REVISITING THE RELATIONSHIP BETWEEN OPTION EXPENSING AND STOCK RETURNS

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ABSTRACT

In 2002, the Financial Accounting Standards Board allowed corporations to recognize stock options as an expense on their financial statements on a voluntary basis. Option expensing became mandatory in 2004. This investigation uses two different models to reexamine the effects of the announcement of the voluntary expensing of stock options (when expensing was not mandatory) on the abnormal stock returns for a group of firms. We find that, as expected, investors prefer firms that initiated expensing stock options to firms that did not announce they were going to expense them. However, when we compared the stock returns of the announcing firms with the Market's expectations we found opposite results. This discrepancy suggests that announcing firms possess certain attributes that differentiate them from the firms included in the Market model. The required expensing of stock options has not eliminated their controversial nature. After investigating the different effects of expensing options, future research efforts should move towards trying to understand how these effects are transmitted to the market. If analysts are in effect ignoring stock-option expense in their earnings forecasts, as suggested by Barth, Gow and Taylor (2009), then the controversy over the reporting of stock options has only just begun.

JEL: G14, G30, M41, M48

KEYWORDS: Event study, stock options, average stock returns, abnormal returns, cumulative average abnormal returns

INTRODUCTION

In 2002, the Financial Accounting Standards Board ("FASB") modified the accounting standards for stock option grants. Corporations were required to disclose more information related to executive compensation. The FASB also recommended the voluntary recognition of stock option grants as an expense on their financial statements. Option expensing became mandatory in 2004. This investigation consists of an event study that uses two different models to reexamine the effects that announcing the adoption of voluntary expensing of stock options awarded (when expensing was not mandatory) had on the stock returns for a group of firms.

Prior to 2001, the debate over employee stock options had been mainly limited to certain aspects of the inherent agency conflict, and other issues such as their valuation and recognition on the issuing company's financial statements. The coverage of the aforementioned issues had been restricted to articles published in academic journals, and to discussions held by and between the FASB and the large international Certified Public Accounting firms. However, stock options and the weak accounting rules behind them became worldwide news with the disclosure of fraud and other problems at Enron and WorldCom. The result of all these negative events resulted in the approval of the "Public Company Accounting Reform and Investor Protection Act of 2002", also known as the Sarbanes-Oxley Act of 2002. Other regulatory entities, pension funds and institutional investors, such as the Teachers Insurance and Annuity Association-College Retirement Equities Fund (TIAA-CREF), also joined the bandwagon in 2003 (and almost every year from then on) calling for stronger corporate governance measures and tighter scrutiny of corporate events and transactions, including executive compensation using stock options.

In addition, generally accepted accounting principles in the U.S. ("US GAAP") had allowed firms to avoid recognizing the effect of its stock options on the financial statements, and merely required

disclosing their effect in the footnotes section. Corporate America responded to the *Enron* & *WorldCom* scandals, and in early 2002, a group of firms in different industries such as American Express, Coca-Cola, General Electric, and Wal-Mart, among others, announced that they would voluntarily records their stock options as an expense. At that time, technology firms such as Intel, Cisco Systems, and Oracle, among others, vigorously expressed their opposition to this new requirement. These firms claimed that expensing options would have two negative effects. The first negative effect would be to reduce their reported earnings ("dilutive effect"). The second negative effect would be an increased difficulty in the recruiting and hiring of managerial talent, because they used stock options as a compensation incentive.

Frederickson, Hodge and Pratt (2006) present an excellent exposition of the FASB's thought process and transition in establishing the US GAAP for stock options. Accounting standards have gone from initially ignoring stock options on the financial statements to their disclosure on the footnotes, subsequently followed by voluntary recognition (aimed at trying to achieve international convergence) up to the "forced" recognition of the expense on the financial statements. The Exposure Draft of the new standard for stock options was issued on March 16, 2004 and on December 16, 2004 it was issued in final form as SFAS No. 123-R, with R meaning "Revised" and a title of "Share-Based Payments". Under the current FASB Accounting Standards *Codification*™, the new standard appears as FASB ASC Topic 718-Stock Compensation. The Securities and Exchange Commission ("SEC") postponed the implementation date of this new standard for publicly held firms with a calendar year-end for the first quarter of 2006. Companies with fiscal years ending on a date other than December 31 were required to implement the standard in fiscal 2007.

This investigation consists of an event study to examine empirically whether the announcement of the decision to expense stock options resulted in an abnormal return for a group of firms. The required option expensing seems to have had different effects. This investigation contributes to the literature by providing another perspective on the effects of expensing stock options on firms' returns, by performing the empirical aspects of the event study in a slightly different manner.

The remainder of the paper is organized as follows. Section II describes the prior research on the use of stock options as a compensation component, the related agency costs and their information content. Sections III and IV describe the hypothesis development and the research data for this investigation. Sections V and VI present the methodology used and the empirical results obtained. Section VII follows with our concluding comments.

LITERATURE REVIEW

The literature on stock options includes among others, the advantages and disadvantages of using stock options, agency and valuation (pricing) issues, recording and disclosure requirements, tax effects, and their use to compensate (and motivate) managers. Several authors such as Dechow, Hutton and Sloan (1996), Seethamraju and Zach (2004), Semerdzhian (2004), Elayan, Pukthuanthong, and Roll, (2004), Cheng and Smith (2009) have studied different aspects of the effects of expensing stock options when expensing them was either not required or strictly voluntary. In addition, Fenn and Liang (1998 and 2001), Jolls (1998), Weisbenner (1998 and 2004), Grullón and Michaely (2002 and 2004), and Bens, Nagar, Skinner and Wong (2003) have investigated the association between stock options and a firm's payout policy (payment of dividends to stockholders or repurchasing of outstanding shares from shareholders). More recently, Lam and Chng (2006) and Aboody, Johnson and Kasznik (2010) have done studies on performance-related aspects of stock option grants.

Options as a Component of Compensation and Related Agency Costs

One of the major challenges faced by human resources practitioners is to design compensation methods that will motivate and properly compensate middle and senior managers for the risks they take. The original arrangement of salaries and bonuses only has evolved to include different types of fringe benefits (memberships in Golf or Country clubs) to incentive programs that include restricted stock, performance stock and stock options. Core and Guay (2001) observed that non-executive employees have also received incentives that include stock options. Yermack (2004) has done research on the behavior of CEOs and outside directors at Fortune 500 firms and among other findings, noted that directors were also receiving stock options.

The use of stock options in a firm's compensation plan brings up the inherent agency problems that arise between a firm's managers and its shareholders. Guay (1999) states that a typical manager is risk-averse, and this presents a conflict that will generate an agency cost. Shareholders want managers to select positive net present value projects to increase the value of the firm. However, these types of projects entail a significant degree of risk for the managers. Since managers usually have made an investment in their firm, they want to reduce risk, and that may be undesirable from the perspective of a well-diversified stockholder. Guay's hypothesis was that to avoid or mitigate the risk-related agency conflict, firms add "convexity" to the managers' total compensation package to encourage them to accept high-risk project opportunities. Firms will achieve this by including bonuses and stock options as part of the incentives awarded to managers. Guay's study of a sample of CEOs and their compensation packages confirms his initial hypothesis that managers are more willing to take on more high-risk opportunities if there is a possibility of receiving a higher incentive. In fact, he finds that stock options play a more significant role than common stock in increasing the convexity of the wealth-performance relationship as observed by Jensen and Meckling (1976) and others.

Jensen (1986) finds that firms also incur in agency costs whenever firms generate cash in excess of their capital investment needs (described as "free cash flow") because stockholders and managers usually have different ideas as to how to invest it. Stockholders want to prevent the natural tendency of managers to invest the firm's free cash flow in benefits for themselves or in projects that do not represent growth opportunities for the firm. Stockholders believe that managers should either invest the firm's free cash flow in growth projects (that have positive net present value), or pay it out to the stockholders in the form of dividends or via stock repurchases. The payment of a firm's free cash flow to its stockholders generates value to the firm and results in a higher stock price. Jensen (1986) also notes that when firms issue debt, managers are forced to become more efficient because they have to continue generating operating cash flows to meet the required debt repayments. The markets interpret the additional financial leverage and the resulting managerial efficiencies in a positive way with a higher stock price.

Information Content of Stock Options

The literature on the information content of financial information, such as earnings (Beaver, 1968; Ball and Brown, 1968); accruals (Sloan, 1996); stock splits (Fama, Fisher, Jensen and Roll (1969), dividends and share repurchases (DeAngelo, DeAngelo and Skinner, 2000; Guay and Harford, 2000; Grullon and Michaely, 2002; Grullon, Michaely and Swaminathan, 2002; Grullon and Michaely, 2004; Brav, Graham, Harvey and Michaely, 2005), suggests that the change in the method used to report a firm's compensation expense should not have any effect on its stock return or on its price. The reason for this assertion is that a firm that used the intrinsic value method had always disclosed the cost of its outstanding stock options in the footnotes of its financial statements. Since there is no "surprise" in moving the effect of the stock options from the footnotes section to the income statement, their expensing should not result in a significant change in a firm's stock return or its price.

A recent study done by Barth, Gow and Taylor (2009) seems to have reignited the ongoing controversy over the information content of stock options. These authors found evidence to suggest that analysts are ignoring stock option expense in their earnings forecasts for two reasons. The first reason is to obtain a higher valuation for the firms they follow and the second reason is to determine a firm's "fundamental" or core earnings. Analysts seem to believe that the aforementioned earnings figure should exclude stock option expense.

Hypothesis Development

Semerdzhian (2004) and Elayan, Pukthuanthong and Roll (2004), hereafter referred to as Elayan et al., examine the effects (in 2002 and 2003) that *announcing* the expensing of employee stock options had on stock returns *before* expensing became mandatory. Semerdzhian's study includes 156 firms that had announced between July 2002 and March 2003 their decision to expense options and runs a regression to measure daily stock returns, daily market returns and a variable she describes as the average "Announcement effect" for the announcing firms. Her hypothesis is that the initial ("early") announcers will experience positive stock returns because the market will be surprised by their announcement, whereas the late announcers will not reflect abnormal stock returns because the market will already be expecting their announcement. The results obtained confirm her hypothesis that investors are surprised by the first group of firms that announced they would expense their options, and those firms reflect positive announcement returns. The market did not react when the late announcers announced their decision to expense their options. According to Semerdzhian, the market interprets the decision to voluntarily expense options as a "positive signal", whereas there is no surprise when the remaining firms (late announcers) follow the trend.

Elayan et al (2004) perform an event study of 140 firms that announce from July 2002 to May 2003 their intention to expense their stock options and observe that the announcement of voluntary option expensing did not decrease the firms' stock price. In fact, announcing firms reflect a significant positive average returns, whereas "non-announcing" firms experience significant average negative returns. The authors also note that the magnitude of the market's reaction to the announcement depends on factors such as the firm's volatility (defined as the standard deviation of an Announcing firm's daily stock returns over a one-year period before the announcement) and the existence of other costs such as agency costs, contracting costs and financial reporting costs, among others. Elayan et al state that since option values increase with volatility, firms with high volatility will see their earnings reduced more significantly when they expense their options. Therefore, the surprise element is higher when a high volatility firm announces it will expense its options.

Elayan et al (2004) also study the firms for one year after the announcement date to ascertain whether the announcement has a signaling effect of unusual positive future performance. The authors did not find any compelling evidence to support the signaling hypothesis, and interpret the observed positive announcement effect to the market's perceived support for "transparency" in financial reporting. In addition, they suggest that the negative returns suffered by the non-announcing firms seem to be a reflection of the market's belief that these firms have "something to hide" by not wanting to expense its stock options.

This investigation adopts the two approaches used by Elayan et al (2004) in their event study to measure the abnormal stock returns of the announcing firms, which are the matching firms approach and the Market model approach. Under the matching firms approach, the abnormal return represents the difference between the raw return obtained by the announcing firms less the raw return obtained by the matching or "non-announcing" firms that were matched based on sharing similar characteristics such as industry (two digit SIC code), size and profitability levels. The other approach used by Elayan et al to

measure abnormal stock return is to use the simple Market model with the CRSP value-weighted index as the market proxy.

The underlying hypothesis for this investigation is that the announcement (of the decision to expense) should have no abnormal impact on the firms' stock return or market value. Therefore, if the results of the event study support this hypothesis, then this would suggest that when an announcing firm discloses that it will expense its stock options, the announcement has no significant effect on its stock return or its market value. However, if abnormal changes were observed for an announcing firm's stock return or its market value after the announcement event, this would provide support to the view expressed by the firms that were initially opposed to expensing their options and delayed doing so because of all the anticipated negative effects.

The average stock returns obtained by the announcing firms are compared with the stock returns obtained by the matching firms with a difference of means test. The hypothesis for the event study is expressed as follows:

H1: (a): The difference in the average stock returns between the announcing firms and the matching firms (Average Abnormal Returns, or AAbr) will not be significantly different from zero on the announcement (event) date, or that the mean returns of both groups of firms are equal.

H1: (b): In addition, the difference in the cumulative average stock returns between the announcing firms and the Market model (Cumulative Average Abnormal Returns, or CAARs), with the CRSP value-weighted index acting as Market proxy, will not be significantly different from zero on the announcement (event) date, or that the cumulative mean returns of the announcing firms and the Market are equal.

RESEARCH DATA AND METHODOLOGY FOR THE EVENT STUDY

The sample for this investigation comprises all firms with available data on the Center for Research in Security Prices, also known as the CRSP® US Stock Database (hereafter, "CRSP") and other financial information on the Compustat Annual Industrial and Research files. Stock prices and returns will be obtained from CRSP. Dividends, stock repurchases and other financial statement data such as Earnings before Interest, Depreciation and Amortization (hereafter, "EBITDA"), Sales, among others, will be obtained from Compustat.

Table 1 summarizes our sample formation for this investigation. The firms included in this study were selected from a list originally compiled by Bear Stearns as of February 12, 2004 and provided by Mr. Brett J. Harsen of Mellon Human Resources and Investor Solutions (Available upon request). The Bear Stearns list identified the 483 firms (with their related Ticker symbols) that were expensing their stock options or had announced that they would expense their stock options as of that date. The firms that were expensing or had announced they were going to expense options as of February 12, 2004, are the "Announcing firms". The firms that were not expensing or had not announced they were going to expense options as of February 12, 2004, are known as the "Non-Announcing" firms and are included in another sample (the "Control" group). Using the same approach adopted by Elayan et al (2004), each announcing firm is matched with a "Control" group firm that has employee stock option plans, is in the same industry (two-digit SIC codes), shares the same fiscal year-end, have similar size (comparable Sales) and profitability levels, measured with the ratio of EBITDA to Sales (hereafter, the "ES ratio").

The announcing firms are initially subdivided and grouped based on their announcement dates and the year of adoption of the fair value (expensing) method of accounting for options using December 15, 2002, the effective date for SFAS No. 148 (*Voluntary* recognition of stock option expensing) as the cutoff date. The 11 firms that were expensing options prior to January 1, 2002 were excluded from the study because

the exact announcement date was available for only one of those firms. Firms that subsequently merged, were acquired by another firm, or were non-US companies were also excluded. Other firms were also excluded due to their privatization (stockholder buyout), and one firm (SonomaWest Holdings, Inc-SWHI) was excluded because its common stock was delisted from the NASDAQ Small Cap Market on August 10, 2005.

The next step is to obtain the group of matching "eligible and non-announcing" firms from the Compustat files by selecting all firms for the period January 1, 2001 through June 30, 2005 with the Company's Permanent Name (PERMNO). The criteria for selecting a similar matched firm is based on the following attributes: firms that have employee stock options plans, are in the same industry (Two digit SIC code), have the same fiscal year-end, and share similar Sales levels and Profitability levels, the latter defined similar to Elayan et al (2004) as the EBITDA/Sales ratio. Compustat Data Item 398 (Implied Option Expense) and Data Item 399 (Stock Compensation Expense) were used as the variables that identified whether a Matching (Non-Announcing) firm had an outstanding stock option plan. Any firm that did not have a reported value for any of these two variables is discarded for matching purposes.

The merged file of firms is divided in deciles (groups of ten) based on sales to identify the possible firms that could be matched with each Announcing firm in the sample. The file is divided again in those groups based on the ES ratio resulting in 148 perfectly matched firms. The iterative process was repeated, first by changing the selection method to with replacement, then dividing the remaining firms in three groups with the complete Index, and then repeating the selection process removing the month of the firms' fiscal year-end from the Index. To reduce the number of announcing firms without a similar matching firm, the selection criteria was liberalized initially to allow a matching firm to be associated with more than one announcing firm, and then paired considering the proximity of their sales levels and their ES ratio (EBITDA to Sales). At the completion of these iterations, eight announcing firms are discarded from the investigation because there was no available matching firm. The adjusted Basic sample consists of 183 announcing firms that have a matching firm (see Panel A of Table 1). As further explained on Panel B of Table 1, the sample for the empirical analyses consists of 154 announcing firms and 154 matching firms for a total sample of 308 firms.

Standard event methodology assumes that an event will not generate an abnormal stock return during a period known as the event window. The event of interest for this investigation is the date each firm announced their decision to expense their stock options.

The literature on daily event studies presents varying lengths for the event window to limit any contamination or "leakage" of insider information. Brown and Warner (1985) use 11 days (-5 through +5 and the event day, which is defined as day "0"); Eckbo, Maksimovic and Williams (1990) use 7 days (-3 to +3 and day 0); MacKinlay (1997) uses 41 days (-20 to +20 and the event day); Elayan et al (2004) use 21 days (-10 to +10 and day 0). Although this study uses similar methodology to the one used by Elayan et al (2004), an event window of 41 days (-20 to +20 and day 0) was used in a conservative attempt to improve the measurement of the expected effect of the event.

The objective of an event study is to assess whether firms experienced higher than normal (*abnormal*) stock returns during the event window compared to firms that waited until expensing became mandatory. An abnormal return is the difference between the "expected" return and the actual (observed) return. The "expected" stock return for each firm will be obtained from a regression model considering the actual daily returns observed (obtained from CRSP data) during the period of 240 trading days before the Announcement Date (the estimation window). The Market's daily return represents the CRSP value-weighted index during the estimation window prior to the event.

Table 1: Construction of the Sample for the Study

Panel A: Construction of the Basic sample with announcing firms	
Initial sample of announcing firms	303
Firms not found in CRSP	(50)
Firms not found in Compustat	(28)
Firms with missing values in Compustat	(34)
Announcing firms for which no matching firm was found	(8)
Number of announcing firms in the sample with a matching firm	183
Panel B: Construction of the sample for empirical analyses	
Sample 1(a): Event Study with matching firms	183
Basic sample with announcing firms	
Number of matching firms without	(29)
CRSP data in the event window	154
Sample of announcing firms with matching firms	
Sample 1(b): Event Study with the Market Model	
Initial sample of announcing firms	
Firms not found in CRSP	303
Firms not found in Compustat	(50)
Firms with missing values in Compustat	(28)
Subtotal	(34)
Firms with not enough CRSP data to estimate Market Model Coefficients	191
	(9)
Sample of announcing firms for the Market Mode	182

This table shows the construction of the sample for this investigation. Sample 1(a) represents the sample for the event study comparing the average stock returns of the announcing firms with the average returns obtained by the matching firms. Sample 1(b) represents the sample for the event study comparing the actual average stock returns obtained by the announcing firms compared to the expected returns from the Market model.

Measurement of Abnormal Return for the Event Study

Based on the actual daily return data obtained, the general Market model is used to estimate the stock return for the announcing firms in both samples as follows:

$$ER_{i,j} = \alpha_i + \beta_i R_{m,j} + SIZE + \hat{e} \quad (1)$$

where $ER_{i,j}$ is the expected daily stock return for firm "i" on event day "j", α_i and β_i represent the Market model's parameters (estimated intercept and slope, respectively), $R_{m,j}$ is the market return during the *estimation window* (prior to the event) period as measured by the CRSP value-weighted index, SIZE is the log of total assets and $\hat{e}$ is the error term.

The next step in the event study requires the determination of an *abnormal* (or residual) return for each firm. Under the matching firms approach, the abnormal stock return (AbR) for each firm is determined as follows:

AbR=Announcing firm (Actual) Return – Matching firm (Actual) Return

Under the Market Model approach, the abnormal stock return represents the difference between a firm's actual return and its expected stock return. The *expected* return for each announcing firm is based on the previously mentioned estimation model, which considers the actual returns observed for each firm in the sample during the estimation period.

The Abnormal return model is based on the following equations:

$$AbR_{i,j} = AR_{i,j} - ER_{i,j} \quad (2)$$

$$AbR_{i,j} = AR_{i,j} - (\alpha_i + \beta_i R_{m,j} + \hat{e}) \quad (3)$$

where $AbR_{i,j}$ represents the abnormal stock return for Announcing firm "i" on event day "j", and $R_{i,j}$ and $R_{m,j}$ are the Announcing firm's and the CRSP value weighted index's continuously compounded returns, respectively; α_i , β_i, are the estimated intercept and slope, respectively, from a regression of announcing firm daily stock returns on the index's return over a 180 trading day from trading day t= -241 through trading day t= -61 relative to the Announcement Date, t=0. Sixty trading days immediately preceding the announcement date are excluded from consideration for the estimation window because the announcing firms' returns might be tainted with insider information.

To determine whether the event has a significant effect on a firm's abnormal return requires the calculation of both an Average Abnormal stock return (AAbR) and a Cumulative Average Abnormal stock return (CAAR) for each announcing firm in the sample.

After obtaining the abnormal return for each announcing firm in the sample, the announcing firms' abnormal returns are aggregated as follows:

$$AAbR_j = \frac{1}{n}\sum AbR_{ij}$$

where $AAbR_j$ represents the average abnormal return for event date "j" and is a simple cross-sectional average over the "n" announcing firms in the sample, and $AbR_{i,j}$ is the abnormal return of firm "i" on event date "j", and CAAR represents the Cumulative Average Abnormal return for event date "j" and is obtained as follows:

$$CAAR_j = CAAR_{j-1} + AAbR_j \quad (4)$$

To evaluate the statistical significance of the average abnormal returns and the cumulative average abnormal returns, a t-statistic is usually calculated. However, several authors such as Boehmer, Musumeci, and Poulsen (1991), and Aktas, DeBodt, and Roll (2004), identify *event clustering* and *event-induced volatility* as other statistical conditions that require adjusting the calculated t-statistic in event studies. Clustering occurs when an event shares a common time *period* with many of the observations.

When option expensing was still voluntary, Elayan et al (2004) identify July 2002 as the earliest date for the first group of 26 firms that announced their decision to expense options. After July 2002, firms engaged in mimicking behavior related to this matter, because from August through November of 2002, 87 firms made similar announcements. During the first five months of 2003, 27 firms announced they would expense their options. The authors consider that the announcement event causes additional volatility by itself, and calculate their p-values from a percentile t bootstrap to consider both event clustering and the event-induced volatility.

To consider the effects of event clustering, the announcement dates of the announcing firms are aggregated by month, and each month receives a cluster number. Table 2 presents the announcement dates and the number of announcing firms in each cluster. The clusters with the largest number of Announcing firms were the months of July and August 2002, and March 2003, with 20, 43 and 19 firms, respectively (Cluster Nos. 1, 2 and 9, respectively). The calculation of the bootstrap p-values requires the re-examination of the observed returns from the "non-clustered" observations. Therefore, after removing the aforementioned clusters and running several iterations in increments of 200 to determine the maximum number of bootstrap samples to run, it was determined that 2,000 is the optimum number.

Pursuant to Sample 1(a) described on Panel B of Table No. 1, the calculation of the average abnormal returns and the cumulative average abnormal returns required the use of 2,000 Bootstrap samples of 154 firms in each sample. In addition, and pursuant to Sample 1(b) described on Panel B of Table 1, to run the Market model 2,000 resamples of 182 firms are used.

The Elayan et al (2004) investigation presents results that include percentile bootstrap p-values for the average abnormal returns for the announcing firms, the non-announcing (matching) firms and for the differences in such returns between both groups of firms. Due to software limitations, this investigation only presents the differences in the average abnormal returns and the cumulative average abnormal returns. The final interpretation of the results obtained must take into account this limitation.

Table 2: Clustering of Announcement (Event) Dates by Month from July 2002 to February 2004

Announcement Dates	Number of Firms	Cluster Number	
From July 14 to July 31, 2002	20	1	(a)
From August 1 to August 29, 2002	43	2	(a)
From September 6 to September 30, 2002	13	3	
From October 4 to October 30, 2002	13	4	
From November 5 to November 20, 2002	7	5	
From December 5 to December 18, 2002	3	6	
From January 10 to January 21, 2003	2	7	
From February 3 to February 28, 2003	14	8	
From March 2 to March 31, 2003	19	9	(a)
From April 11, 2003 to April 24, 2003	3	10	
From May 7 to May 30, 2003	8	11	
From June 6 to June 27, 2003	4	12	
From July 3 to July 24, 2003	6	13	
From August 7 to August 13, 2003	6	14	
September 26, 2003	1	15	
From October 14 to October 31, 2003	4	16	
From November 7 to November 14, 2003	6	17	
From December 10 to December 18, 2003	2	18	
From January 20 to January 29, 2004	7	19	
From February 3 to February 4, 2004	2	20	
Total Announcing Firms	183		
(a) Clusters to be deleted in calculating the bootstrap p values.			

This table shows the clustering of the Announcement dates from July 2002 to February 2004 and the clusters to be deleted in calculating the bootstrap p-values.

METHODOLOGY DIFFERENTIATION

This investigation will reexamine and replicate the aforementioned studies made by Semerdzhian (2004) and Elayan et al (2004). The research will differ from (or be similar to) theirs in the following aspects:

The Semerdzhian (2004) investigation consists of regressions for 156 firms that announced between July 2002 and March 2003 their decision to expense their stock options on a voluntary basis. The Elayan et al (2004) event study includes 140 firms that announced between July 2002 and May 2003 that they would voluntarily expense their options. The present investigation includes an event study with an initial sample of 183 firms (see Panel A in Table 1) that had announced as of February 12, 2004, that they currently expensed or would start to expense their options.

The event study in this investigation is also different from the Elayan et al (2004) paper in the length of the event window (41 days), whereas Elayan et al use 21 days. In addition, this study extends the time period under investigation since it considers both the different announcement dates for each firm (when expensing them was voluntary), and the date the FASB issued its Exposure Draft of the standard requiring

expensing (March 31, 2004). The issuance of the final standard (December 16, 2004) did not surprise the market so it is not expected to represent a significant event.

EMPIRICAL RESULTS

Table 3 presents the results obtained for the event study that includes the average returns for the 154 announcing and the 154 matching firms, and the difference between the average returns (Average Abnormal Returns) for both groups of firms, represented by the AvgRetDifference variable. The average (positive and negative) returns generated by both group of firms are significantly different from zero in 38 days of the 41-day event window, as reflected by the large t-statistics and the small (bootstrap) p-values obtained. The announcing firms had positive average abnormal returns in 28 days and 13 days with negative average abnormal returns.

The announcing firms outperformed the matching firms in 24 days during the 41-day event window as reflected by a positive value for the AvgRet Difference variable during that period. There are three days during the event window (days –12,-11 and day 0) where the difference in the average abnormal returns between the group of firms is deemed to be not significantly different from zero as suggested by the small t-statistics (greater than –2) and the larger p-values (more than .05) associated with those days.

The differences in the average abnormal returns between both groups of firms presented on Table 3 in 38 days of the 41-day event window seem to suggest that the H1 (a) hypothesis is rejected; there is also a significant difference between the average returns obtained by the announcing firms compared to the average returns obtained by the matching firms. These results seem to imply that the Market assigns more value to the announcing firms' initiative in expensing their stock options as compared to the matching firms suggesting consistency with efficient markets.

Table 4 presents the cumulative average abnormal returns for the 154 announcing and the 154 matching firms and the difference between the cumulative mean returns for both groups of firms (Cumulative Average Abnormal Returns, or "CAARs"), represented by the AvgCAAR Difference variable. The values obtained for this variable (AvgCAAR Difference) are considered significant, as implied by the observed large values for the t-statistics and small p-values. Similar to the results observed in Table 3 for the average abnormal returns, the announcing firms present positive Cumulative Average returns during the entire 41-day event window. Except for day-20, the matching firms also reflect positive Cumulative Average returns during 40 days out of 41 days in the event window. The Cumulative Average returns of the announcing firms outperform the returns generated by the matching firms in 40 days out of 41 days in the event window, with day –19 being the only exception to this observed pattern.

The values obtained for the AvgCAAR Difference variable (differences in the cumulative average returns between both groups of firms) presented on Table 4 seem to present additional evidence against the H1 (a) hypothesis, and suggests that there is a significant difference between the average cumulative average returns obtained by the announcing firms and the returns obtained by the matching firms. These results imply that the Market gave more value to the announcing firms' initiative in expensing their stock options as compared to the matching firms, which suggests consistency with efficient markets.

Table 5 presents the actual Cumulative Average Abnormal returns of the 182 announcing firms compared to the "*expected*" Cumulative Average Abnormal returns of these firms based on the Market Model. The difference in the Cumulative Average returns between the announcing firms and the Market model is the Cumulative Average Abnormal Returns (CAARs), represented by the AvgCAARDifference variable. Table 5 presents significant positive Cumulative Average returns for both the announcing firms and the Market model in 40 days out of the 41-day event window. Day –19 was the only day reflecting a

negative value for the Cumulative Average returns of the announcing firms. The results on Table 5 also reflect that the Cumulative Average returns obtained by the announcing firms were less than the expected return of the Market model in 39 days of the 41-day event window. The cumulative mean return of the announcing firms exceeded the expected return of the Market model only in days –20 and –18. The cumulative average abnormal returns presented on Table 5 seem to be additional evidence against the H1 (b) hypothesis, and suggests that there is a significant difference between the cumulative average returns obtained by the announcing firms and the expected cumulative average returns from the Market model.

Table 3: Stock Market Reaction to the Announcement of Option Expensing- Average Returns of Announcing Firms Compared to Matching Firms

Day	_n_	AvgRetAnn	AvgRetMatching	AvgRet Difference	t-statistic	
-20	153	.0063	(.0004)	.0067	101.24	***
-19	153	(.0018)	.0070	(.0088)	(108.68)	***
-18	154	.0049	(.0006)	.0055	74.18	***
-17	154	.0003	.0013	(.0010)	(12.51)	***
-16	154	(.0006)	(.0020)	.0014	19.53	***
-15	154	.0030	.0043	(.0013)	(12.48)	***
-14	154	.0007	.0001	.0006	8.03	***
-13	154	.0009	.0020	(.0011)	(13.69)	***
-12	154	(.0004)	(.0003)	(.0001)	(1.93)	
-11	154	.0010	.0011	(.0001)	(1.71)	
-10	154	(.0028)	(.0041)	.0013	14.64	***
-9	154	.0025	.0019	.0006	5.32	***
-8	154	(.0016)	(.0036)	.0020	28.69	***
-7	154	.0003	(.0036)	.0039	46.29	***
-6	154	.0024	.0040	(.0016)	(21.66)	***
-5	154	.0021	(.0011)	.0032	47.01	***
-4	154	.0028	.0009	.0019	29.72	***
-3	154	(.0022)	.0018	(.0040)	(48.80)	***
-2	154	.0066	.0037	.0029	46.16	***
-1	154	.0001	.0006	(.0005)	(9.63)	***
0	151	(0035)	(.0036)	.0001	0.39	
1	154	.0021	.0069	(.0048)	(54.18)	***
2	154	(.0004)	(.0007)	.0003	5.79	***
3	154	(.0018)	.0042	(.0060)	(83.86)	***
4	154	.0014	(.0036)	.0050	77.53	***
5	154	.0007	.0002	.0005	7.03	***
6	154	.0008	(.0040)	.0048	68.33	***
7	154	(.0035)	.0041	(0076)	(116.83)	***
8	154	.0028	(.0035)	.0063	67.87	***
9	154	.0058	.0087	(.0029)	(31.09)	***
10	154	.0016	.0050	(.0034)	(50.36)	***
11	154	.0034	.0028	.0006	6.95	***
12	154	.0043	(.0020)	.0063	84.76	***
13	154	.0018	.0014	.0004	5.76	***
14	154	(.0059)	(.0023)	(.0036)	(58.46)	***
15	154	.0069	.0045	.0024	37.46	***
16	154	(.0012)	(.0063)	.0051	56.02	***
17	154	.0042	(.0015)	.0057	73.99	***
18	154	(.0002)	.0105	(.0107)	(89.70)	***
19	154	.0003	.0023	(.0020)	(28.05)	***
20	154	.0008	.0001	.0007	8.51	***

This table presents the average stock returns of the announcing firms compared to the matching firms over the event window.
The variable Day represents the number of days around the event date; n is the number of firms with reported returns on the specific day around the event date; AvgRetAnn is the average returns of all the announcing firms that traded on the specific Day; AvgRetMatching is the average returns of all the matching (Non-Announcing) firms that traded on the specific Day; AvgRetDifference is the difference between AvgRetAnn and AvgRetMatching (Average Abnormal Returns-AAbR) for the specific Day (t-statistics are reported in the last column)
****Indicates significance level of p <* . 01

Table 4: Stock Market Reaction to the Announcement of Option Expensing- Cumulative Average Returns of Announcing Firms Compared to Matching Firms

Day	_n_	Avg CAARAnn	AvgCAARMatching	AvgCAAR Difference	t statistic	
-20	153	.0063	(.0005)	.0068	101.71	***
-19	153	.0044	.0063	(.0019)	(17.44)	***
-18	154	.0092	.0059	.0033	23.07	***
-17	154	.0095	.0070	.0025	16.67	***
-16	154	.0089	.0051	.0038	25.11	***
-15	154	.0118	.0092	.0026	12.99	***
-14	154	.0126	.0092	.0034	15.96	***
-13	154	.0136	.0112	.0024	11.34	***
-12	154	.0132	.0110	.0022	10.31	***
-11	154	.0141	.0119	.0022	9.83	***
-10	154	.0111	.0081	.0030	12.01	***
-9	154	.0139	.0100	.0039	14.94	***
-8	154	.0123	.0064	.0059	20.85	***
-7	154	.0123	.0026	.0097	33.41	***
-6	154	.0149	.0067	.0082	28.59	***
-5	154	.0169	.0052	.0117	40.18	***
-4	154	.0199	.0065	.0134	45.30	***
-3	154	.0176	.0087	.0089	29.03	***
-2	154	.0242	.0117	.0125	41.02	***
-1	154	.0241	.0125	.0116	37.12	***
0	151	.0210	.0088	.0122	37.88	***
1	154	.0231	.0154	.0077	22.83	***
2	154	.0228	.0149	.0079	22.63	***
3	154	.0210	.0187	.0023	6.61	***
4	154	.0224	.0158	.0066	19.00	***
5	154	.0223	.0155	.0068	18.93	***
6	154	.0238	.0118	.0120	32.45	***
7	154	.0204	.0159	.0045	12.32	***
8	154	.0228	.0127	.0101	26.03	***
9	154	.0291	.0210	.0081	20.60	***
10	154	.0304	.0262	.0042	10.42	***
11	154	.0336	.0288	.0048	11.28	***
12	154	.0382	.0270	.0112	25.76	***
13	154	.0404	.0281	.0123	28.83	***
14	154	.0344	.0262	.0082	19.03	***
15	154	.0404	.0302	.0102	22.91	***
16	154	.0395	.0242	.0153	33.18	***
17	154	.0445	.0231	.0214	44.66	***
18	154	.0437	.0333	.0104	22.68	***
19	154	.0447	.0353	.0094	20.22	***
20	154	.0443	.0354	.0089	19.11	***

*This table presents the cumulative average abnormal returns of the announcing firms compared to the matching firms over the event window. The variable Day represents the number of days around the event date; n is the number of firms with reported returns on the specific day around the event date; AvgCAARAnn is the cumulative average returns of all the announcing firms that traded on the specific Day; AvgCAARMatching is the cumulative average returns of all the matching (non-announcing) firms that traded on the specific Day; AvgCAARDifference is the difference between AvgCAARAnn and AvgCAARMatching (Cumulative Average Abnormal Returns-CAARs) for the specific Day (t-statistics are reported in the last column). ***Indicates significance level of p < . 01.*

These results seem to suggest consistency with inefficient markets, which could be attributed to the Market's short-term fixation with announced Earnings per share (EPS) figures. The Market seems to be penalizing the announcing firms when they report decreased EPS levels caused by the expensing of stock options.

The difference in the sample size between the two methods used to measure the (average and cumulative) abnormal stock returns (154 firms in the matching firms' approach and 183 firms in the Market model approach) might also be causing an unexpected effect on the observed CAARs.

Table 5: Stock Market Reaction to the Announcement of Option Expensing: Market Model

Day	_n_	Avg CAARAnn	AvgCAARmarket	AvgCAAR Difference	t statistic	
-20	181	0.0032	0.0016	0.0016	34.75	***
-19	181	(0.0001)	0.0028	(0.0029)	(41.47)	***
-18	182	0.0055	0.0047	0.0008	9.08	***
-17	182	0.0046	0.0049	(0.0003)	(3.93)	***
-16	182	0.0035	0.0053	(0.0018)	(16.38)	***
-15	182	0.0058	0.0080	(0.0022)	(14.12)	***
-14	182	0.0053	0.0082	(0.0029)	(19.85)	***
-13	182	0.0072	0.0102	(0.0030)	(20.16)	***
-12	182	0.0069	0.0108	(0.0039)	(26.39)	***
-11	182	0.0099	0.0115	(0.0016)	(9.95)	***
-10	182	0.0073	0.0109	(0.0036)	(24.18)	***
-9	182	0.0097	0.0113	(0.0016)	(9.45)	***
-8	182	0.0072	0.0123	(0.0051)	(27.45)	***
-7	182	0.0074	0.0134	(0.0060)	(31.47)	***
-6	182	0.0092	0.0155	(0.0063)	(33.35)	***
-5	182	0.0115	0.0152	(0.0037)	(19.17)	***
-4	182	0.0150	0.0168	(0.0018)	(9.07)	***
-3	182	0.0136	0.0188	(0.0052)	(25.98)	***
-2	182	0.0181	0.0211	(0.0030)	(14.19)	***
-1	182	0.0186	0.0235	(0.0049)	(22.91)	***
0	178	0.0165	0.0233	(0.0068)	(30.84)	***
1	182	0.0194	0.0271	(0.0077)	(34.44)	***
2	182	0.0203	0.0282	(0.0079)	(33.85)	***
3	182	0.0170	0.0288	(0.0118)	(48.79)	***
4	182	0.0189	0.0294	(0.0105)	(43.36)	***
5	182	0.0208	0.0303	(0.0095)	(38.05)	***
6	182	0.0212	0.0305	(0.0093)	(35.69)	***
7	182	0.0200	0.0301	(0.0101)	(37.44)	***
8	182	0.0212	0.0302	(0.0090)	(32.84)	***
9	182	0.0269	0.0327	(0.0058)	(20.89)	***
10	182	0.0296	0.0354	(0.0058)	(19.93)	***
11	182	0.0301	0.0391	(0.0090)	(29.22)	***
12	182	0.0358	0.0421	(0.0063)	(20.74)	***
13	182	0.0371	0.0454	(0.0083)	(27.75)	***
14	182	0.0320	0.0481	(0.0161)	(52.74)	***
15	182	0.0393	0.0516	(0.0123)	(38.75)	***
16	182	0.0375	0.0516	(0.0141)	(43.89)	***
17	182	0.0416	0.0537	(0.0121)	(36.92)	***
18	182	0.0429	0.0556	(0.0127)	(38.23)	***
19	182	0.0444	0.0574	(0.0130)	(38.42)	***
20	182	0.0460	0.0598	(0.0138)	(40.70)	***

This table presents the actual cumulative average abnormal returns of the announcing firms compared to the expected cumulative average abnormal returns of the announcing firms over the event window using the Market Model, and the CRSP value-weighted index as the market proxy. The variable Day represents the number of days around the event date; n is the number of firms with reported returns on the specific day around the event date; AvgCAARAnn is the cumulative average abnormal returns of all the Announcing firms that traded on the specific Day; AvgCAARmarket is the expected cumulative average abnormal returns of the announcing firms calculated using the Market Model and the CRSP value-weighted index as the market proxy. AvgCAARDifference is the difference between AvgCAARAnn and AvgCAARMarket for the specific Day (t-statistics are reported in the last column). ****Indicates significance level of* $p < .01$.

CONCLUDING REMARKS

This paper empirically reexamines whether the announcement of the decision to expense stock options results in an abnormal return for a group of firms. The required expensing seems to have had different effects. The firms comprising "the Market" (with the CRSP value-weighted index acting as its proxy) seem to prefer firms that communicate transparency in their financial reporting to other firms that seem to lag "behind the herd" in reporting their true financial picture. The latter now includes disclosing the cost of all the compensation benefits provided to a firm's Board of Directors, its senior and middle managers, and employees. However, if every firm is on the same playing field with the same set of rules, the Market seems to prefer firms that report higher (rather than lower) EPS levels.

The contribution of this investigation consists in providing another perspective on the effects of expensing stock options on firms' returns, by performing the empirical aspects of the event study in a slightly different manner. The results obtained should be interpreted cautiously due to the small size of the different samples evaluated during the tests of hypotheses. Larger sample sizes could have resulted in different results.

This investigation is characterized by several limitations that must be considered as part of the understanding and interpretation of its findings. The sampled firms examined in the study are classified as either announcing or matching. The announcing firms partially reflect self-selection bias because they decided to expense stock options, when other firms had not done likewise. The subsequent procedure to select a similar "matched" firm also reflects a selection bias inasmuch as only firms with certain attributes such as being in the same industry, having the same fiscal year-end, and sharing similar sales and profitability (EBITDA/Sales ratio) levels, among others, were eligible matching firms. Firms that did not have a reported value for the Compustat variables 398 and 399 (Implied Option Expense and Stock Compensation Expense, respectively) are eliminated for matching purposes. In addition, as previously mentioned, the difference in the sample size between the two methods used to measure the (average and cumulative) abnormal stock returns (154 firms in the matching firms' approach and 183 firms in the Market model approach) might also be causing an unexpected effect on the observed CAARs.

The required expensing of stock options has not eliminated their controversial nature. Future research efforts should move towards trying to understand how the effects of option expensing are transmitted to the market. If analysts are in effect ignoring stock-option expense in their earnings forecasts as suggested by Barth, Gow and Taylor (2009), then the controversy over the reporting of stock options has only just begun.

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