exercise of stock options granted by publicly-traded companies, the exercise of a stock option granted by a privately held company results in the authorization and issuance of new shares of stock. In essence, these stock options are more correctly identified as stock warrants. The newly issued stock has a dilutive effect on both the company's common shares and its employee stock options. For privately held companies, the impact of the dilutive effect cannot be observed in market prices.

As there are no observable market prices, CPAs rely on appraised values that are allocated to existing shares and outstanding employee stock options. When valuing employee stock options, a direct input in the model is the value of the underlying stock. Since the dilutive effect simultaneously impacts the value of existing shares and

outstanding employee stock options and most option valuation models require stock value as an input, option-pricing models should be modified to allow both stock value and employee stock option value to be determined simultaneously.

For this reason, the Black-Scholes-Merton option pricing model is not suitable for valuing employee stock options granted by privately held companies as it will lead to incorrect employee stock option values and incorrect stock values. The Hull-White approach is more easily adapted to fit the needs for valuing these options. A lattice model, the Hull-White approach can be altered to incorporate many option features not adaptable by the closed-form model. The Hull-White approach can be customized to simultaneously determine stock price and option value, taking the dilutive effect into consideration. This results in the correct valuation of existing stock and employee stock options.

Another critical difference between the valuations of employee stock options granted by publicly-traded companies and privately held companies concerns volatility. A significant input into an option valuation model, volatility is difficult to estimate as it is based on a "combination of empirical data, advanced statistical techniques and the use of professional judgment" (Sellers, Huang, and King 44-52).

The expected volatility, the amount of volatility estimated for the remainder of the option's life, is computed using historical market price data. Privately held companies do not have this historical data available to them. To estimate the expected volatility of employee stock options granted by privately held companies, Statement No. 123(R) provides two alternative sources (Sellers, Huang, and King 54-56).

1. ***Identify similar public companies.*** If a company can identify similar public companies, it should consider the historical, expected or implied volatility of those public companies' shares to help estimate expected volatility.

2. ***Identify an appropriate index.*** If no similar public companies can be identified, one should identify and use the volatility of an appropriate industry or subindustry index (see example at paragraph A139 of Statement no. 123(R)).

(Sellers, Huang, and King 56)

For the reasons stated above, Statement No.123(R) has a very different impact on the valuation methods for stock options granted by publicly-traded companies and privately held companies. Though the focus of this study is limited to stock options granted by publicly-traded companies, it is imperative to note that the use of a particular option-pricing model can yield incorrect values if care is not taken to ensure correct information is inputted.

Examples of the Impact of Backdating on Financial Statements

The practice of backdating stock options has provided lucrative gains for key employees from many different companies. As a simple example of the impact backdating can have, assume the CEO for Miracle Tech Company, Mrs. Doe, receives part of her compensation in stock options. The board of directors for Miracle Tech Company awarded Mrs. Doe two million stock options with a grant date of August 15, 2007. At this date, the underlying stock was valued at $6 a share which was also the exercise price.

In an effort to receive a maximum benefit from her stock options, Mrs. Doe studied the behavior of the company's stock prices. She noticed that the stock price from the month prior was $3 a share and communicated this information to other employees in

top management positions. Upon receipt of this information, top management agreed to backdate the options granted from the original date of August 15, 2007 to July 15, 2007 without attempting to gain approval from the board.

In effect, Mrs. Doe was granted two million stock options with a $3.00 per share grant price on August 15 that was dated July 15. As a result of this backdating, the stock options' worth surged to a potential gain of $6 million [(2 million options * ($6 market price - $3 exercise price)]. Assuming that the vesting period had passed, Mrs. Doe could exercise her options by buying the stock for $6 million and selling them at the current market price of $12 million. Without taxes and other fees taken into considerations, Mrs. Doe could have netted a profit of $6 million.

The backdating of stock options also affects the company's financial position. Without the backdating, the options would have had both a grant price and exercise price equal to $6. Using the Black-Scholes-Merton model, each option would have a fair value of $1.71. With two million options, Miracle Tech Company would recognize compensation expense of $3,426,851.05 to reduce reported net income.

However, since the options were backdated, the options have both a grant and exercise price of $3. Now the options would each have a fair value of only $0.86. Miracle Tech Company would only have to recognize compensation expense of $1,713,425.52. By backdating the stock options, Miracle Tech Company would not have to recognize such a large amount of compensation expense. As a result, the reported net income would be much larger than without.

The hypothetical example helps to develop an understanding of scandals that are actually occurring. Apple Computer, Inc. has faced many allegations from the Securities

and Exchange Commission concerning their abuse of backdating stock options. Fred Anderson, Steve Jobs, and four unnamed executives have been under intense scrutiny for options they received.

Fred Anderson - 1997:

Acting as Chief Financial Officer for Apple Computer from 1996 to 2004, Fred Anderson resigned while under investigation by the SEC for allegedly backdating stock options. Anderson was granted an option for two million shares of Apple stock that was dated July of 1997, a date when the market price of the underlying stock was unusually low at $3.00 a share. Though the actual date of original grant is not known, if it was in the next month the stock price surged to $7.50 per share ("Perfect Payday: Option Scorecard"). By being able to exercise the options at the backdated amount of $6 million, Anderson would receive a very large profit by selling his stock for $15 million. Due to the backdating of Anderson's stock options by one month, the former CFO raked in a profit of $9 million.

Apple Computer also benefitted from the backdating of Anderson's stock option compensation. Under SFAS 123, Apple could use the intrinsic value method for recognizing compensation expense and would not report any expense related to their stock options due to the fact that the grant price equaled the current stock price at the stated time of grant. As required by SFAS 123, Apple had to disclose the amount of compensation expense the company would have to recognize using the fair value method in the footnotes to the financial statements. Using the Black-Scholes-Merton model, the company would have to disclose expense in the amount of $1.58 per share. This amount of expense is not recognized, however, and does not affect Apple's reported net income.

However, if SFAS 123(R) had been in effect in 1997, the company would recognize compensation expense based on the options' fair value. At July of 1997 Apple would have to recognize compensation expense in the amount of $1.58 per share, or $3,164,488.06 for all two million shares. Recognizing this expense would have a direct impact on Apple's reported profitability and increased Apple's reported net loss from $1,045,000,000 to $1,048,000,000.

This amount of expense is greatly reduced by the effect of backdating the options. Using the Black-Scholes-Merton model, if the options had been valued using the actual grant and exercise amounts for the next month, the compensation expense to be recognized would be $3.96 per share. In other words, if the options had been valued at a grant price that is closer to the average Apple Computer stock price, the total compensation expense to recognize for Anderson's two million options at fair value would total to be $7,911,220.15. This increased compensation expense would further reduce the company's net income. The original reported loss of $1,045,000,000 would increase to a loss of $1,053,000,000 if the effect of backdating was removed. Figure 3 shows the impact of changing compensation expense related to employee stock options on Apple's income statement.

Figure 3: Effect of Fred Anderson's Backdated Stock Options on Apple Computer's Income Statement

Apple Computer Consolidated Statements of Operations for the fiscal year ended September 26, 1997 (Dollars in millions) Fred Anderson			
	Original	Restated under SFAS 123(R) with backdating	Restated under SFAS 123(R) without backdating
Net Sales	$7,081	$7,081	$7,081
Costs and expenses:			
Cost of sales	5,713	5,713	5,713
Research and development	485	485	485
Selling, general and administrative	1,286	1,289	1,294
Special charges:			
In-process research and development	375	375	375
Restructuring costs	217	217	217
Termination of license agreement	75	75	75
	8,151	8,154	8,159
Operating income (loss)	(1,070)	(1,073)	(1,078)
Interest and other income (expense), net	25	25	25
Income (loss) before provision (benefit) for income taxes	(1,045)	(1,048)	(1,053)
Provision (benefit) for income taxes	0	0	0
Net income (loss)	($1,045)	($1,048)	($1,053)

Steve Jobs – 2000:

As part of the executive stock option compensation plan, Steve Jobs, the Chief Executive Officer of Apple Computer, was awarded forty million options which were reported as being granted at January of 2000. The market price of the underlying stock at that time, and therefore the grant price for the options, was around $20 a share. The options were suspected of being backdated due to the fact that the grant price in January was much lower than the months before and after the reported grant date. In fact, in February of 2000 -the next month - the market price for Apple stock raised to $30 a share. Though Jobs later cancelled these options in exchange for restricted stock, if he had exercised these options for $800,000,000 and sold them for $1,200,000,000, he would have received a profit of $400,000,000 ("Perfect Payday: Options Scorecard"). In fact, Jobs may have exchanged his options for restricted stock in an effort to avoid the backlash from the SEC for backdating stock options.

If Apple Computer had used the intrinsic value method for recognizing compensation expense, no expense would be reported since the current market price and grant price were the same at time of grant. However, using the Black-Scholes-Merton model to measure the fair value of the stock options as required under SFAS 123(R), the corporation would have to deduct compensation expense in the amount of $11.18 per share or $447,054,150.77. This increase in expense would decrease the company's reported income from $786,000,000 to $339,000,000.

Though the stated fair value of the stock options would reduce net income by around $447 million, this amount for compensation expense is greatly undervalued due to the effect of backdating. For example, if the stock options were valued under the Black-

Scholes-Merton model using the market price and grant price for February, the fair value of each option would be $16.56. Taking all of Jobs' forty million options into consideration, Apple Computer would have to recognize compensation expense of $670,581,226.16. The difference in compensation expense resulting from the use of backdating would be $223,527,075.39, which is also the amount that reported net income would be overstated due to backdating. By removing the effect of backdating when recognizing the expense, Apple Computer's income would fall from $786,000,000 to $115,000,000 as shown in Figure 4.

Figure 4: Effect of Steve Jobs' Backdated Stock Options on Apple Computer's Income Statement

Apple Computer			
Consolidated Statements of Operations for the fiscal year ended September 30, 2000			
(Dollars in millions)			
Steve Jobs			
	Original	**Restated under SFAS 123(R) with backdating**	**Restated under SFAS 123 (R) without backdating**
Net Sales	$7,983	$7,983	$7,983
Cost of Sales	5,817	5,817	5,817
Gross Margin	2,166	2,166	2,166
Operating expenses:			
Research and development	380	380	380
Selling, general, and administrative	1,166	1,613	1,837
Special charges:			
Executive bonus	90	90	90
Restructuring costs	8	8	8
In-process research and development	0	0	0
Total operating expenses	1,644	2,091	2,315
Operating income	522	75	(149)
Gains from sales of investment	367	367	367
Interest and other income, net	203	203	203
Total interest and other income, net	570	570	570
Income before provision for income taxes	1,092	645	421
Provision for income taxes	306	306	306
Net income	$786	$339	$115

Four top executives – 2001

In January of 2001, four unidentified top executives for Apple Computer were awarded eight million stock options as a form of compensation. Stated as being granted in January of 2001, the grant price of the options and the market price of the underlying stock at that time was around $8 per share. These options are suspected of being backdated due to the fact that the price of the stock rose dramatically, even by the end of the same month. By the end of January and the beginning of February, the stock price increased to $11 per share ("Perfect Payday: Options Scorecard"). If the executives chose to exercise their eight million options for $64,000,000, they could then sell them into the market for $88,000,000. These four top executives at Apple Computer would have made a profit of $24,000,000.

Since SFAS 123(R) was not put into effect until 2004, Apple Computer still used the intrinsic value method of recognizing compensation expense in their statement of operations. In other words, Apple Computer did not recognize any compensation expense since the options had the same grant price and current stock price at the reported time of grant. If the fair-value method for recognizing compensation expense had been used to measure the options' worth, the company would have to show compensation expense of $4.32 per share, or $34,578,909.78 for the eight million options. Recognizing the compensation expense would worsen the company's financial position by increasing their loss from $25,000,000 to $60,000,000.

The compensation expense of almost $35 million is calculated using the backdated grant and current stock price of $8 per share. While this deduction from net income is certainly much better than recognizing no compensation expense at all, the

amount of compensation expense could be much greater. In fact, if Apple Computer had calculated the compensation expense as if the grant date had been at the end of January or beginning of February, the fair value of each share would be $5.94. The total compensation expense to be recognized would be $47,546,000.95 and would be deducted from net income. The difference of $12,967,091.17 would be the amount by which net income would be overstated due to the backdating. This would change Apple Computer's financial bottom line from a $25,000,000 loss to a $73,000,000 loss. Figure 5 shows the changes in Apple's reported net income due to compensation expense related to employee stock options.

Figure 5: Effect of 4 Top Executives' Backdated stock Options on Apple Computer's Income Statement

Apple Computer			
Consolidated Statements of Operations for the fiscal year ended September 29, 2001			
(Dollars in millions)			
4 Top Executives			
	Original	Restated under SFAS 123(R) with backdating	Restated under SFAS 123 (R) without backdating
Net Sales	$5,363	$5,363	$5,363
Cost of Sales	4,128	4,128	4,128
Gross Margin	1,235	1,235	1,235
Operating expenses:			
Research and development	430	430	430
Selling, general, and administrative	1,138	1,173	1,186
Special Charges:			
Executive bonus	0	0	0
Restructuring costs	0	0	0
In-process research and development	11	11	11
Total operating expenses	1,579	1,614	1,627
Operating income (loss)	(344)	(379)	(392)
Gains on non-current investment, net	88	88	88
Unrealized loss on convertible securities	(13)	(13)	(13)
Interest and other income, net	217	217	217
Total interest and other income, net	292	292	292
Income (loss) before provision for income taxes	(52)	(87)	(100)
Provision for (benefit from) income taxes	(15)	(15)	(15)
Income (Loss) before accounting change	(37)	(72)	(85)
Cumulative effect of accounting change, net of income taxes of $5	12	12	12
Net income (loss)	($25)	($60)	($73)

As evidenced by the above examples, once these financial statements are corrected to record the actual grant date, these backdated stock options would have actually had value. The resulting compensation expense would then reduce the company's earnings. The effect of backdating produces material misstatements on the financial statements of companies. These misstatements lead to the requirement that the company restate its financial statements to correct the errors. Restatements are necessary to inform shareholders and the public of the changes.

This restatement will recast their financial statements to exhibit the proper accounting for the stock options. The following chart [Figure 6] produced by Thomas L. Porter, PhD, CPA reveals which amounts on the financial statements will change in a restatement for backdating.

Figure 6: Changes in Financial Statement Amounts Due to Restatement for Backdating

Financial Statement Item in the Vesting Period	Relative to the Amount Originally Reported, in a Restatement, the Amount of this Item in the Vesting Period will...	Why?
Compensation Expense	Increase	To reflect the intrinsic value of options on the measurement date.
Net Income	Decrease	The increase in compensation expense will decrease net income.
Number of shares outstanding	No change	No new shares are issued as a result of the restatement for backdating.
Paid-in-Capital	Increase	Option-related compensation expense increases paid-in-capital. Ultimately, this has the effect of permanently transferring retained earnings to paid-in-capital.
Retained earnings	Decrease	Because net income decreases in the restatement, retained earnings, which is the accumulation of undistributed earnings over time, will decrease.
Taxes paid	No change (but may increase in exercise period)	The amount of the deduction from taxable income for option-related compensation may be limited.
Earnings per Share	Decrease	Because net income decreases but the number of shares outstanding has remained unchanged, EPS will decrease.
Cash flow from operations	No Change (but may decrease in exercise period)	Option-related compensation expense is not paid in cash.

An Example of Previous Research

The majority of financial fraud stories reported in recent news involved financial statements that intentionally misled company stakeholders by inappropriately conveying the appearance of high earnings. Due to the number of companies forced by the government to restate their financial reports, there has been speculation on whether or not CEO stock option compensation may affect the company's financial statements' reliability. Four professors recently performed a study, "Do CEO Stock Options Prevent or Promote Fraudulent Financial Reporting?" in order to examine which activities performed by companies led to a restatement of their reports.

This study performed by Dr. Joseph P. O'Connor, Jr., Dr. Richard L. Priem, Dr. Joseph E. Coombs, and Dr. K. Matthew Gilley, was published in the September 1, 2005 issue of *Academy of Management Journal* and involved the testing of several hypotheses. The first hypothesis was divided into two sections. The first section dealt with the traditional agency theory which states that the awarding of compensation in the form of stock options aligns the goals of management with those of the shareholders. That is, management will not behave in a way that endangers the interests of shareholders in order to serve themselves. O'Connor et al stated six hypotheses. "Hypothesis 1a. The higher the value of a CEO's stock options, the lower the likelihood of fraudulent financial reporting." The second section of the first hypothesis supported the unprincipled agent theory which involves unprincipled managers who take advantage of opportunities from which they will benefit while the company and its shareholders will suffer. Thus, "Hypothesis 1b. The higher the value of a CEO's stock options, the higher the likelihood of fraudulent financial reporting."

The second hypothesis dealt with the topic of CEO power. The form of CEO power the study is referring to is CEO duality, which occurs when the CEO is simultaneously serving as the chair of the board of directors (BOD). "Hypothesis 2. The presence of CEO duality strengthens the association between the value of CEO stock options and the incidence of fraudulent financial reporting." This means that a company with CEO duality will either be more likely or less likely to have fraudulent financial statements than a company without CEO duality. Under the agency theory, CEO duality will make it easier to ensure that the interests of the company's stockholders are carried out. Under the unprincipled agent theory, however, there is a greater chance that CEO duality will result in fraudulent financial reporting in order to cover up self-serving activities.

The third hypothesis in the O'Connor study considered whether or not the board of directors received stock options as a part of their compensation. "Hypothesis 3. The presence of BOD stock options strengthens the association between the value of CEO stock options and the incidence of fraudulent financial reporting." Under the agency theory, the interests of the BOD would become more aligned with those of the shareholders. Therefore, the likelihood of fraudulent financial reports would be lessened. Yet, there would be a greater chance of fraudulent financial reports under the unprincipled agent viewpoint, where the BOD would be less likely to monitor the behavior of management because they would also use aggressive and sometimes unethical, accounting behavior in order to boost the price of the company's stock.

The fourth and final hypothesis considered the effect on financial reporting if both CEO duality and BOD stock option compensation occurred simultaneously. "Hypothesis

4. The simultaneous presence of CEO duality and BOD stock options strengthens even more the association between the value of CEO stock options and the incidence of fraudulent financial reporting, beyond the individual moderating effects." In other words, under the agency theory, the concurrent presence of CEO duality and BOD stock options, indicating power and influence respectively, would allow greater pursuit of shareholders' interests by the CEO while the BOD is more active in monitoring the actions of the CEO. Otherwise, the unprincipled agent theory states that under both conditions, the CEOs would pursue their own interests while the BOD would not interfere, and sometimes cooperate, also in order to pursue their own interests.

To test these hypotheses, the researchers used a matched-pairs analysis of firms. They first selected firms that had intentionally inflated their financial results on their financial statements and met all of the following criteria: 1) They had restated their financial accounts downward; 2) the misreporting of the financial statements was not related to any changes in accounting principles or to any non-financial matters; and 3) they only made restatements after they received pressure from federal or state regulatory agencies responding to perceived misconduct. Each of these firms was then matched to a firm that had not had to restate their financial reports. In deciding which firms to use in the matched pairs, eight matching variables were employed: firm independence, public ownership, U.S. citizenship, 1996-2004 time period, industry (4-digit SIC) classification, 1996-1999 average annual net sales, 1996-1999 average net income, and 1996-1999 average annual vesting period.

Through the use of the conditional logistic regression model, the researchers discovered some results that agreed with several of their hypotheses and some results that

disagreed with several of their hypotheses. With the CEO stock options odds ratio of 0.628, the agency theory was supported for the first hypothesis (The higher the value of a CEO's stock options, the lower the likelihood of fraudulent financial reporting) by suggesting a $1 million increase in options results in a 37.2 percent decrease in the likelihood of fraudulent financial reporting.

The results for the remaining hypotheses are more confusing, however. Increasing the amount of CEO stock options in order to lower the incidence of fraudulent financial reporting as prescribed in the agency theory is only true either when 1) CEO duality exists and the BOD receive stock options as part of their compensation, or 2) there is no CEO duality and the BOD does not receive any stock options. Under the unprincipled agent theory, increasing the amount of CEO stock options led to increased incidence of fraudulent financial reporting when 3) CEO duality exists while the BOD does not receive stock option compensation, or 4) there is no CEO duality but the BOD does receive stock options. The second finding supported the researchers' early prediction by producing the smallest likelihood of fraudulent financial reporting. However, the fourth finding went against the researchers' predictions by generating the greatest likelihood of fraudulent financial reporting when there was an increase in CEO stock options.

In addition to these findings, the researchers discovered that there is a negative relationship between the average annual number of audit committee meetings and the likelihood of fraudulent financial reporting. Therefore, by increasing the number of times the audit committee members meet to monitor management activities, the less likely the company will experience the occurrence of fraudulent financial reports. The age of the CEO is also negatively related to the likelihood of fraudulent financial reporting. This

finding supports earlier research dealing with the relationships of age to risk aversion and a lessening propensity toward criminality.

While the O'Connor et al. study is informative, it does not address the question of how the idea for backdating employee stock options migrates from one company to another. For CEO duality to have an effect on the likelihood of fraudulent financial reporting, the executives had to first discover the idea to backdate employee stock options. It seems unlikely that each executive brainstormed the idea independently.

The next section of the thesis describes research performed in an effort to uncover the effect of networking between executives in spreading the practice of backdating.

Research Methods

The first hypothesis examined in this study is that networking among executives and board members of corporations have spread the idea of backdating stock options. The second hypothesis is that some auditing firms are more likely than others to audit corporations accused of backdating stock options. The first hypothesis is addressed by selecting a group of companies accused of backdating stock options then collecting the names of each companies top executives and board members. The names were sorted to see if any appeared for more than one company. Similarly, to address the second question, the names of the corporation's auditor at the time of the alleged backdating were gathered and analyzed to see if any firm appeared an unexpected number of times.

Source of Data

In a 2006 issue of *Wall Street Journal*, the article "Perfect Payday: Options Scorecard" listed over 141 companies implicated in backdating stock options from 1994 to 2006. The *Wall Street Journal* further analyzed sixteen of those companies in order to

give more information on the suspected backdating. Charts were provided illustrating the stock price behavior prior to and subsequent to the reported date of grant. By studying these charts, it is apparent that the reported date of the stock option grant coincided with dates when the market price for the stock was uncharacteristically low.

For instance, Jeffrey Rich received a total of six stock option grants as the former Chief Executive Officer of Affiliated Computer Services. These six grants were made over a period of seven years on dates when the stock prices were substantially lower than the average market price. The odds of these favorable dates being chosen without deceit are about one in 300 billion ("Perfect Payday: Options Scorecard"). These options were more than likely backdated to provide benefits for both Rich and Affiliated Computer Services.

The sixteen companies selected for further analysis by the *Wall Street Journal* were used for this research. The more detailed information given surrounding the stock option grant dates suspected of being backdated was useful in gathering the data to investigate the key officers, board of directors, and auditors for these sixteen companies at those dates. The sixteen companies also provided a look at a variety of industries. The companies and their industries are listed in Figure 7.

Figure 7: Sixteen Companies Selected by the *Wall Street Journal* for In Depth Analysis for Backdating Stock Options

Company	SIC Code	Auditing Firm
Affiliated Computer Services, Inc.	7374	PricewaterhouseCoopers, LLP
Apollo Group, Inc.	8200	PricewaterhouseCoopers, LLP
Apple Computer, Inc.	3751	KPMG, LLP
Boston Communications Group, Inc.	4812	Ernst & Young, LLP
Brooks Automation, Inc.	3559	PricewaterhouseCoopers, LLP
Comverse Technology, Inc.	3661	Deloitte & Touche, LLP
Jabil Circuit, Inc.	3672	KPMG, LLP
KB Home	1531	Ernst & Young, LLP
KLA-Tencor Corp.	3827	PricewaterhouseCoopers, LLP
Meade Instruments Corp.	3827	PricewaterhouseCoopers, LLP
Monster Worldwide, Inc.	7311	BDO Seidman, LLP
Pixar	7812	KPMG, LLP
Renal Care Group, Inc.	8090	Ernst & Young, LLP
Trident Microsystems, Inc.	3674	PricewaterhouseCoopers, LLP
UnitedHealth Group, Inc.	6324	Arthur Andersen, LLP
Vitesse Semiconductor Corp.	3674	KPMG, LLP

The Securities and Exchange Commission uses the Standard Industrial Classification (SIC) code system to specify what industry a particular company belongs to. Administered by the Statistical Policy Division of the U.S. Office of Management and Budget, the system was established to classify all industries in the U.S. economy. A two-digit code designates each major industry group, and it is coupled with a second two-digit code representing subcategories ("What's a SIC Code?"). For the purpose of this research, it is not necessary to break down the companies according to subcategory. The selected companies represent ten different SIC categories. The category most common to companies suspected of backdating options grants is Electronic and Electrical Equipment & Components (Except Computer Equipment). This category contained four of the sixteen companies [Figure 8].

Figure 8: Selected Backdating Companies by Industry

SIC	Industry Description
15	**Building Construction – General Contractors & Operative Builders**
	KB Home
35	**Industrial and Commercial Machinery and Computer Equipment**
	Brooks Automation, Inc.
	Apple, Inc.
36	**Electronic, Electrical Equipment, & Components, Except Computer Equipment**
	Comverse Technology, Inc.
	Jabil Circuit, Inc.
	Trident Microsystems, Inc.
	Vitesse Semiconductor Corp.
38	**Mesr/Anlyz/Control Instruments; Photo/Med/Opt Goods; Watches/Clocks**
	KLA-Tencor Corporation
	Meade Instruments Corporation
48	**Communications**
	Boston Communications Group, Inc.
63	**Insurance Carriers**
	UnitedHealth Group, Inc.
73	**Business Services**
	Affiliated Computer Services, Inc.
	Monster Worldwide, Inc.
78	**Motion Pictures**
	Pixar
80	**Health Services**
	Renal Care Group, Inc.
82	**Educational Services**
	Apollo Group, Inc.

All sixteen are large publicly traded companies. Six companies are traded on the New York Stock Exchange, eight companies are traded on Nasdaq, and two companies are traded over-the-counter using Pink Sheets. The Securities and Exchange Commission requires that publicly traded companies have their financial statements audited by independent auditors. These financial statements, such as the annually issued Form 10-K, provide information concerning the financial position of the company and many of its activities, including their accounting methods for stock option grants [Figure 9].

Figure 9: Selected Backdating Companies by Trading Exchange

Company	Exchange System	Symbol
Apollo Group, Inc.	Nasdaq	APOL
Apple, Inc.	Nasdaq	AAPL
Boston Communications Group, Inc.	Nasdaq	BCGI
Brooks Automation, Inc.	Nasdaq	BRKS
KLA-Tencor Corporation	Nasdaq	KLAC
Meade Instruments Corporation	Nasdaq	MEAD
Monster Worldwide, Inc.	Nasdaq	MNST
Trident Microsystems, Inc.	Nasdaq	TRID
Affiliated Computer Services, Inc.	NYSE	ACS
Jabil Circuit, Inc.	NYSE	JBL
KB Home	NYSE	KBH
Pixar (The Walt Disney Company)	NYSE	DIS
Renal Care Group, Inc. (Fresenius Medical Care)	NYSE	FMS
UnitedHealth Group, Inc.	NYSE	UNH
Comverse Technology, Inc.	Pink Sheets (OTC)	CMVT.PK
Vitesse Semiconductor Corporation	Pink Sheets (OTC)	VTSS.PK

Form 10-Ks for each of the sixteen companies were acquired for the years of backdating from the United States Securities and Exchange Commission's EDGAR database. The Form 10-Ks contain the names of the top executives, board member and audit firms for the sixteen companies. The search yielded a total of 136 executives, 146 board members and six unique auditing firms.

Findings

From the information collected from the Form 10-Ks, there are two instances of overlap between companies. Stephen P. Jobs served as the CEO and as a member of the Board of Directors for both Apple Computer and Pixar Animation Studios. James A. Johnson served on the Board of Directors for KB Home and UnitedHealth Group, Inc. PricewaterhouseCoopers, LLP was the accounting firm responsible for auditing six of the sixteen companies. KPMG, LLP was responsible for four of the sixteen companies. Figure 10 shows the percentage of companies suspected of backdating per audit firm, and Figure 11 lists the companies audited by each audit firm.

Figure 10

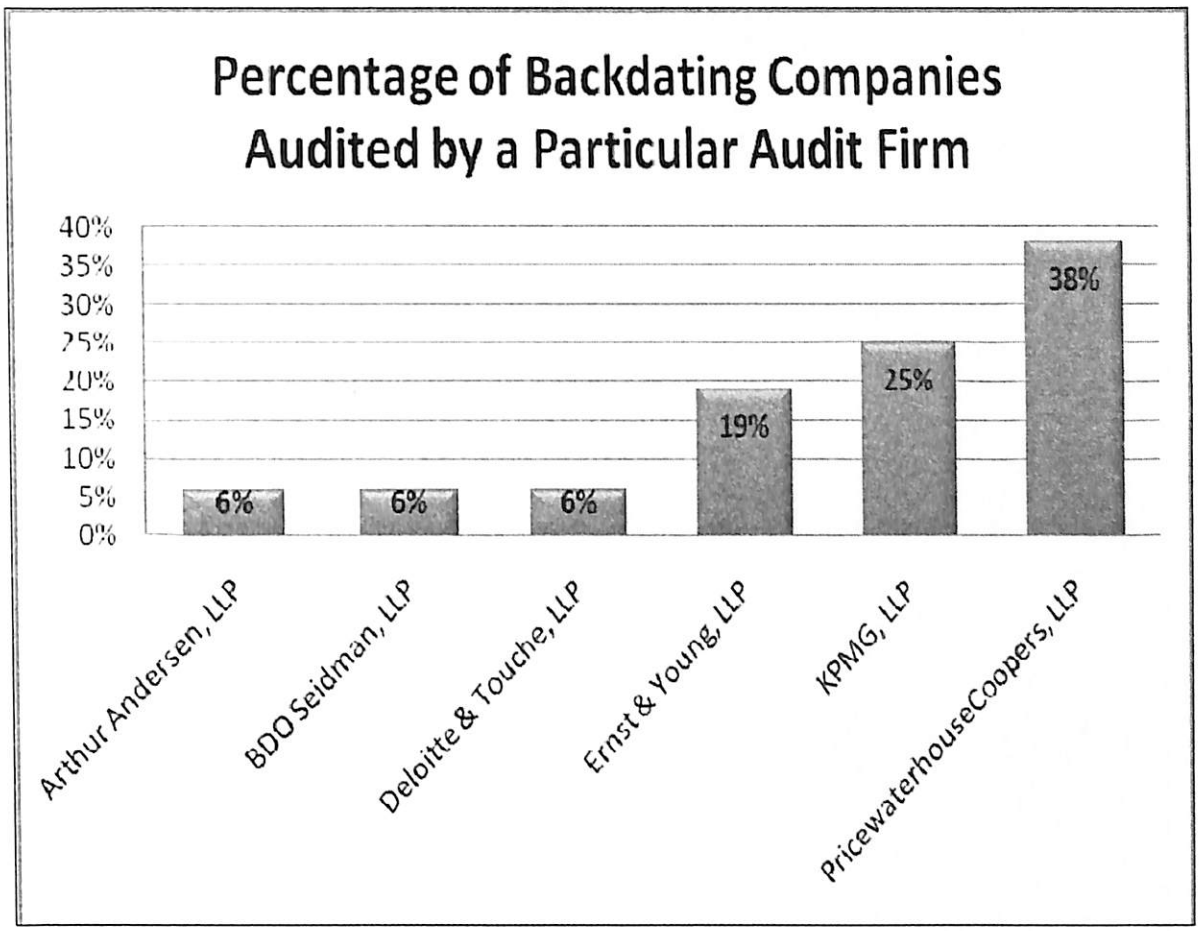

Percentage of Backdating Companies Audited by a Particular Audit Firm
40%
35%
30%
25%
20%
15%
10%
5%
0%
6%
6%
6%
19%
25%
38%
Arthur Andersen, LLP
BDO Seidman, LLP
Deloitte & Touche, LLP
Ernst & Young, LLP
KPMG, LLP
PricewaterhouseCoopers, LLP

Figure 11: Auditors of Selected Backdating Companies

Arthur Andersen, LLP
UnitedHealth Group, Inc.
BDO Seidman, LLP
Monster Worldwide, Inc.
Deloitte & Touche, LLP
Comverse Technology, Inc.
Ernst & Young, LLP
Boston Communication Group, Inc.
KB Home
Renal Care Group, Inc.
KPMG, LLP
Apple Computer, Inc.
Jabil Circuit, Inc.
Pixar
Vitesse Semiconductor Corp.
PricewaterhouseCoopers, LLP
Affiliated Computer Services, Inc.
Apollo Group, Inc.
Brooks Automation, Inc.
KLA-Tencor Corp.
Meade Instruments Corp.
Trident Microsystems, Inc.

Based on the research conducted, it is not apparent that there is much networking between companies concerning the treatment of stock options. With only two instances of dual roles where the same person is involved with multiple companies, the conclusion of this study is that the practice of backdating stock options is not due to the idea being carried from one company to another through a network of overlapping executives and directors.

The finding that PricewaterhouseCoopers, LLP was responsible for the audits of six of the sixteen companies (38%) in the sample suspected of backdating is not

conclusive evidence that the firm may have been the source of the client's backdating idea.

Summary and Conclusions

This research addressed the question of whether the idea for backdating stock options is due to networking between executives and directors of different companies. If one person acted as the Chief Financial Officer of one company that backdated its stock options, he may spread the idea to another company for which he served on the board of directors. This research also investigated whether one particular auditing firm was more likely than others to serve clients later accused of inappropriately backdating stock option grants to key employees.

Stock options are important because they are one of a corporation's most popular forms of compensation for key employees. Their popularity arises from the stock options replacement of more costly forms of compensation such as cash bonuses, permanent salary increases, and expensive postretirement benefits. Corporations also use stock options in hopes of better aligning the goals of employees with those of stockholders. Since employee stock options can have a major impact on reported net income, corporations should be sure to follow the guidelines set for proper accounting treatment.

The benefits of granting stock options have been abused by the practice of backdating. When a corporation grants stock options but alters the grant date to coincide with a time period when the market price of the underlying stock was lowest, the corporation and employee both benefit; the corporation reports a lower amount of compensation expense, and the employee can receive a larger gain upon exercise of the options. As the practice of backdating has become more prevalent among companies, the

Securities and Exchange Commission has become more involved in regulating the use of stock options and investigating companies suspected of backdating.

This study was conducted to discover whether an executive or board member of one company that practiced backdating was responsible for spreading the idea of backdating to other companies he or she served. After selecting a sample of companies under investigation by the Securities and Exchange Commission for backdating stock options, the names of executives, board members, and auditing firms were collected from the companies' Form 10-Ks. These names were sorted to find if there were any instances of one person being employed by more than one company suspected of backdating.

After analyzing the list of 136 executives, 146 board members and six unique auditing firms, it was discovered that there were two instances where an executive or board member served two different companies. The research also found that PricewaterhouseCoopers, LLP was the auditing firm responsible for the financial statement audit of six of the sixteen companies (37.5%). The auditing firm with the next highest number of companies in the sample was KPMG, LLP with four of the sixteen companies (25%).

The information yielded by this research is not conclusive evidence that the prevalent use of backdating stock options is due to the actions of one or two executives. By finding only two instances where one employee served two companies suspected of backdating, it does not appear that the backdating virus spread from one particular source to infect numerous companies. The finding that PricewaterhouseCoopers, LLP was the independent auditor for more of the companies in the sample than any other audit firm

also cannot be linked to the conclusion that the auditing firm carried the backdating idea to its clients.

Limitations and Suggested Future Research

There were several limitations in conducting this research. Firstly, the sample used in conducting the study was very limited. If the sample was broadened to include more companies, the research may have resulted with findings contradictory to these. Secondly, the companies used in this study were from a very wide variety of industries. More conclusive evidence might be found by selecting a sample of companies from a single industry. Finally, the way this research was conducted will not necessarily prove that the spread of backdating is not the result of an executive of one company telling another company he serves to do the same. More covert cases of networking and collusion happen in which the idea is spread without the person actually serving the other company. An executive may just tell a group of friends about backdating, and the friends take the idea to each of the companies they are employed by. There will be little to no evidence to support this suspicion, but this may be the real reason for the spread of backdating.

The limitations stated above should be taken into consideration when conducting further research into this subject. By encompassing a greater number of companies focused in one industry, there could be very different results. Another suggestion for further research is to investigate the steps that the Securities and Exchange Commission takes to regulate the practice of granting stock options. For instance, one proposal is for companies to select certain dates to grant stock options to employees. These dates should

be recorded in the company's bylaws, and the company will not be allowed to make grants on dates other than those specified by the bylaws.

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