A Report

of The Heritage Center

for Data Analysis

EXPENSING EMPLOYEE
STOCK OPTIONS:
LIFTING THE FOG

NORBERT J. MICHEL AND
PAUL GARWOOD

The Heritage Foundation

214 Massachusetts Avenue, NE • Washington, D.C. 20002 • (202) 546-4400 • www.heritage.org

EXPENSING EMPLOYEE STOCK OPTIONS: LIFTING THE FOG

NORBERT J. MICHEL AND PAUL GARWOOD[1]

The accounting rules for employee stock options have received a great deal of attention in the press throughout the past several months. Those in favor of expensing the options—something not currently required by the Financial Accounting Standards Board (FASB)—argue that options are a form of compensation and therefore should be expensed.

Some argue that because options were not expensed, stock prices were artificially high and contributed to the recently burst "bubble" in the market. They argue that these artificially high stock prices "spawned Enron, WorldCom, and a hundred more corporate debacles like them that have yet to even surface…."[2] In response to such concerns, Senators John McCain (R–AZ) and Carl Levin (D–MI) have sponsored S. 1940, which would require companies to expense stock options or forfeit their tax deduction.

Critics of mandated expensing of employee stock options (for the most part, companies in the technology sector) argue that expensing the options will depress earnings and thus make it more difficult to raise capital and retain employees. This paper argues that both opponents and advocates of the proposal have ignored important issues that underlie employee stock option accounting and that Congress should not be micromanaging corporations' accounting practices. Additionally, the paper presents statistical evidence that, provided there is full disclosure, the market is indifferent to the accounting rules for employee stock options.

Consideration of expensing stock options should take into account the following facts.

- **There have been virtually no rigorous studies of the relevance of this accounting rule.** There are two explicit costs of employee stock options: the cost of acquiring the shares that will be granted and the cost associated with diluting the shares of existing shareholders. Since both of these costs are accounted for on corporations' financial statements, mandating that the options be expensed appears unnecessary. In spite of the enormous amount of media attention recently given to this issue, we have found no empirical studies that directly test for the relevance of the proposed employee stock option accounting rules.

- **Investors appear indifferent to the accounting rule for stock options.** Our analysis suggests that, provided there is

2. Christopher Byron, *MSNBC.com*, July 17, 2002, at *http://www.msnbc.com/modules/exports/ct_email.asp?/news/ 781188.asp*. If this link is no longer active, the article can be obtained from the authors.

adequate disclosure, the choice of accounting methods for employee stock options is irrelevant to investors. Using six separate announcement dates, all of which contained important information regarding the status of the proposed accounting rules, our tests indicate that the market is not concerned with which rule—the *fair value* method or the *intrinsic value* method—is chosen.

- **Expensing may actually increase the use of employee stock options.** It is possible that forcing companies to expense their employee stock options could lead to an increase in their usage. Profitable firms with lower amounts of employee stock options outstanding would be able to reduce their taxes more easily. For the expensing requirement to curb option use, at least two conditions must be present. First, the market would have to be incapable of determining how many options firms had previously granted under the old rules. Second, investors would have to be incapable of distinguishing between cash and non-cash expenses. Our study provides evidence that neither of these conditions exists.

HISTORY OF THE ISSUE

The question of whether or not to expense employee stock options has been debated since the early 1970s. In 1972, the Accounting Principles Board (APB) adopted an accounting method — APB No. 25—that did not require option expensing and is still used today. The main reason that APB No. 25 did not require option expensing was that a reasonable method of valuing the options did not exist.[3] In 1973, a model that still serves as one of the most widely used methods for valuing *traded* stock options—the Black–Scholes model—was published in the *Journal of Political Economy.*[4]

Through the years, the Black–Scholes model and a number of other models have attracted increased attention with a rise in the use of employee stock options.

Companies began issuing employee stock options to their top executives more frequently in the mid- to late 1970s; by the early 1990s, many were actively issuing employee stock options to rank-and-file employees as well. By June 30, 1993, the use of employee stock options had become so widespread[5] that the Financial Accounting Standards Board issued a proposed rule requiring that employee stock options be expensed.

That proposal created a storm of debate and congressional lobbying that ultimately forced the FASB to rescind the proposed rule in late 1994. During this debate, as has been the case recently, the typical arguments in favor of expensing centered on the abuse of options and the exploitation of tax loopholes. In 1994, Senator Carl Levin introduced a bill that was designed to curb the use of employee stock options.[6]

Politicians are now using concerns regarding recent corporate scandals to renew the attack on employee stock options. In a recent speech on the Senate floor, Senator Levin, co-sponsor of S. 1940, claimed that options were "a driving force behind management decisions at Enron that focused on increasing Enron's stock price rather than the solid growth of the company."[7]

A spectrum of opinions have now been issued on this matter. Some have argued that options should be expensed because they would otherwise be a cost that companies could hide. Others have argued that they should not be expensed because doing so would lead to artificially depressed earnings. Still others have linked employee stock options directly to corporate scandals at Enron and other firms.

---

3. In fact, a widely accepted model to evaluate *any* type of options did not exist. In the early 1970s, standard put-and-call options, which are different from employee stock options, were not heavily traded.

4. Fischer Black and Myron Scholes, "The Pricing of Options and Corporate Liabilities," *The Journal of Political Economy,* Vol. 81, Issue 3 (1973), pp. 637–654.

5. The upward trend in issuing these options seems to have continued. According to Bear Sterns, the number of options granted by the firms in the S&P 500 in 2001 was nearly 7.5 billion, an increase of nearly 50 percent from the level granted in 1998. See Bear Sterns, "Accounting Issues" report, *Employee Stock Option Expense, Is the Time Right For Change?* July 2002.

6. This bill was defeated in the Senate by a vote of 88–9.

7. T. J. Rodgers, "Options Aren't Optional in Silicon Valley," *The Wall Street Journal*, March 4, 2002, p. A14.

Amid this debate, the public can easily be confused about the value or dangers of employee stock options—especially given the technical nature of the accounting rules. In reality, employee stock options are simply a cost-effective way to compensate employees. Rather than formulating policies on the basis of largely untested notions,[8] it would be better to conduct a careful examination of how employee stock options function.

HOW EMPLOYEE STOCK OPTIONS WORK

The two key dates involved in analyzing the effect of an option on an employee's income are its *grant date* and its *exercise date*. The grant date is the date the option is awarded to the employee. The exercise date is the date the employee can exercise the right to "use" the option.

Consider, for example, the following scenario. On January 1, company ABC grants an employee an option to buy one share of the company's stock. This option has a term of five years and an exercise price of $20. That is, on December 31, five years later, the employee may exercise the option to buy one share of company ABC's stock for $20. If, at the exercise date, the company's stock is selling on the market for less than $20, the employee can simply allow the option to expire.

On the other hand, if the stock is selling for more than $20, the employee can make a "profit." For example, if the company's stock is selling for $30, the employee can buy a share for $20 and sell it for $30, thus gaining $10 in income. Even though nearly all employee stock option plans prohibit the employee from selling these shares for at least several years, the Internal Revenue Service requires the employee to pay taxes on the gain at the exercise date.

Since the firm has given the employee a form of compensation, it is allowed to take a tax deduction on the employee's gain—just as it would for normal salary expenses.[9] However, the source of this compensation is very different from normal wages and consequently has contributed to the spread of misinformation in the media. The stock that is awarded to the employee can either be purchased on the open market or taken out of treasury stock.[10] Treasury stock can be thought of as a "vault" where the firm holds shares of its own stock.

When the source of the option shares is the open market, the only cost to the firm is the cost of buying those shares—a cost that is accounted for in the body of the financial statements. In this case, since the number of shares on the market remains unchanged, there is no additional cost to the existing shareholders. Alternatively, when the source of the option shares is "the vault," there is an additional cost to the existing shareholders: The total number of shares on the market has been increased, thus diluting the value of each existing share.

When the options are *granted*, this cost is clearly identified in the diluted earnings per share (EPS) figure; any amount of earnings is now divided among a larger number of shares. For example, if a firm has $100,000 in earnings and has 10,000 shares outstanding, its EPS is $10. However, should the firm grant an additional 1,000 shares for options, its diluted EPS would drop to just over $9 ($100,000/11,000).

While granting employee options does not entail any other *explicit* cost to a firm, some have argued that the *implicit* cost of issuing these options requires that they be expensed.[11] To evaluate this argument, it is helpful to examine the dif-

---

8. While several accounting rules have been shown to be irrelevant to investors, very little work has been done on the rules for employee stock options. For information on other accounting rules that have been deemed irrelevant to the market, provided there is full disclosure, see R. S. Kaplan and R. Roll, "Investor Evaluation of Accounting Information: Some Empirical Evidence," *Journal of Business*, Vol. 45, April 1972.

9. According to Bear Sterns, the firms in the S&P 500 reported just under $80 billion in pre-tax option expenses in 2001, with the technology sector accounting for nearly half of the total. See Bear Sterns, *Employee Stock Option Expense*.

10. The shares could also come from "authorized but un-issued shares." When a company issues new equity, it frequently holds some of the new shares in reserve rather than placing all the shares on the market. Granting these shares for the options has the same effect as granting shares from treasury stock—*additional* shares are put on the market.

11. See Zvi Bodie, Robert Kaplan, and Robert Merton, "Options Should Be Reflected in the Bottom Line," *The Wall Street Journal*, August 1, 2002, p. A12.

ference between accounting profit and economic profit.

ACCOUNTING PROFIT *VS.* ECONOMIC PROFIT

The key difference between economic profit and accounting profit is that only economic profit measures *opportunity costs*. One of the best-known examples of an opportunity cost is the cost of equity capital.[12] While equity capital cost does not appear on a company's balance sheet, investors use information in the market to estimate this cost.

To demonstrate how equity capital cost differs from accounting cost, assume that an entrepreneur wishes to open a bakery and wants to use her savings ($50,000) for the start-up costs. These savings are in a mutual fund earning 10 percent interest per year. The entrepreneur uses her savings to start the bakery and after one year has an income statement showing an accounting profit (Net Income) of $1,000.[13] However, from an economic standpoint, the baker has lost $4,000, given that if she had simply kept her savings in the mutual fund, she would have earned $5,000. Thus, when this opportunity cost—the cost of taking the money out of the mutual fund—is taken into account, the baker actually lost money, but this opportunity cost will not show up on an accountant's report.

While the opportunity cost is easy to identify in the above example, this sort of clarity is often not present in the finances of a publicly traded corporation, where capital flows in from various sources and out through various uses. Aside from subjectivity problems, it would be counterproductive to measure opportunity costs on accounting statements since such costs could be construed for any and all expenditures. For example, this would mean that when a cash bonus is paid to an employee, rather than accounting for only the salary expense, the firm would also have to account

for losses measured in terms of a forgone alternative use of that cash. If all publicly traded companies reported their costs in this manner, it would be nearly impossible to make relevant comparisons between companies' earnings.

Nonetheless, it is sometimes argued that, since the options *could have been* sold in the market, these costs should be *expensed* on the income statement. Following this logic, all income statement expenses would have to be adjusted for their opportunity costs, and the net result would be counter to the goal of having uniform accounting principles.[14]

Therefore, those opposed to expensing these options have legitimate concerns. Counter to their lobbying efforts in the past, however, many large corporations have recently announced that they would start expensing their employee stock options. To understand this contradictory behavior, it is helpful to examine the exact nature of the accounting methods for employee stock options.

OVERVIEW OF THE ACCOUNTING RULES

Currently, the Financial Accounting Standards Board allows companies to choose which of two accounting methods they would prefer to use—the *fair value* method (FAS No. 123) or the *intrinsic value* method (APB No. 25). Under the intrinsic value method, which most companies use,[15] the options are not reported as an expense on the income statement. Instead, a footnote disclosure is made that includes options granted, exercised, and outstanding, as well as restated earnings (i.e., restated as if the options had been expensed). Additionally, diluted per-share figures (as described above) are listed on the income statement, and any tax benefits at the exercise date are reported on the income statement and the cash flow statement.

---

12. The cost of equity capital is the return that investors require on their equity investment. Unlike the cost of debt capital (i.e., the interest paid on debt), there is no explicit cost for equity capital.

13. We can assume that there are no non-cash expenses, so that the net income is equal to the net cash flow.

14. Incidentally, the next best alternative forgone (i.e., the opportunity cost) for employee stock options would not be selling the options on the market; it would be the cost of paying the worker with cash. Absent perfect knowledge and risk neutrality, this amount is sure to vary from the estimated value of the options—yet another reason accounting statements should not include these costs.

15. Bear Sterns, *Employee Stock Option Expense*.

In contrast, under the fair value method, options are reported as a compensation expense. At their grant date, options are valued using an approved valuation model, typically the Black–Scholes model.[16] This formula is one of the most complex in finance and includes the following variables: the current price of the stock, the exercise price of the option, an assumed risk-free rate of return, the volatility of the stock's returns, and the time to expiration. Even in the absence of malicious behavior, because varying assumptions can be made as to the time to expiration[17] and the stock's volatility, reported Black–Scholes option values for different firms will be to some extent incomparable. Nonetheless, this value is then amortized over the estimated term of the option.

For each year, the annualized portion is charged to compensation expense with a corresponding credit to equity. But this expense is a non-cash expense and is added back to net income to arrive at the firm's net cash flow. Since the true value of the option will not be known until the exercise date, an accounting mechanism is needed to correct for any differences in the estimated and actual values. To allow for this discrepancy, the company accrues a deferred tax asset throughout the term of the option. If the option value turns out to be different from the originally estimated value, the accounts are adjusted accordingly.

Clearly, the fair value method has the potential to make financial statements less transparent in the sense that additional adjustments will be needed to arrive at the "true" earnings figure. Not only do all of the option valuation models contain elements of subjectivity, but the typical variation in any firm's stock price all but guarantees that some sort of earnings adjustment will be needed at the exercise date.

In any event, the firm benefits because it can reduce its taxable income sooner rather than later. When a firm grants an option with a five-year term, rather than waiting for five years for a tax benefit, it can reduce its taxable income immediately. Even better, if the stock price at the begin-

ning of year five increases the likelihood that the firm's tax benefit will be smaller than originally estimated, the firm can issue more employee stock options. In essence, expensing employee stock options gives firms another way to shield income from being taxed.

While the term "shielding income" may sound complicated, it is really just another way of saying that the firm is able to hold on to more of its cash. It is entirely possible, therefore, that the proposed rule to mandate expensing options would increase rather than curb the use of employee stock options. For the expensing requirement to curb option use—as many in the technology sector argue it would—the market would have to be incapable of determining the number of options issued by firms and of distinguishing between cash and non-cash expenses.

This leads to interesting empirical questions: whether the market already values these options and, correspondingly, whether the accounting treatment chosen (FAS No. 123 vs. APB No. 25) matters to investors. To begin to answer these questions, we conducted the study described below.

METHODOLOGY

Using Eventus®, an event study software, we employed an event study methodology to examine the abnormal returns around several dates related to employee stock option expensing. Abnormal returns were estimated using two models: the *Market Model*, where returns follow a single-factor market model, and the *Market Adjusted Returns Model*. The formal statements of these models are as follows:

Model 1 – *Market Model*

$R_{jt} = \alpha_j + \beta_j R_{mt} + \varepsilon_{jt}$
Abnormal return $A_{jt} = R_{jt} - [\alpha_j + \beta_j R_{mt}]$

Model 2 – *Market Adjusted Returns*

$A_{jt} = R_{jt} - R_{mt}$

---

16. According to FAS No. 123, any method can be used to value the options as long as it "takes into account…the exercise price and expected life of the option, the current price of the underlying stock and its expected volatility, expected dividends on the stock and the risk-free interest rate…." See FAS No. 123, paragraph 19.

17. There are varying assumptions about time to expiration. In practice, nearly all employee stock options are exercisable over a range of years.

Model 1 calculates the return of each stock j at each time t, R_{jt}, using an Ordinary Least Squares regression (OLS). Under the OLS procedure, stock j's return at time t is equal to some constant, α_j, plus the return of the market at time t, R_{mt}, and an error term, ε_{jt}. The return on the market uses stock j's beta, β, as the single factor (beta is a measure of the stock's risk). The model then uses the error term, ε_{jt}, to represent the abnormal return for each stock j at each time t, A_{jt}.

As an alternate specification, Model 2 calculates abnormal returns as the return of each stock j at each time t, R_{jt}, less the return of the market at each time t R_{mt}. In both models, Eventus® uses the value-weighted index from the Center for Research in Security Prices (CRSP) as a market proxy (this index consists of firms in CRSP with usable returns, weighted by their market value).

Using standard event-study methodology, statistically significant[18] cumulative average abnormal returns (CAAR) indicate a "response" to an event. The CAAR is measured as follows:

$$CARR_{T1,T2} = \tfrac{1}{n} \sum_{j-1}^{n} \sum_{T1}^{T2} A_{jt}$$

This measure simply sums the abnormal returns for each stock for a given time period. This time period is called the "event window," referring to a period of time around each announcement date. For example, a –5/+5 event window examines abnormal returns for each stock in the sample from five days prior to the announcement date through five days after the announcement date, with "day zero" being the event/announcement date. Over any given event window, a positive CAAR for a sample of firms (at a significance level of at least 90 percent) is taken to indicate a favorable response to an event for those firms, while a negative CARR (at a 90 percent significance level) would be viewed as a negative response to an event.[19]

To begin, we examined responses for windows around the dates of two formal FASB announcements: June 30, 1993, when the FASB issued a proposed rule requiring employee stock options to be expensed, and December 14, 1994, when it withdrew the proposed rule.

Since it is possible that the information in the FASB announcements was public prior to the official announcements, we performed a Westlaw search for *Wall Street Journal* (*WSJ*) articles from January 1, 1991, to December 14, 1994, using the search string "'stock option' and expense."[20] This Westlaw search revealed several news stories that could have contributed to the information in the FASB announcements' being public prior to the official announcement dates.

On February 5, 1993, the *WSJ* reported that the Business Roundtable was trying to derail the proposal to expense employee stock options. In this same article, it was reported that the Business Roundtable sent a private letter to the FASB on January 18, 1993, urging that the proposal to expense options be modified. No other stories were found between January 1, 1991, and June 30, 1993. On April 22, 1994, the *WSJ* reported that the FASB was likely to postpone its expensing proposal for at least one year. Finally, on July 6, 1995, it was reported that, pending a meeting one week later, the FASB would require a footnote dis-

---

18. Statistical significance refers to the probability that a hypothesis is rejected when it is actually true (this is referred to as a *Type I error*). Typically, the significance level is set at 0.05 or 0.01, which means that the probability of a Type I error occurring is 5 percent or 1 percent, respectively. It is common, as in the results discussed below, to use the complement of the significance level. For example, reporting that a hypothesis is rejected, at the 95 percent level of significance, means that there is a 95 percent probability that a Type I error was not made.

19. Eventus® uses a *t*-statistic to test for significant abnormal returns. Basically, this sort of test checks to see whether the difference between the mean returns for the sample and the market index (during the event window) is statistically significant. Using the terminology in note 18, a statistically significant difference between the mean return of the sample and of the market, at the 90 percent level, is synonymous with rejecting the hypothesis that the returns are the same. The 90 percent significance level indicates there is a 90 percent probability that a Type I error has not occurred (that the mean returns are the same). For more information on the *t*-statistic, see Edwin Mansfield, *Statistics for Business and Economics*, 5th Edition (New York: W. W. Norton, 1994), Chapter 9.

20. *Wall Street Journal* articles were used because the *Journal* is one of the most widely read financial newspapers in the United States. While it is possible that an important announcement related to these accounting rules could have been omitted from the *Journal*, it is reasonable to assume that all major announcements were in this publication.

closure that restated earnings as if employee stock options had been expensed.

Table 1 provides a summary of all the dates studied.[21]

Table 1		CDA02-06

Announcement Dates

Date 1	6/30/1993	FASB issues proposal to expense options
Date 2	12/14/1994	FASB rescinds proposed rule
Date 3	4/22/1994	FASB likely to postpone decision for one year
Date 4	2/5/1993	Business Roundtable publicly against proposal
Date 5	1/18/1993	Business Roundtable sends private letter
Date 6	7/6/1995	FASB requires footnote disclosure

Since the true cost of employee stock options is the dilution of the value of existing shares, our samples are based on a measure of potential dilution. Using Standard and Poor's Compustat Database of North American publicly traded companies, we measured the ratio of "common shares reserved for conversion—stock options" (item #215) to common shares outstanding.[22] This ratio serves as a proxy for the maximum potential dilution faced by shareholders.

Our initial samples consisted of all the firms in Compustat for which this ratio was available in 1992, 1993, and 1994, respectively. We then divided the full sample of each year into quartiles based on the ratio. Therefore, the highest quartiles for each year consist of the firms with the most stock options (relative to common stock outstanding) and are the most likely to be affected by the proposed FASB rules.

If option expensing is extremely important, there should be significant differences between the responses of the firms with the highest ratio and those with the lowest. To investigate their responses, for each of the six dates above, we performed event studies on the full samples as well as on the four quartiles of each sample.[23] While our sample sizes vary, the full samples for each announcement date are all over 2,500 firms. (Each sample size, along with descriptive statistics, is listed in Table 2.)[24]

We used 1992 year-end data for the 1993 announcement dates, 1993 year-end data for the 1994 announcement dates, and 1994 year-end data for the 1995 announcement date. The hypotheses tested are explained in the next section, and the subsequent section discusses the results from measuring the CAAR for five days prior to and for five days after each announcement date in Table 1.[25]

---

21. The citations for the articles from which the event dates were taken are as follows: Lee Berton, "FASB Is Likely to Postpone Requiring Stock Option Deduction From Earnings," *The Wall Street Journal*, April 22, 1994, p. A2; Lee Berton, "Business Chiefs Try to Derail Proposal on Stock Options," *The Wall Street Journal*, February 5, 1993, p. A2; and Roger Lowenstein, "The Cost of Employee Stock Options, Now Hidden, Might Earn a Footnote," *The Wall Street Journal*, July 6, 1995, p. C1. It should be noted that all four of the tables included herein are based on data developed by the tests explained in this paper.

22. The listing for item #215 is as follows: "This item represents shares reserved for stock options outstanding as of year-end plus options that are available for future grants. Prior to August 22, 1996, this item included: (1) Shares subject to shareholder approval, and (2) Stock appreciation rights attached to or associated with stock options. This item is not available for banks, utilities or property and casualty companies." Because item #215 is not collected for these sectors, they are omitted from our samples.

23. Each quartile consists of 25 percent of the sample, based on the ratio measure, less any firms for which CRSP could not find usable returns.

24. The quartile sample sizes vary because of unavailable stock returns in CRSP.

25. While Table 4 includes the results from 30-day and 60-day windows, these results are not discussed in the paper. According to standard methodology, using the wider event windows increases the probability of measuring a response to another event. For the sake of completeness, however, the tests were run using these windows as well. Even when the larger event windows are used, over 60 percent of the measured responses, for both the CARR and the announcement dates, are statistically insignificant.

| Table 2 | | | | | | | CDA02-06 |

Sample Sizes and Descriptives

	n	Mean	Median		n	Mean	Median
Date 1				**Date 2**			
FS	2666	0.12075	0.07953	FS	2749	0.10504	0.08442
HQ	645	0.30944	0.18774	HQ	683	0.23090	0.19585
LQ	628	0.01262	0.00667	LQ	688	0.01518	0.01108
UMQ	695	0.10546	0.10339	UMQ	683	0.11072	0.10911
LMQ	698	0.05916	0.05925	LMQ	689	0.06433	0.06509
Date 3				**Date 4**			
FS	2540	0.12064	0.07947	FS	2551	0.12170	0.07802
HQ	598	0.30465	0.18815	HQ	602	0.30590	0.18897
LQ	590	0.01253	0.00541	LQ	593	0.01252	0.00531
UMQ	671	0.10545	0.10339	UMQ	674	0.10542	0.10339
LMQ	681	0.05913	0.05910	LMQ	682	0.05915	0.05920
Date 5				**Date 6**			
FS	2776	0.12074	0.07953	FS	2701	0.10488	0.08417
HQ	694	0.31617	0.18774	HQ	669	0.23120	0.19626
LQ	692	0.01258	0.00584	LQ	671	0.01525	0.01108
UMQ	696	0.10553	0.10368	UMQ	678	0.11060	0.10889
LMQ	695	0.05919	0.05918	LMQ	672	0.06435	0.06509

FS = full sample   HQ = highest quartile   LQ = lowest quartile

LMQ = lower middle quartile   UMQ = upper middle quartile   n = sample size

Mean and Median is reported for the ratio of shares in reserve (#215) to common shares outstanding.

HYPOTHESES

Using the event-study methodology discussed above, there are several hypotheses that can be tested. These hypotheses and the responses providing support for or evidence against each one are as follows.

HYPOTHESIS 1: The market wants employee stock options to be expensed. Support for this hypothesis would be in the form of a positive response on Date 1 and, generally speaking, negative responses on Dates 2 through 6. Announcement Dates 3 and 4, both of which preceded the official FASB announcement on Date 1, introduce a source of ambiguity.

For instance, the information contained in Date 3 and Date 4 clearly shows that there was some public knowledge of the FASB's intention to propose a rule requiring options to be expensed. One view is that the signs of any responses on Date 3 and Date 4 should match the signs of a response on Date 1. This view holds that all three dates "announce" that FASB is considering the expensing proposal.

Alternatively, the information in Date 3 and Date 4 could be viewed as "announcing" that the expensing proposal is going to meet stiff resistance and, in all likelihood, will not go into effect. In this case, the signs on any responses of Dates 3 and 4 would be opposite of the sign of any response on Date 1. Since resistance to the proposed rule was clearly evident before the official announcement of the rule, and since the rule did not go into effect, we have taken the latter view.

Date 6 entails elements of vagueness. Most important, there is additional information in the formal announcement issued on this date, including the details of requiring a new footnote disclosure. Since it lowered information costs surrounding employee stock options, this new disclosure rule would have been likely to elicit a positive response around Date 6. Other issues surrounding Date 6 will be discussed below in the results section.

HYPOTHESIS 2: The market does not want employee stock options to be expensed. Support for this hypothesis would take the form of a negative response on Date 1 and positive responses on Date 2 through Date 6.

HYPOTHESIS 3: The market is indifferent to this accounting rule. Support for this hypothesis would be indicated if responses to most of the dates in Table 1 are found to be statistically insignificant.

RESULTS

On the full sample of 2,666 firms for June 30, 1993 (Date 1), when the Financial Accounting Standards Board formally announced the proposed rule requiring employee stock options to be expensed, both models show no statistically significant response. The results for the quartiles around Date 1 are similar.

In both Model 1 and Model 2, there was no significant response to the announcement in the highest, upper-middle, and lower-middle quartiles. For the lowest quartile, Model 1 found a positive 1.76 percent response at the 90 percent level, and Model 2 showed no significant response. These results provide some evidence for Hypothesis 3: that the market is indifferent toward the accounting rule. However, since a *WSJ* article on February 5, 1993, indicated that the Business Roundtable was trying to derail the FASB's expensing proposal, it is possible that the information contained in the Date 1 announcement was already valued in the market (as discussed above).

The results regarding February 5, 1993 (Date 4), are similar to those for Date 1. For the full sample of 2,551 firms for Date 4, as well as for all of the quartiles, both models show no significant response. These results appear to favor Hypothesis

3: that the market is indifferent to the accounting rule.

Since the *WSJ* article on Date 4 indicated that the Business Roundtable had sent a private letter on January 18, 1993 (Date 5), to the FASB, we examined Date 5 as well. For the full sample of 2,776 firms on Date 5, Model 1 revealed a positive 1.73 percent abnormal return at the 90 percent level, and Model 2 revealed no significant response. Both models showed that there were no significant responses in the highest and lowest quartiles.

However, a positive response *was* found for the upper-middle and lower-middle quartiles using both models (both at the 90 percent level). Given that the highest quartiles should show a more pronounced response than the lower quartiles, these results are somewhat peculiar. One possible explanation for these results is that this date, which is the date of a private letter (announced publicly almost one month later), did not contain any significant public information. Even if the results around Date 5 are taken to offer some evidence for either Hypothesis 1 or Hypothesis 2, most of the evidence thus far appears to support Hypothesis 3: that the market is indifferent to the accounting rule.

The next date examined is December 14, 1994 (Date 2), when the Financial Accounting Standards Board officially rescinded the proposal that would have required option expensing. For the full sample of 2,749 firms, there was a negative 1.33 percent response at the 90 percent level using Model 1 and a negative 2.03 percent response at the 95 percent level using Model 2. The results for the quartiles around Date 2, however, are mixed.

Model 1 shows that there was no significant response for the highest quartile, while Model 2 reveals a negative 3.67 percent response (at the 99 percent level) for the highest quartile. While the upper-middle and lower-middle quartiles all show a significant negative response under both models, the lowest quartile shows an insignificant response under either model. (See Table 3 in the Appendix.) When considered alone, this evidence appears to support Hypothesis 1: that the market wants options expensed.[26] To be thorough, we also examined returns in the period around April 22, 1994 (Date 3), when a *WSJ* article announced that

the FASB was likely to delay, for at least one year, any rule requiring that options be expensed.

For the full sample of 2,540 firms on Date 3, and for the first three quartiles, both models reveal no significant responses. For the lowest quartile, Model 1 revealed no significant response and Model 2 revealed a positive 0.39% response at the 95 percent level.[27] Even though more weight would be given to an official announcement than to news from a secondary source, it seems unlikely that investors concerned about this issue would not have responded at all when the *WSJ* announced there would be a likely delay. Indeed, when returns for the announcement day (Day 0) are examined, out of 10 possible responses (two models, each examining responses from the full sample and the four quartiles), there were five insignificant responses and five positive responses with no discernible pattern. (See Table 3.)

Thus, the results for the period around Date 5 appear to contradict the support for Hypothesis 1 found with regard to Date 2. Since the results for these two dates seem to be conflicting, it is better to view all of the results together rather than separately.

The last date to be examined is July 6, 1995 (Date 6), when a *WSJ* article announced that it was likely that, within one week, the Financial Accounting Standards Board would announce the footnote disclosure that is still in use in 2002 (in FAS No. 123). Under both models, the full sample of 2,701 firms, the highest quartile, and the upper-middle quartile show significantly positive responses. (See Table 3.)

The lower-middle quartile shows no significant response using Model 1 and a positive 1.56 percent response (at the 90 percent level) using Model 2. The lowest quartile results reveal an insignificant response under Model 1 and a positive 2.03 percent response (at the 99 percent level) under Model 2.[28]

While the results for the period around Date 6 may seem to provide evidence for Hypothesis 1—that options should be expensed—it should be taken into consideration that information contained in the announcement regarding other factors could have warranted the positive response. For example, the announcement included the details of the new footnote disclosure, which lowered the information costs related to employee stock options, and it is possible that the positive responses were associated with these lower information costs.

Furthermore, since the FASB did not require that options be expensed on this date and only stipulated that the figures be placed in a footnote, the responses for Date 6 do not necessarily support the claim that the market wants the options expensed (Hypothesis 1). In fact, the result of the announcement was that employee stock options would not be expensed. It could just as easily be argued, therefore, that these positive responses indicate the market does *not* want options expensed on the income statement.

For all of the dates studied, approximately 60 percent of the possible responses were statistically insignificant. When all the responses are considered together, the lack of consistent responses regarding the formal announcement dates and the abundance of insignificant responses seem to favor Hypothesis 3: that the market is indifferent to the accounting rule for employee stock options (provided there is full disclosure).

---

26. At the very least, these results suggest that the market can tell how many options firms issue. Our tests also indicate that there was a statistically significant difference between the responses of the highest and lowest quartile on Date 2. Similar differences were found between the highest and lowest quartiles on all other announcement dates where statistically significant responses were found. These tests are available upon request.

27. To check for an endogeneity problem, the tests were re-run for Date 5 using an equally weighted portfolio, and all responses, for the full sample and all of the quartiles, were insignificant. The endogeneity problem, which does not appear to exist here, occurs when large, well-known firms in the sample realize a drop in their stock price. This drop, because the large firms represent a large portion of the value-weighted portfolio, causes a false positive response in the lowest quartile. This alternate test was performed when the lowest quartile was the only sub-sample to show a positive response. Our results were similar using both the equally weighted and value-weighted index.

28. The test with the equally weighted portfolio revealed similar results, with both models showing insignificant responses for the lowest quartiles.

One possible avenue for future research would be to test the hypothesis that *some* firms would prefer to expense employee stock options. As mentioned above, expensing options would provide firms with another tax shield. However, since this sort of tax shield would also dilute the value of the shares of existing stockholders, we would expect to see any increase in option use concentrated in firms whose levels of employee stock options were relatively low, in comparison with other firms in the industry. Furthermore, since profitable firms have a greater need for tax shields, we would expect to see any increase in the use of options concentrated in firms with fewer losses and/or tax-loss carry-forwards.

CONCLUSION

The real cost of employee stock options is the potential dilution to firms' existing shareholders. Whether the Financial Accounting Standards Board requires option expensing or not, it appears that the market is able to account for their value (provided information on options granted is disclosed). The six separate event studies in this paper found virtually no evidence to support the notion that the market is *not* capable of valuing employee stock options under the existing accounting rules.[29] While we did not study the hypothesis directly, it is also possible that some firms would actually *prefer* to expense their employee stock options because of the tax benefits.

An unintended consequence of forcing employee stock options to be expensed, therefore, could be that some firms would increase their use of options. In any event, Congress should not legislate accounting rules, especially after rushing to hasty judgments because of a tumultuous political atmosphere.

The market will penalize firms that fail to disclose adequate information, just as it will penalize those that mismanage their operations. The decision on how to account for employee stock options should be left to the Financial Accounting Standards Board.

Finally, employee stock options can contribute to the earnings of millions of working Americans, and Congress should not taint them by associating them with the recent spate of corporate scandals—which is clearly a separate issue.

—Norbert J. Michel is a Policy Analyst in the Center for Data Analysis at The Heritage Foundation. Paul Garwood is a Ph.D. candidate at the University of New Orleans.

---

29. Given that Compustat reported the number of options issued over the time period studied, it seems particularly difficult to argue that the market could not tell how many options firms issued.

APPENDIX

Table 3   CDA02-06

Results for +5 / -5 Event Window

	Model 1				Model 2			
	CAAR	Significance	Day 0 AAR	Day 0 Significance	CAAR	Significance	Day 0 AAR	Day 0 Significance
Date 1								
FS	1.10%	none	0.45%	0.10	0.32%	none	0.38%	none
HQ	1.49%	none	0.49%	none	0.62%	none	0.41%	none
UMQ	0.66%	none	0.58%	0.10	-0.05%	none	0.51%	0.10
LMQ	0.59%	none	0.31%	none	-0.04%	none	0.25%	none
LQ	1.76%	0.10	0.41%	none	0.83%	none	0.33%	0.10
Date 2								
FS	-1.33%	0.10	-0.34%	none	-2.03%	0.05	-0.21%	not
HQ	-1.79%	none	-0.42%	none	-3.67%	0.01	-0.49%	not
UMQ	-1.73%	0.10	-0.47%	none	-2.22%	0.05	-0.44%	none
LMQ	-1.89%	0.10	-0.37%	none	-3.25%	0.01	-0.11%	none
LQ	-0.33%	none	-0.21%	none	-0.40%	none	0.13%	none
Date 3								
FS	-0.40%	none	0.55%	0.05	-1.17%	none	0.44%	0.10
HQ	-0.33%	none	0.62%	0.10	-1.57%	none	0.50%	none
UMQ	-0.72%	none	0.42%	none	0.32%	none	-1.53%	none
LMQ	-1.16%	none	0.37%	none	0.25%	none	-1.87%	0.10
LQ	-0.30%	none	0.49%	0.10	0.39%	0.05	-0.67%	none
Date 4								
FS	0.67%	none	0.04%	none	-0.16%	none	-0.13%	none
HQ	-0.39%	none	-0.48%	none	-1.54%	none	-0.67%	none
UMQ	0.99%	none	0.29%	none	0.09%	none	0.13%	none
LMQ	0.71%	none	0.08%	none	-0.03%	none	-0.05%	none
LQ	0.13%	none	0.23%	none	0.77%	none	0.03%	none
Date 5								
FS	1.73%	0.10	0.41%	none	1.47%	none	0.33%	none
HQ	0.19%	none	0.51%	none	1.32%	none	0.41%	none
UMQ	2.40%	0.10	0.52%	none	2.09%	0.10	0.46%	none
LMQ	1.87%	0.10	0.26%	none	1.58%	0.10	0.18%	none
LQ	0.62%	none	0.35%	none	0.78%	none	0.27%	none
Date 6								
FS	1.45%	0.10	-0.40%	0.10	2.09%	0.01	-0.09%	none
HQ	2.88%	0.05	-0.27%	none	2.65%	0.05	-0.09%	none
UMQ	2.74%	0.01	-0.40%	none	3.11%	0.01	-0.21%	none
LMQ	0.54%	none	-0.36%	none	1.56%	0.10	0.13%	none
LQ	0.49%	none	-0.50%	0.10	2.03%	0.01	-0.01%	none

FS = full sample   HQ = highest quartile   UMQ = upper middle quartile   LMQ = lower middle quartile   LQ = lowest quartile

For significance levels of the t-test, .10 = 90% significance, .05 = 95% signficance, and .01 = 99% signficance.

Table 4   CDA02-06

Results for +15 / -15 and +30/-30 Event Windows

| | +15/-15 | | | | +30/-30 | | | |
| | Model 1 | | Model 2 | | Model 1 | | Model 2 | |
	CAAR	Significance	CAAR	Significance	CAAR	Significance	CAAR	Significance
Date 1								
FS	1.77%	none	-1.09%	none	5.13%	0.05	-0.04%	none
HQ	2.48%	none	-0.77%	none	7.86%	0.05	2.02%	none
UMQ	0.88%	none	-1.56%	none	3.82%	none	-0.69%	none
LMQ	0.96%	none	-1.33%	none	3.84%	0.10	0.34%	none
LQ	2.93%	0.10	-0.61%	none	5.19%	0.05	-1.13%	none
Date 2								
FS	0.35%	none	-1.72%	none	1.75%	none	-2.50%	none
HQ	1.13%	none	-2.73%	none	5.42%	0.10	-1.47%	none
UMQ	0.43%	none	-1.14%	none	1.18%	none	-2.06%	none
LMQ	0.50%	none	-2.68%	none	3.02%	none	-3.11%	none
LQ	0.18%	none	-0.93%	none	-0.87%	none	-3.67%	0.10
Date 3								
FS	-0.47%	none	-0.423%	0.01	-0.23%	none	-7.67%	0.01
HQ	-0.42%	none	-4.73%	0.05	-0.05%	none	8.52%	0.01
UMQ	-1.34%	none	-4.68%	0.05	-2.31%	none	-8.90%	0.01
LMQ	-0.08%	none	-4.52%	0.05	1.04%	none	-7.71%	0.01
LQ	0.32%	none	-3.48%	0.01	-0.61%	none	-8.17%	0.01
Date 4								
FS	1.27%	none	-1.68%	none	7.44%	0.01	1.73%	none
HQ	-0.70%	none	-4.51%	0.1	8.22%	0.05	0.84%	none
UMQ	0.67%	none	-2.35%	none	6.02%	0.05	0.16%	none
LMQ	-1.63%	none	-0.89%	none	6.45%	0.01	1.53%	none
LQ	3.55%	0.05	1.04%	none	9.39%	0.01	4.62%	0.05
Date 5								
FS	6.60%	0.01	4.76%	0.01	5.94%	0.05	1.89%	none
HQ	7.35%	0.05	4.81%	0.1	6.91%	0.10	1.58%	none
UMQ	7.70%	0.01	6.22%	0.01	4.70%	0.10	1.55%	none
LMQ	5.43%	0.01	3.56%	0.05	5.37%	0.05	1.28%	none
LQ	5.94%	0.01	4.41%	0.01	7.04%	0.05	3.29%	0.1
Date 6								
FS	3.42%	0.05	3.54%	0.01	7.60%	0.01	6.67%	0.01
HQ	6.25%	0.01	4.25%	0.05	13.46%	0.01	8.59%	0.01
UMQ	4.71%	0.01	4.63%	0.01	9.61%	0.01	8.67%	0.01
LMQ	3.22%	0.10	3.39%	0.05	8.28%	0.01	6.70%	0.01
LQ	1.46%	none	3.44%	0.01	2.47%	none	4.74%	0.01

FS = full sample   HQ = highest quartile   UMQ = upper middle quartile   LMQ = lower middle quartile   LQ = lowest quartile

For significance levels of the t-test, .10 = 90% significance, .05 = 95% signficance, and .01 = 99% signficance.