

Change in Investor Sentiment Regarding Stock Option Accounting

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Abstract

We investigate whether investors changed their view of option expensing between the enactment of SFAS No. 123 in 1995, which required pro forma footnote disclosure of option expenses, and SFAS No. 123(R), the revised standard, which requires that option costs be expensed in computing net income. Focusing on a sample of firms most likely to be affected by a revised standard, we hypothesize and find a shift in investor sentiment in favor of option expensing that appears to have been triggered by Enron and other accounting scandals that surfaced in late 2001 and 2002. This result is based on the contrasting stock price response to key events preceding SFAS No. 123 and to later events preceding the enactment of the revised standard. Cross-sectional analyses of the sample firms' responses highlights the trade-off investors faced between the negative "income effect" of option expensing and the positive "information effect" arising from the presumed greater transparency achieved by such expensing. Our findings are twofold. First, they indicate that income statement recognition of the option expense provides information beyond footnote disclosures. Second, they suggest that while the lower income resulting from option expensing still has negative connotations, these are outweighed by the improvement in financial reporting transparency.

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1. Introduction

Accounting for employee stock options has been perhaps the most contentious issue ever addressed by the Financial Accounting Standards Board (FASB). Although by 1988, the FASB concluded that stock options represented a cost and subsequently, in a 1993 Exposure Draft, proposed that they be treated as an expense reported on the income statement, this pronouncement proved to be just another step in the long, arduous option-expensing debate.¹ Intense opposition to the proposal from numerous parties eventually forced the FASB to back down from mandating option expensing. The statement finally enacted in October 1995, Statement of Financial Accounting Standard No. 123 (SFAS No. 123), “Accounting for Stock-Based Compensation,” required that companies report the effect of options on earnings only in their footnote disclosures. In explaining the standard, the FASB maintained its stance that expensing produced the “most relevant and representationally faithful” computation of net income. However, it accepted the “compromise” requirement because:

The debate on accounting for stock-based compensation unfortunately became so divisive that it threatened the Board's future working relationship with some of its constituents. Eventually, the nature of the debate threatened the future of accounting standards setting in the private sector.... The Board chose a disclosure-based solution for stock-based employee compensation to bring closure to the divisive debate on this issue—*not because it believes that solution is the best way to improve financial accounting and reporting* (pars. 60 and 62, SFAS No. 123; italics added).

The furor in the corporate community raised many questions about stock option expensing. Was there merit to companies' claims that reporting the expense on the income statement would “strike at the heart of the job-creating high-tech industry, eliminate a competitiveness tool that has been responsible for the growth of the U.S. economy,” and create a “financial albatross” for start-up companies?² Or, in keeping with the efficient market hypothesis, was this expense already valued by market participants?

¹ The Exposure Draft proposed that the fair value of options granted be capitalized as a deferred cost on the grant date and then expensed over the options' vesting period.

² See “Senate Weighs In Against FASB on Options,” Newbytes News Network, May 6, 1994 and Statement of Mark Heesen, President, National Venture Capital Association, Testimony before the Committee on Senate Banking, Housing and Urban Affairs Subcommittee on Securities and Investment, November 12, 2003.

Research findings on the impact of SFAS No. 123 are mixed on these issues. Dechow, Hutton, and Sloan (1996) find no evidence of a negative stock price reaction to the 1993 Exposure Draft. They suggest that this may have been because “the probability of mandatory expensing never rose much above zero.” Their results indicate that opposition to mandatory option expensing arose primarily from concerns that top executives’ compensation packages would be subject to more public scrutiny. Espahbodi, Espahbodi, Rezaee and Tehranian (2002), focusing on high-tech, high growth and start-up firms, do find a significant stock price decline upon the issuance of the 1993 Exposure Draft and, subsequently, to the FASB’s decision to require footnote disclosure of the impact of options on net income. Further, the market’s response to these events is found to be more negative the greater the potential reduction in income. They conclude that investors perceived that firms would be hurt by reporting option expenses, not only because earnings would be lower but also because the reported earnings number would be less useful for contracting purposes. Recent research by Aboody, Barth and Kasznik (2004), Elayan, Pukthuanthong and Roll (2004) and Robinson and Burton (2004) indicates that investors rewarded some, but not all, firms that voluntarily adopted option expensing prior to SFAS No. 123(R).³ However, since for most of these firms the impact of expensing options on net income was negligible, it is not clear that the switch to expensing provided any information to investors.

The conflicting results of these studies—no discernible reaction or a negative reaction to the 1993 Exposure Draft, a negative reaction to the decision to require footnote disclosure, and a positive reaction to announcements by some firms that they were voluntarily switching to option expensing while there was no reaction for others—do not provide a clear picture of how investors view stock option expensing. Anecdotal evidence on the issue is also ambiguous. While there are indications suggesting that investor sentiment shifted in support of option expensing, the continued strong opposition to such a move by high tech and other firms that were heavy granters of options, various investor groups, Congressional members and other leading public officials raises doubts about the extent of support that option expensing garnered. The promulgation of the revised standard, SFAS No. 123(R), “Share-Based Payment,” enacted in December 2004 affords us an opportunity to revisit this topic with a new research question stemming from recent changes in the reporting environment, a new methodology and, as a result of the pro forma disclosures

³ Aboody et al. (2004) and Robinson and Burton (2004) find that positive excess returns accrued only to firms that announced that they were switching to option expensing by July 2002. The market response to similar announcements made later in 2002 or 2003 was not statistically significant.

mandated by SFAS No. 123, a sample where the impact of option expensing on firms' bottom lines can be more precisely quantified. Further, with some qualifications (discussed in Section 4.1) this setting provides a natural experiment to determine whether footnote disclosure is truly equivalent to income statement recognition.

Many events transpired during the nine-year interval between the two standards. The number of stock options granted each year grew astronomically from 1993 to 2004.⁴ Further, in the latter part of this period, accounting scandals of such firms as Enron, Global Crossing, and WorldCom, to name but a few, began to be uncovered almost weekly. Many suggested that there was a link between these scandals and the increased use of stock options. Because a greater portion of top managements' compensation was tied to stock prices, executives had even more incentive to manipulate earnings in order to boost their companies' reported performance. As explained by The Washington Post, "(S)tock options foster a corrosive climate that tempts many executives, and not just those at Enron, to play fast and loose when reporting profits."⁵

During 2002, as the argument that the failure to expense stock options significantly impaired financial statement transparency and contributed to reporting abuses gained acceptance, there appears to have been a marked shift in investor sentiment regarding such expensing.⁶ While in the past it was widely feared that option expensing would prove harmful to the economy, stymieing companies' ability to raise funds and thus thwarting economic growth, increasingly investors began to associate option expensing with greater reporting transparency, more credible financial statements and an increased ability to raise capital.⁷

The purpose of this study is to examine whether, and if so why, investors' perception of the merits of option expensing shifted over the nine-year period between the passage of SFAS No. 123 and SFAS No. 123(R). To provide a baseline, we first examine how the stock price of our sample firms responded to events that preceded the original standard, SFAS No. 123. We then identify events that had a bearing on the likelihood that a revised standard requiring option

⁴ Data by the U.S. Department of Labor indicate that the value of Employee Stock Ownership Plan (ESOP) assets increased from \$184.0 billion in 1994 to \$500.0 billion in March 2005.

⁵ R. Samuelson, "Stock Option Madness," The Washington Post, January 30, 2002.

⁶ Testifying before the Senate Finance Committee in April 2002, Sarah Teslik, Executive Director of the Council of Institutional Investors, stated that executive compensation was a leading cause of corporate, accounting and financial-services fraud and that stock options, in particular, were "a fraudster's best safe-cracking tools."

⁷ One role that stock options played in the accounting scandals was to weaken the incentives for the Board of Directors to "blow the whistle" on accounting irregularities. As evidence of the persuasive power of these options, AOL Time Warner gave its board member 40,000 options annually, valued at \$843,200 per director. (See "The Ten Habits of Highly Defective Companies," The Nation, August 5, 2002, p. 16.)

expensing would be enacted and examine how our sample firms' stock prices responded to announcements of these events. To understand the variance in firms' price responses, we use a cross-sectional regression analysis that incorporates the perceived costs and benefits of option expensing. The costs stem from the "income effect" associated with reporting lower earnings while the benefits emanate from the "information effect."

The income effect arises from the consequences of reporting lower income as a result of expensing options. The primary argument made by those opposed to such expensing was that it would depress stock prices, "cause an upheaval in the stock market" and make it more difficult to raise capital in the future.⁸ The benefits of option expensing which we refer to as the "information effect" stem largely from the perceived greater transparency obtained by expensing options. Firms' failure to recognize this expense during the years of SFAS No. 123 was regarded by many as having "obscured important aspects of reported performance and impaired the transparency of financial statements (SFAS No. 123(R), par. 4). More tangibly, because the revised standard requires that the cost of options be associated with specific business activities and reported with the respective line items on the income statement (e.g., as part of cost of goods sold or selling, general and administrative expenses) and the balance sheet (e.g., capitalized as inventory), financial statement information under the revised standard is likely to be informative about the actual compensation costs associated with the firm's operations.

The results support our primary hypothesis—the response to events indicating an increased likelihood of mandated option expensing switched from being negative in the early 1990s to positive in the pre-SFAS No. 123(R) period. Although the negative income effect persists, it appears to be offset by the added information provided by option expensing. Not only is the information effect positive, it further appears to be positively related to the amount of the potential option expense. These findings are above and beyond other factors documented by past research that may have a bearing on how investors weigh option costs (e.g., impact on borrowing ability or contracting) in valuing firms.

This study contributes to the literature on accounting for employee stock options, corporate disclosures and financial statement transparency in several ways. First, analysis of the market response to various events leading up to SFAS No. 123(R) provides evidence that allows us to make inferences about whether investors perceived that expensing would provide information

⁸ The Financial Executives Institute was among those advancing this argument; see "Time to Look at Stock Options' Real Cost," The New York Times, October 21, 2001.

beyond footnote disclosures. Prior research (e.g., Aboody, Barth and Kasznik (2004) and Balsam, Bartov and Yin (2005)) indicate that stock prices reflect the pro forma option expense reported in the SFAS No. 123 footnote disclosures. However, these studies provide no information about whether expense recognition provides information beyond these disclosures. Thus our findings directly address the question often raised by the FASB, the SEC and others as to whether disclosure is synonymous with recognition in a supposedly semi-strong-form efficient market. Second, because the footnote disclosures required by SFAS No. 123 enable us to estimate not only which firms will be affected by expensing but also the extent of this impact, we can resolve the mixed findings by others studies as to how investors as a whole regard option expensing and if, indeed, there was a shift in their view over the period that preceded SFAS No. 123 (R). Further, unlike prior studies that examined only one dimension of option expensing, our research design enables us to distinguish between the income effect documented by past studies as well as an information effect. Inclusion of this latter effect is informative because it sheds light on whether the FASB's objective to create more transparent financial statements through option expensing was valued by investors. Finally, including both effects enables us to gauge how investors weigh the tradeoffs between the income effect and the information effect associated with option expensing in their valuation of firms.

The paper proceeds as follows. In the next section, we briefly recap the nature of the controversy on option expensing and outline the major accounting pronouncements on stock options. In section three, we describe the various events leading up to the revision of SFAS No. 123. Section four contains our primary hypothesis regarding investors' changing sentiment about option expensing as well as hypotheses on the differential market response across firms. In this section, we also describe the methodology used to test our hypotheses. The samples used in conducting the tests and the data collection procedures are presented in the fifth section. The sixth section contains the results of our primary tests along with supplemental tests and sensitivity analyses. Conclusions are provided in the final section.

2. Stock Option Controversy and Accounting Pronouncements Preceding SFAS No. 123(R)

Options were initially accounted for in accordance with Accounting Principles Board Opinion No. 25 (APB No. 25), "Accounting for Stock Issued to Employees," which was issued in October 1972. This standard generally did not require a charge against income for "fixed" options

plans whereas performance stock options and stock appreciation rights were expensed.⁹ In the mid-1980s, as the popularity of fixed options plans increased, the FASB began discussing how best to account for options. Among other concerns, the FASB contended that all options should be treated in a uniform manner. The Board decided early on that stock options granted to employees represented a cost and that the proper accounting treatment for options was expensing. However, few others shared this view. The then Big Six accounting firms unanimously agreed that the Board should drop the issue of option expensing.¹⁰ Congressional members voiced their opposition to option expensing, with Senator Lieberman introducing a bill in May 1994 to “express the sense that the Financial Accounting Standards Board should maintain the current (non-expensing) accounting treatment”; the bill was adopted by a vote of 88 to 9. Most vocal of all, Silicon Valley firms and their option-compensated employees maintained that option expensing would have a tremendously detrimental impact, “hurting the economy,” “scaring off investors,” “limiting firms’ ability to recruit,” “bringing the tech movement to its knees” and “hurting the rank-and-file employees’ ability to participate in the ownership of their own companies.”¹¹ With such a strong and widespread sentiment against stock option expensing, it is perhaps not surprising that the accounting standard enacted in October 1995, SFAS No. 123, “Accounting for Stock-Based Compensation,” did not require option expensing.

Under SFAS No. 123, while firms were encouraged to recognize a charge against earnings for their option expense, they could elect to report under APB No. 25 and disclose the fair value of their stock option expense only in a footnote. Virtually all firms initially opted for footnote disclosure. Thus the diverse application of APB No. 25, where some options were included as expenses on the income statement while the cost of the majority of options was relegated to the footnotes, continued.

Questions immediately arose about the application of this standard and the controversy on option expensing persisted. To address these questions, the FASB revisited stock options in July 2000 with FASB Interpretation No. 44 (FIN No. 44), “Accounting for Certain Transactions

⁹ APB No. 25 requires that on the “measurement date,” the date when both the number of shares and the exercise price are known, earnings be charged an amount equal to the excess of the fair market value of the stock on that date over the amount payable by the employee (the exercise price). For a “fixed” stock option plan, since the exercise price is usually equal to the fair market value of the stock on the grant date, there is no charge against earnings.

¹⁰ See letter from the Big Six accounting firms to FASB chairman Dennis Beresford dated July 15, 1994.

¹¹ See, for example, “Over 4,000 Employees Rally to Send President Clinton a Strong Message: Stock Option Rule Change will Hurt Job Creation, Economic Growth,” *Business Wire*, March 25, 1994.

Involving Stock Compensation.” FIN No. 44 purposefully did not address any issues related to the application of the fair value method included in SFAS No. 123.¹²

For a brief time, all seemed quiet on the option-expensing front. But in the late 1990s, the accounting scandals began to surface and reports of accounting irregularities at Waste Management, WorldCom, Cendant, Sunbeam, Tyco and Xerox filled the press. In fall 2001, the Enron scandal broke. But as large as it was, Enron was just a harbinger of the large frauds to come. During the 15-month period following Enron, an additional 37 major frauds were uncovered, three times more than in the previous ten years combined. A number of these frauds occurred at high-tech companies that relied heavily on stock options to “pay” both management and employees. While there was no direct indication that the use of stock options was a factor in the Enron case or in any of the other fraud cases, a general outcry began to surface in the press that options were a “bad influence.” Senator Carl Levin’s introduction to his bill limiting the benefits of options, presented to Congress in February 2002, describes the connection this way: “Most executive pay packages rely heavily on options, encouraging corporate managers to push accounting rules to the limit to make their financial statements look better so their stock prices will go up; then executives can cash in their options.” Arthur Levitt, the previous SEC chairman, held that the only way to escape the so-called “vicious cycle” caused by options was to report them on the income statement:

A lot of the excesses that occurred in the '90s were the result of stock options improperly accounted for and improperly awarded ... Expensing stock options is a litmus test for those companies that stand with investors and companies that don't. Silicon Valley companies may be the last to come to the table, but they will come. (Webcast conducted by Business Finance on December 2, 2002)

As a result of Enron and the mounting number of corporate accounting scandals, we hypothesize that there was a shift in the public sentiment as regards accounting for stock options that occurred sometime during 2002. Such a shift is reflected anecdotally in the views of public officials. For example, in the early 1990s, President Clinton and current chair of the SEC, Harvey Pitt, spoke out against option expensing believing that this accounting treatment would “harm the

¹² FIN No. 44 clarifies questions about who constitutes an employee for purposes of apply APB No. 25, outlines the criteria for determining a noncompensatory plan, addresses how to account for modifications in the terms of previously fixed stock options or awards, and discusses how to account for the exchange of stock compensation awards in the event of a business combination.

economy.”¹³ However by 2002, Federal Reserve Chairman, Alan Greenspan, lent his support to expensing saying, “One step towards better earnings quality would be forcing companies to treat the value of stock options granted to executives and employees as an expense.”¹⁴ The new chair of the SEC, William Donaldson, who previously doubted the logic of expensing options, reversed his position and publicly supported the FASB’s movements in this direction.¹⁵ Further anecdotal evidence of a shift is the change expressed by various investor groups in their position on option expensing. The Council of Institutional Investors, a nonprofit organization whose 140 pension fund members include large corporate, public and labor funds, was heralded in the 1990s as “the poster child for opposing charging options to earnings.” However in March 2002, the group reversed its position and voted overwhelmingly to endorse option expensing.¹⁶ We include a few citations from the press indicating a shift in favor of option expensing in table 1.

In an attempt to regain investor and governmental confidence and, perhaps sensing a shift, some companies, beginning with Coca-Cola in July 2002 and followed shortly thereafter by The Washington Post, Bank One, General Motors and General Electric, began switching to option expensing in accordance with the preferred fair value method prescribed by SFAS No. 123. As more companies switched to this method, questions arose about how to handle the change from disclosure to recognition of the option expense. In December 2002, the FASB enacted SFAS No. 148, “Accounting for Stock-Based Compensation—Transition and Disclosure,” which, among other things, provides guidance for firms switching to recognition, requires quarterly disclosures of the stock option pro forma effects based on the fair value method, and requires that the disclosures be presented prominently and in a more “user-friendly” format. However, it would prove to be another long two years, until December 2004, before a new standard requiring option expensing was finally enacted.

3. Events Affecting the Likelihood of Mandated Option Expensing

3.1. Events Preceding the Enactment of SFAS No. 123(R)

In order to track investors’ sentiment regarding option expensing, we identify the major events that had a bearing on the enactment of a revised standard. To identify these events, we

¹³ See, for example, “Clinton Enters the Debate on How Companies Reckon Stock Options,” The Wall Street Journal, December 23, 1993.

¹⁴ “Greenspan Warns Against Too Much Regulation,” The Wall Street Journal, March 27, 2002, p. A3.

¹⁵ “Much Ado about Stock Options—The Epilogue,” The Wall Street Journal, April 23, 2003, p. A23.

¹⁶ Stone, P., “How Enron has Stirred Up Business,” National Journal, March 2, 2002.

examined three news sources: The Wall Street Journal, The Washington Post and the New York Times over the period following the enactment of SFAS No. 123 in October 1995 through the enactment of SFAS No. 123(R) in December 2004. For a reported item to constitute an “event,” it had to be covered by at least one of these publications.¹⁷ Second, it had to contain new information that had not previously been reported (or could not be inferred with certainty based on prior reports). For example, on July 27, 2002, it was reported that the FASB would once again consider the mandatory expensing of options. Similar news reports were released during the following two-week period. However, we include only the first of these reports. Third, in an attempt to identify the reaction to news about stock option accounting, the event had to be “isolated” in the sense that the press release was not “confounded” by news of other events about firms’ accounting. An example of such a “confounded” event occurred on March 13, 2003 when the FASB formally voted to add stock options to its agenda, an event that undoubtedly increased the likelihood that option expensing would eventually be mandated. However, the returns around this event are not informative because on this same day (and reported in the same press releases), it was announced that the FASB would likely add pension accounting to its agenda.¹⁸ Similarly, on April 10, 2002, President Bush publicly declared that he was “siding with the business community” opposing the expensing of stock options, an event that may have influenced investors’ perceptions about whether the FASB would eventually require option expensing. Confounding this event was the concurrent announcement that Federal Reserve Chairman Alan Greenspan strongly supported option expensing and that Senator John McCain and other Senate members were drafting proposals to require option expensing.

Following the enactment of SFAS No. 123, during the first six years from 1996 to 2001, there was little written in the press about stock options. We found just three fairly general articles in our news sources, either reviewing the earlier accounting debate or commenting on the increased use of options. However, in the years 2002-2004, there were 229 articles in our news sources that mentioned stock option expensing.¹⁹ Many of these did not provide new information but rather explained stock options and the ongoing debate about their accounting treatment. We read each of these articles chronologically to precisely identify when information was released that

¹⁷ Almost all of the identified events were covered by all three publications.

¹⁸ This formal vote confirmed the FASB’s earlier announcement that it planned to add stock options to its agenda.

¹⁹ We searched for articles where the term “stock options” appeared in the same paragraph as the word “expense” or “expensing.” No additional dates were identified when we expanded our search to include other terms (e.g., Financial Accounting Standards Board and stock options).

had not been previously reported.²⁰ Our initial examination resulted in 23 dates on which major news events occurred that had a bearing on the likelihood that option expensing would be mandated. Eight of these dates were dropped because the press releases contained “confounding” news that made it difficult to assess the impact of the stock option news. The remaining 15 major events that met the selection criteria are discussed briefly below.

The first event we identify that had a bearing on whether option expensing would eventually be mandated was on February 06, 2002. On that date, it was announced that a bill was being introduced in the Senate to force companies to recognize on their income statements the amount of the option expense deducted for tax purposes. We view this event as increasing the likelihood of mandated option expensing.

The next two events are also identified as increasing the likelihood of mandated option expensing. On July 27, 2002, the FASB reported that it would once again consider option expensing. On August 7, 2002, the Board went a step further announcing that it was exploring a requirement that companies report the bottom-line impact of options on the face of their income statements (but not to actually include them in the calculation of net income).

During this time period, there was also growing opposition to the movement to expense options. On February 7, 2003, it was reported that 70 House and Senate members had notified the FASB that they were against option expensing. We classify this event, our fourth, as being consistent with a decreased likelihood of mandated option expensing.

On February 18, 2003, the FASB announced its intentions to put option expensing on its agenda despite the strong opposition of some corporate groups, following the course set by the IASB.²¹ This announcement, which increased the likelihood that a revised standard might eventually be enacted, is the fifth event that we examine. Two months later during April 20-23, 2003, the Board announced that it was moving forward with option expensing despite the strong anti-expensing forces from the high tech sector and that its members had unanimously agreed by a formal vote that stock options should be expensed. These two announcements, because they

²⁰ To identify the key events, we each separately read through the 229 articles identified in the key word search and marked those that contained new information that appeared to have a bearing on the likelihood that the FASB would enact a new standard requiring option expensing. The events that we test are those common to both of our searches.

²¹ The IASB’s promulgation of option expensing also occurred over several years, from August 2001 to February 2004. We did not include dates of major IASB events in our analysis since our news sources generally reported summary articles about the IASB that were either “confounded” by news of other accounting issues confronting the IASB or contained “conflicting” news (i.e., mention that option expensing in the U.S. was still unlikely or “faced an uphill battle”).

occurred close together and have a consistent (positive) effect on the likelihood of option expensing, comprise our sixth event.

The seventh event that we identify occurred on September 11, 2003, when the FASB announced that it was postponing its activities on option expensing until it could resolve various accounting concerns (i.e., the appropriate option valuation methodology). Prior to this announcement, the FASB had stated that it expected to issue a proposal (the Exposure Draft) by the end of 2003 and a final standard by spring 2004. We interpret this postponement as an event consistent with a decreased likelihood of mandated option expensing since, among other effects, the delay gave the tech industry more time to promote its campaign against the FASB.²²

On January 9, 2004, the FASB gained the support of powerful members of the Senate Banking Committee. Concurrent with this announcement, the Board reported that a proposal draft might be ready by the following month. Because both of these are consistent with an increased likelihood of option expensing, we include these as event eight.

The Exposure Draft on option expensing was released almost three months later, on March 31, 2004. Although this did not constitute “news” in the sense that it conveyed unexpected information, because this issuance is a formal step in the standard setting process, we include it as event nine in our sample of events.

A serious threat to the option expensing arose when Congress became actively involved in the debate. On April 21, 2004, it was reported that a “lobbying blitz” was gaining momentum in the House and that a bill would be introduced limiting the amount of options expensed to those granted to the top five executives.²³ This bill was approved by the House Committee on June 16, 2004 and passed the full House by an overwhelming majority (312 to 111) on July 20, 2004. These three events, designated events 10, 11 and 12, respectively, are consistent with a decreased likelihood of mandated option expensing.²⁴

²² Deloitte & Touche reported that over 90% of the 175 CEOs and CFOs surveyed said that they would resist option expensing and called option expensing “public enemy no. 1 at tech companies.” (See “Options Battle Mounts /Tech Firms Resist Rules on Expensing,” *San Francisco Chronicle*, October 22, 2003, p. B1.)

²³ The bill, “Stock Options Accounting Reform Act” (HR3574), in addition to limiting option expensing to the CEO and the next four most highly paid executive officers, also stipulated that volatility would be assumed to be zero in option-pricing models used to estimate the amount of the expense, delayed expensing for small firms until three years after they had gone public, and required the Commerce and Labor Departments to complete an economic impact study of stock option expensing within one year.

²⁴ A similar bill, co-sponsored by 23 senators, was introduced in the Senate. However, this bill never made it out of the Banking Committee largely because Senator Richard Shelby, head of that committee, and other senators supported option expensing. Events related to the Senate bill are not included in the study due to the release of confounding information on the same days.

On August 11, 2004, the FASB's proposal suffered another setback when Donald Nicolaisen, Chief Accountant of the SEC, announced that he was considering giving companies an additional year to prepare for any standard that might be passed requiring option expensing. Bowing to external pressures, on October 14, 2004, the FASB again announced that it would delay its plan to require companies to expense options. We interpret these two events, numbered 13 and 14, respectively, as consistent with there being a decreased likelihood that mandated option expensing would be enacted.

During this period, mounting resistance to the FASB's actions by Congressional members and Silicon Valley companies might have, without the intervention of the SEC and the strong commitment of the Board, derailed once again a requirement to expense options. But this time around, the FASB prevailed and SFAS No. 123(R), requiring option expensing for all firms beginning for fiscal periods after June 15, 2005, was enacted in December 2004.²⁵ Although it is likely that the final enactment contained no unexpected news since by late November 2004 it appeared that a new standard was inevitable, for completeness sake and because this was the culmination of the standard setting process, we include this as our final event.

3.2. Events Preceding the Enactment of SFAS No. 123

The focus of this study is on the events preceding the enactment of the revised standard. However, in order to provide a baseline against which to gauge any change in investor sentiment, it is necessary that we revisit the key events that preceded the original standard using our sample firms and our methodology.²⁶ In contrast to our hypotheses regarding the response to events having a bearing on the revised standard, in keeping with the mood of the 1990s and consistent with earlier studies, we hypothesize that the earlier events suggesting an increased (decreased) likelihood that the recognition of the option expense elicited a negative (positive) market response.

The three events that had a bearing on the enactment of SFAS No. 123 that we examine are those common to both the Dechow et al. (1996) and Espahbodi et al. (2002) studies. The first pre-SFAS No. 123 event is the FASB's announcement on April 7, 1993 that it intended to propose that companies expense stock options. We expect the response to this announcement to be negative as

²⁵ As it turns out, this did not end the option-expensing saga. On April 14, 2005, the SEC voted unanimously to delay the effective date of SFAS 123(R) until the first quarter of the first *fiscal year* beginning after June 15, 2005 rather than the first *quarterly* or *annual* period beginning after that date as originally prescribed by the statement. For calendar-year firms, this moved the adoption quarter from the third quarter of 2005 to the first quarter of 2006.

²⁶ As noted earlier, prior studies used different samples and methodologies and, more importantly, had serious data limitations which prevented the more precise determination of firms that would be most affected by option expensing.

investors focus on the income effect in reacting to an increased likelihood of mandated option expensing.

The second event during this period that we examine is the FASB's announcement, on June 30, 1993, that it was issuing an Exposure Draft requiring option expensing. In the absence of any other information, we would expect a similar negative reaction to this event since it is consistent with an increased likelihood of mandated option expensing. However, on this date, a bill was introduced in the Senate that was intended to "counter" the FASB's proposal. This confounding event could have resulted in an "offsetting" reaction as investors respond negatively to one event and positively to the other one; the sign of the net effect depends on the probability investors assigned to each event's occurrence. Notwithstanding the difficulty in predicting the sign of the response to announcement of the Exposure Draft, we include it for completeness sake in order to compare the response of our sample firms to that documented by the earlier studies.

The third pre-SFAS No. 123 event that we examine occurred on December 14, 1994 when the FASB announced that it was moving to footnote disclosure, dropping its previous stance of requiring income statement recognition of the option expense. This change removed the possibility that options would be reported on the income statement, a move that in the absence of other information might be expected to elicit a positive response. However, this action increased the probability that the expense would be disclosed in the financial statements, albeit in the footnotes. While again the potentially offsetting news contained in this event makes it difficult to offer an hypothesis about the market reaction, the bulk of the press releases at the time suggest that the net effect would be negative. That is, investor groups and firms seem to have dismissed the possibility that options would be reported at all in the financial statements. News that disclosure of the income statement impact would be reported anywhere in the financial statements would thus be expected to generate a negative response.

4. Hypotheses

In the following section, we discuss the income effect which, we hypothesize is the "cost" of expensing options on which investors initially focused in the pre-SFAS No. 123 period. We then discuss the information effect, a feature of option expensing that we hypothesize investors view as a "benefit" of option expensing and on which they may have increasingly focused during the period preceding the enactment of the revised standard.

4.1. “Income Effect” of Expensing Options

The income effect examined in Dechow et al. (1996) and Espahbodi et al. (2002) refers to the impact that reporting lower income, as a result of expensing stock options, would have on the firm. Since information on the extent to which option expensing would have reduced income was limited or nonexistent prior to the enactment of SFAS No. 123, the footnote disclosures mandated by this standard would likely have revealed new information to investors. The question arises as to whether such information was value relevant. Since the accounting treatment had no bearing on the firm’s future cash flows, initially it might appear that the accounting treatment should have no valuation implications. However, there was a generally perceived fear by high-option-issuing companies and their constituents that reporting this expense would negatively impact their stock prices and, as a result, they would face difficulties raising new capital. This argument appears to rest on the notion that investors rely primarily on reported earnings, using a simple heuristic (e.g., P/E ratio) to value firms’ equity.²⁷ Relatedly, as Dechow et al. note, information about the extent of options granted might raise investors’ concerns about the level of compensation paid to top management, causing existing investors to shy away from firms that appeared to overly compensated top management through options. Another manifestation of the income effect argument against option expensing held that firms would lose a valuable tool used to recruit employees and motivate executives as they shifted to other forms of remuneration to avoid reporting lower income.²⁸

The source of any income effect in the pre-SFAS No. 123 era and the pre-SFAS No. 123(R) era on which we focus is likely to be different because in the latter period, investors had access to the estimated income effect through the mandated footnote disclosures. Nonetheless, as noted above, there remained widespread resistance to actually expensing stock options on the income statement because of the perceived income effect suggesting that there were costs associated with reporting this expense on the income statement above and beyond those arising

²⁷ While academicians may scoff at this argument since expensing options has no cash flow impact, Alan Greenspan, a believer in market efficiency and a strong proponent of option expensing, acknowledged that options would “reduce a corporation’s perceived earnings and conceivably its stock price.” (Speech to a conference on venture capital sponsored by the Atlanta Federal Reserve Bank, May 2, 2002.) Recent evidence supporting the income effect is provided by analysts’ recommendations to avoid companies where large EPS revisions are likely as analysts incorporate the impact of option expensing into their earnings estimates (under SFAS No. 123(R)) since quantitative-based models are often programmed to automatically sell shares when analysts slash earnings expectations. (See Zuckerman, G., “Hold on Tight: Cuts in Profit Estimates Loom,” *Heard on the Street*, The Wall Street Journal, February 14, 2006.

²⁸ See, for example “Special Report: The Angry Market—To Expense or Not To Expense,” Businessweek online, July 29, 2002.

from footnote disclosure.²⁹ One of these costs might arise from the higher credibility given to items reported on the income statement. FASB Concepts Statement No. 2 (SFAC 2), “Qualitative Characteristics of Accounting Information,” states that “criteria for formally recognizing elements in financial statements call for a minimum level or threshold of reliability of measurement that should be higher than is usually considered necessary for disclosing information outside of financial statements” (par. 44). Evidence that investors recognize this higher threshold is provided by Frederickson, Hodge and Pratt (2005) who find that even relatively sophisticated financial statement users judge the stock option expense reported on the income statement to be more reliable than the same amount reported in a footnote. Further, they find that the motivation for including the option expense on the income statement has a bearing on its perceived reliability, with required recognition judged to be more credible than voluntary recognition. These results suggest that investors would regard option expenses that were required to be reported to be both more relevant and more accurate than the pro forma impact provided in the footnotes, and thus give the recognized numbers greater weight in their firm valuations.³⁰

In summary, the income effect in the pre-SFAS No. 123 period stemmed from the effects of making the amount of the option expense known by disclosing it in the footnotes. The income effect prior to the revised standard, our primary interest, centers on the effects of moving the disclosure from the footnotes to the income statement and recognizing the option expense as part of the various line items reported on the income statement.

4.2 “Information Effect” of Expensing Options

We hypothesize that as a result of the numerous accounting scandals and the fear that options were somehow involved in managers’ illicit acts, investors began focusing on what we term the “information effect” of expensing stock options in the period preceding the revised standard. That is, rather than focusing primarily on how option expensing might depress stock prices, constrain the firm and limit its potential for growth, investors began to view expensing favorably, believing that it contributed to reporting transparency, reduced managers’ incentives to boost stock prices through fraudulent accounting, and thus reduced the probability of a future accounting scandal.

²⁹ Greenspan noted that while option expensing “altered nothing in the real world...most American businesspeople believe that expensing is more than bookkeeping.” (Speech to a conference on venture capital sponsored by the Atlanta Federal Reserve Bank, May 2, 2002.)

³⁰ Further evidence of the increased credibility of income statement recognition versus footnote disclosure is provided by Libby, Nelson and Hunton (2005) who find that reliability is an important consideration in auditors’ decision to include an item within the financial statements.

Given that the pro forma impact on income was available in firms' financial footnotes following the enactment of SFAS No. 123, the question arises as to whether new information is conveyed by option expensing. Clearly many believed that there was new information as exemplified by the fact that the FASB received 14,239 letters during the weeks following the release of the Exposure Draft.³¹

One potential benefit of reporting the option expense on the income statement is that income statement disclosure might provide additional information to investors because recognition of the option expense requires that it be associated with specific income statement and balance sheet items, information not provided by the footnote disclosures. For example, when IBM adopted SFAS No. 123(R) in the first quarter of 2005, its stock option expense of \$191 million for that quarter and \$276 million for the same quarter a year earlier was spread across four line items on the income statement: cost of goods sold, selling, general and administrative (SG&A) expenses, research development and engineering, and income tax benefits. Investors might well value this disaggregated information as suggested by previous research (see, for example, Chen and Zhang (2003)).

Second, expensing stock options might also provide information about the firm's future compensation packages, information useful in valuing the firm. In the wake of the enactment of SFAS No. 123(R), many firms reported that they were strongly considering reducing the amount of stock options granted and would likely switch to some other form of compensation.³² For example, Monster Worldwide reported that management was "currently assessing the potential impact of the new standard on (its) financial statements and evaluating alternative equity compensation arrangements."

A third potential benefit of reporting the option expense on the income statement is that this reduces information processing costs (i.e., plowing through the footnotes) and makes the impact of the expense on reported income obvious.

Proponents of efficient markets may contend that where an item is disclosed in the financial statements does not affect investors' valuation. Others argue, and some experimental evidence suggests, that placement does indeed matter and investors give more weight to items

³¹ The 1993 Exposure Draft, viewed as being "extremely controversial," generated "only" 1,789 letters.

³² In July 2003, Microsoft announced that it would stop granting employee stock options, choosing instead to give its employees stock or stock appreciation rights. Some viewed this move as a way of "getting around the whole controversy of how to account for stock options" (SiliconValley.com, "Microsoft Ends Stock Options," July 9, 2003) and a means of "sidestepping a thorny accounting problem" (TechWeb, "Microsoft to Offer Stock Awards, End Employee Stock Options," July 8, 2003).

reported on the income statement. The enactment of SFAS No. 123(R) appears to be a natural setting in which to test the relative merits of these arguments. However, one caveat is in order. As noted above, for a given level of option expense, the amount recognized on the income statement is likely to differ from the pro forma amount due to the fact that some costs may be reflected in balance sheet accounts. This “deferred recognition” (i.e., capitalizing some of the option cost and then expensing it when the associated revenues are realized), as well as the allocation of the option expense to specific income statement lines, could convey information that would alter investors’ valuation beyond any effects associated with the income statement recognition *per se*.

4.3 Alternative Hypotheses

Although the income effect might still exist in the years preceding the revised standard, we hypothesize that it is weaker than it was a decade earlier due to the existence of the pro forma impact in the footnote disclosures and, further, that it is outweighed by the information effect of option expensing as investors’ demanded more transparent financial statements. In terms of the key events that we examine, we hypothesize that events occurring in 2002 and beyond suggesting that option expensing would be enacted elicited a positive stock price response, in contrast to the negative response to option expensing events announced prior to the original standard. Similarly, we expect a negative stock price response to events preceding the revised standard that suggested that the FASB would not be successful in its efforts to enact option expensing or that such a requirement would be delayed until some future date, events which appear to have been regarded favorably by investors prior to the enactment of SFAS No. 123.

There are viable alternative hypotheses about the reaction to these events. For example, the anti-expensing view held in the early 1990s that led to the “compromise” enacted in SFAS No. 123 might have persisted, with investors continuing to believe that regardless of its benefits, option expensing would be detrimental to high-tech, high-growth firms that relied on options to compensate their employees. In this case, the income effect could outweigh any information effect, resulting in a negative reaction to events indicating an increased likelihood of mandated expensing and a positive reaction to events suggesting that a revised standard was not likely.

A third possibility exists--that investors did not respond to the events that we have identified. Such a finding may indicate that while investors believe that option expensing is value relevant, the events we investigate do not constitute “contain new information. We may have failed to accurately identify the events that have a bearing on the likelihood of option expensing

or, more likely, investors' expectations may have been impounded in stock prices very gradually prior to these events. Indeed, one might argue that with the advent of SFAS No. 123, any value-relevant information provided by option expensing was already known to investors through the footnote disclosures and thus information about the likelihood of mandated option expensing was not value relevant. Or, it might be the case that the income effect of option expensing exactly offsets the information effect, resulting in an insignificant response to the identified events.

4.4 Assessing Investors' Response to Key Events

We test for the change in investor sentiment by examining how investors responded to the three events in 1993-1994 that had a bearing on the likelihood of mandated option expensing prior to SFAS No. 123 and to the 15 events discussed above that preceded the enactment of SFAS No. 123(R). As a sensitivity check, we contrast the response of our sample firms (selected because their reported income would have been significantly decreased by option expensing in the 2001-2003 period) with a control group of firms for which the pro forma impact of expensing options was negligible. The market response is assessed by the cumulative excess returns occurring at the time over a three-day window centered on each event date.³³ Excess returns are derived by subtracting the daily mean return for the same size portfolio as provided by the Center for Research on Securities Prices (CRSP) database from the firm's return. Cross-sectional tests are then employed, as described below, to better calibrate the role that the income effect and the information effect play in explaining the cross-sectional variation in the stock price response to events having a bearing on the likelihood that a revised standard would be enacted.

In order to disentangle the income effect from the information effect of expensing stock options, we consider them simultaneously in the following model:

$$\begin{aligned} \text{Ret}_{i,e,t} = & \alpha + \beta_1(\text{IncEffect}_{i,t-1}) + \beta_2(\text{InfoEffect}_{i,t-1}) + \beta_3(\text{IncEffect}_{i,t-1}) * (\text{InfoEffect}_{i,t-1}) \\ & + \sum \beta_c(\text{Control Variables})_{i,t-1} + \varepsilon_{i,e} \end{aligned} \quad [1]$$

where Ret is the cumulative excess return of firm i over the 3-day window centered on the event announcement, e, occurring in year t. IncEffect represents the loss in income due to option expensing and InfoEffect is designed to capture the information effect stemming from the added transparency brought about by stock option expensing.

IncEffect is computed as a positive number equal to the amount of reduction in net income due to the expensing of fixed options as reported by the firm in its SFAS No. 123 footnote

³³ For event six which spans more than one date, we consider a slightly longer window than begins one day prior to the first date and extends to one day following the last date.

disclosure at the end of the prior year, $t-1$, divided by the market value of equity at that time. We hypothesize that the income effect of expensing options is negative. Since the variable IncEffect is measured as a positive number, we hypothesize a negative relation between Ret and IncEffect ($\beta_1 < 0$) for events hypothesized to increase the likelihood of mandated option expensing. That is, the greater the erosion in net income resulting from option expensing, the more negative the predicted market response, consistent with the findings of Espahbodi et al. (2002). Correspondingly, for events reducing the likelihood of mandated option expensing, we hypothesize that the income effect is positive ($\beta_1 > 0$). Alternatively, the market may have already accounted for the possibility of mandated option expensing in firms' financial statements and thus the coefficient on IncEffect may not be significantly different from zero.

The information effect discussed above is related to reporting transparency. In the wake of the accounting scandals, anecdotal evidence suggests that investors placed a higher value on financial statement transparency. However transparency, like other qualitative attributes of financial reporting, is difficult to measure. Former Chief Accountant of the SEC, Lynn Turner, in speaking of the need for transparent reporting, said that companies should provide disclosures that enable investors to "see the company through the eyes of management...reflecting in a timely manner the actual economic results and trends in operations and liquidity of the business, and the industry and environment in which it is operating."³⁴ If stock option expensing does lead to greater reporting transparency, *ceteris paribus*, those firms with relatively lower transparency prior to option expensing would be expected to have the greatest improvement in transparency. For firms that already have relatively transparent financial reporting, the incremental increase in transparency achieved by expensing options would be expected to be negligible.

We measure the transparency of the financial statements using a measure produced by Audit Integrity, LLC that captures a company's accounting and governance practices. This proprietary measure, known as the Accounting & Governance Risk (AGR) score, estimates the risk that companies' reported financial numbers misrepresent the true economic performance of the company. This score, which is updated quarterly, takes into account the firm's financial

³⁴ SEC Update: "Transparent Financial Reporting and Disclosures," speech given at the Interagency Accounting Conference, April 3, 2001, Denver, Colorado.

condition and reflect the earnings quality.³⁵ According to Audit Integrity, their measure addresses “the transparency of public companies’ accounting and governance practices.”

To create the AGR score, Audit Integrity relies on information in the firm’s latest quarterly report, trend analysis over the past few years, its performance and financial position relative to industry benchmarks, and approximately 130 other information items about the firm’s financial performance and its corporate governance practices. Audit Integrity uses this data to determine how similar a given firm’s financial statements are to past questionable financial statements (i.e., those subject to an SEC investigation, those cited in shareholder class action lawsuits, or those that have had to be restated). Beginning with a score of 100, points are subtracted for quantitative risk factors that indicate aggressive accounting and weak corporate governance.³⁶ The AGR scores thus range from 100 (highest level of transparency) to 0 (lowest level of transparency).

To compute the InfoEffect variable, we convert these scores to a measure ranging from 0 (very transparent) to 1 (least transparent) by subtracting the original AGR score from 100 and dividing the result by 100 in order to make this measure comparable with the variable capturing the income effect.³⁷ Just as a higher number for IncEffect indicates potentially more exposure to mandated option expensing in terms of the dampening effect on income, a higher score on the InfoEffect variable indicates potentially more exposure to mandated option expensing in terms of financial reporting transparency. We hypothesize that firms with a lower level of transparency prior to option expensing (a higher number for InfoEffect) will have the most significant improvement in their level of transparency if options are expensed. Firms with relatively transparent financial statement prior to option expensing (a low value for InfoEffect) will gain little in the way of transparency from option expensing.

We model our measure of transparency, InfoEffect, as both a stand-alone variable and as an interactive term with IncEffect as specified in equation [1]. As a stand-alone variable, the less transparent the firm’s financial statement, the more positive we expect the market reaction to be to events indicating an increased likelihood of required option expensing ($\beta_2 > 0$) and the opposite response to events indicating a decreased likelihood that option expensing would be required. As an interactive variable, the more negative is the income effect (i.e., the higher is the variable

³⁵ For example, the AGR score reflects the fact that firms in financial distress may have more incentives to manage earnings upward in order to avoid bankruptcy.

³⁶ Audit Integrity LLP continually updates the data on which the AGR scores are based and runs extensive tests to ensure that the scores produced are valid.

³⁷ We use the average score over the most recent four quarters in our tests.

IncEffect) and the lower the level of transparency, the more positive is the resulting interactive term. We hypothesize that the market response to events increasing the likelihood of mandated option expensing is stronger for firms with less transparent reporting that also have higher option expenses ($\beta_3 > 0$). For events decreasing the likelihood that option expensing will be required, this interactive variable is hypothesized to take on the opposite sign ($\beta_3 < 0$).

As controls for factors that might influence the market's reaction to changes in the likelihood of option expensing beyond those captured by the income and information effects, we include variables documented by prior studies that might have a bearing on investors' response to the key events. Espahbodi et al. (2002) find that smaller companies with lower free cash flows and limited debt capacity experienced a more negative stock price response to events indicating an increased likelihood of option expensing (in particular, the 1993 Exposure Draft). Dechow, et al. (1996) conclude that the differential market response at the time of the 1993 Exposure Draft arose primarily because top executives wanted to avoid having their compensation levels so blatantly exposed to the public.³⁸

Based on these findings, we incorporate the following four control variables in equation [1], all of which are measured at the yearend prior to the year of the news event (designated t-1). The first control variable, Cashflow, captures the company's ability to generate cash and thus the likelihood that it will be dependent on outside financing. Measuring this variable as cash flow from operations standardized by the market value of the firm's equity at yearend, we hypothesize that the lower the firm's cashflows, the more likely it is to need outside financing. If investors believe that borrowing ability will be curtailed by option expensing, there will be a positive (negative) sign on this variable's coefficient in regression [1] for events increasing (decreasing) the likelihood of option expensing.

Our second control variable, Leverage, measured as long-term debt divided by total assets, assesses the firm's ability to borrow in the future as well as its exposure to debt covenants and the associated contracting costs.³⁹ It is difficult to predict the sign of this variable's coefficient. If a high leverage ratio indicates that firms have reached their borrowing capacity or are close to violating their debt covenants, a negative coefficient would be expected on this variable as option

³⁸ Specifically, their results indicate that the greater the option compensation of top employees relative to other employees, the more favorable the market reacted to the possibility of expensing.

³⁹ Dechow et al. (1996) and Espahbodi et al. (2002) capture firms' proximity to their debt covenants using a variable computed as the sum of retained earnings, cash dividends and stock repurchases divided by the sum of cash dividends and stock repurchases. This variable could not be computed for most of the firms in our sample due to a zero-value denominator.

expensing becomes more likely. Conversely, a higher ratio may actually be indicative of borrowing ability and greater debt capacity. As an example of this, high tech and other start-up firms, with a low capacity to borrow due to the level and variability of their cashflows, have low leverage ratios whereas more established, stable companies with relatively higher leverage ratios have a greater capacity to borrow. If the leverage variable detects this effect, then firms with relatively higher leverage ratios will be less adversely affected, all other things being equal as the likelihood of mandated option expenses increases (i.e., a positive coefficient on Leverage).

Top5 captures the extent to which stock options are used to compensate the firm's top five executives. We measure this as the ratio of stock options granted to these executives to their total compensation.⁴⁰ If publicizing the option expense is believed to lead to greater transparency and thus reduce the likelihood of abuse as regards the top executives' compensation packages, then the coefficient on this variable is expected to be positive for likelihood-increasing events. That is, the greater the percentage of compensation received in the form of options by top executives, the more the market values this information.

Finally, we include firm size, Size, to control for various attributes that may be related to this variable (such as age, competitive strength, etc.) that are not currently included in regression [1]. We offer no hypothesis about the sign of the coefficient on this variable.

5. Sample

Not all firms are significantly affected by stock option expensing. Many firms do not grant options as a form of compensation. Even when firms do grant options, the potential impact on their income statements of expensing options varies through time. For example, the reduction in reported net income due to option expensing for 1800Flowers.com was -360.5% in 2002, -63.8% in 2003 and only -3.3% in 2004. The impact changed dramatically over the three-year period not only because the company granted less options but also because its profitability increased. Nor is it the case that option expensing within a given industry is uniform. Consider, for example, "high-tech" firms defined as those within the four-digit SIC codes of 3570-3579. The pro forma impact of expensing options was markedly different for Apple Computer (SIC 3571) as compared with Hewlett-Packard (SIC 3570) in fiscal 2003, with a decline in reported income of -241% and -32%, respectively.

⁴⁰ Collected from the Execucomp database, the denominator includes salary, bonus, other annual compensation, restricted stock, compensation from long-term incentive plans, "other compensation," and stock options.

Early researchers investigating the market's reaction to the promulgation of SFAS No. 123, because they did not have the footnote disclosures required by that standard, had to grapple with determining which firms, and the extent to which these firms, would be impacted by option expensing. Dechow, et al. (1996), in their investigation of the 1993 Exposure Draft, estimate the impact of option expensing by considering the extent to which firms rely on options as captured by the ratio of common shares reserved for conversion to stock options divided by common shares outstanding.⁴¹ Espahbodi et al. (2002) draw their sample of firms from those listed on the DISCLOSURE database that reported SFAS No. 123 footnote disclosures in 1996, the first year that firms were required to do so. While they can identify which firms are affected by option expensing and by what amount, their sample is limited because it consists of just one year of data and, more importantly, only the firms included in that particular database. These firms tend to be large, fairly mature manufacturing firms that would generally not be significantly impacted by option expensing.⁴²

In order to examine if there was a shift in investor sentiment regarding option expensing and why such a shift might have occurred, it is critical that we examine firms most likely to be affected by a change in stock option accounting. Since those firms whose net income was most reduced by the pro forma impact of expensing options as reported under SFAS No. 123 are those most likely to be affected by a revised standard, we sought to identify companies for which this impact was large. We drew our sample from four sources: (1) a list of the top 150 Silicon Valley firms,⁴³ (2) a Bear Stearns' report containing a list of 72 companies in the S&P 500 and NASDAQ 100 whose income from continuing operations would have been reduced by 20% or more if options had been expensed in 2004 and another list of 20 companies whose reported loss from continuing operations would have been increased from expensing options by 10% or more in 2004,⁴⁴ (3) companies on Execucomp with a stock option overhang of at least 4% in 2003,⁴⁵ and

⁴¹ Dechow et al. note that this measure captures the impact with noise because it includes variable stock options and options issued in tandem with stock appreciation rights, both of which are already expensed under APB Opinion No. 25 and because it is influenced by such factors as the age of the stock option plan. (This data item, number 215, is not available on Compustat after 1996.)

⁴² The pro forma impact of expensing options for their sample is less than 5.4% for half of the firms and there was no pro forma impact at all for about one-fifth of the firms. This may suggest that their results would have been stronger had they examined a group of firms more likely to be significantly impacted by option expensing.

⁴³ Available at <http://www.siliconvalley.com/mld/siliconvalley/11348863.htm>.

⁴⁴ Bear Stearns, 2005, "2004 Earnings Impact of Stock Options on the S&P 500 & NASDAQ 100 Earnings," New York: Bear Stearns and Company, Inc.

⁴⁵ The stock overhang is computed as the sum of the stock options granted but not exercised plus the remaining authorized (ungranted) options, divided by the total shares outstanding.

(4) companies on CRSP that are in high tech industries such as computers, electronics, semi-conductors, biotech (i.e., those with SIC codes of 3570-3579, 3670-3679, 8730-8734).

Beginning with this initial sample of 564 firms, we eliminated those that were not on the CRSP database. We then examined the pro forma footnote disclosures for the remaining firms as provided in their 10-K reports for fiscal years 2001-2003.⁴⁶ We retained all firms where the reported pro forma impact of expensing stock options would have reduced reported net income by 10% or more in at least two of these three years and that had the necessary data to compute the independent variables specified in regression (1).

The resulting sample consists of a total of 235 firms. While the sample firms are spread across 34 industries, as shown in Table 2 there is some industry clustering. Approximately 26% of the sample firms are in the electronic and electrical equipment industries (two-digit SIC 36), 18% are in business services (two-digit SIC 73), 10% are in the industrial machinery and equipment sector (two-digit SIC 35) and 6% in chemicals and allied products (two-digit SIC 28).

Statistics on reported income and the pro forma dollar impact of the stock option expensing for the sample firms by year are reported in table 3, panel A. As can be seen in the sixth column (Quartile 2), roughly half of the sample firms were not profitable, with the median net income ranging from a low of negative \$2.74 thousand in 2002 to a high of \$11.61 thousand in 2003; the mean value of net income ranged from negative \$354.68 thousand in 2001 to a high of negative \$34.28 thousand in 2003. The mean pro forma net income which reflects the reduction due to option expensing was lower by over \$120.0 thousand on average in each of the three years. In terms of percentages, the mean percentage decline in net income resulting from expensing options was 65.1%, 113.6% and 262.2% in 2001, 2002 and 2003, respectively. Due to the “small denominator” effect in some years, the median declines are generally larger, equaling 385.7%, 65.3%, and 383.2% in 2001, 2002 and 2003, respectively.

Table 3, panel B, contains descriptive statistics on the independent variables used in the cross-sectional tests. On average, the negative impact of expensing options, as captured by the variable IncEffect, ranges from a mean (median) 3% (3%) of equity in 2001, to 7% (5%) in 2002 and 8%(6%) in 2003. This illustrates the significant income reduction from expensing options for the firms in our sample. In terms of reporting transparency, the InfoEffect variable ranges from a

⁴⁶ IncEffect is calculated using the pro forma data available at the time of the event. For example, to estimate regression 1 for the first three events, all of which occurred in 2002, IncEffect was computed using pro forma data reported at the end of 2001.

mean (median) of 0.46 (0.49) in 2001 to 0.53 (0.51) in 2003. This is considerably higher than the comparative score for all other firms included in the Audit Integrity database with means (medians) ranging from 0.33 to 0.37 (0.34 to 0.39) over the years 2001-2003, indicating that our sample firms, in general, have a lower level of reporting transparency.

In terms of the control variables, the sample firms have relatively low levels of leverage, with long-term debt divided by total assets equaling a mean (median) average of 11% (4%), 17% (6%) and 20% (7%) in 2001, 2002 and 2003, respectively. In terms of the sample firms' ability to generate cash from operations, on average the Cashflow variable is negative. This cash shortage is consistent with these firms issuing stock options to their employees in order to conserve cash. Regarding the percentage of compensation in the form of options paid to the top 5 executives, this variable decreased slightly over the three-year interval from an average (median) high of 70% (77%) in 2001 to an average of 61% (72%) in 2002 and 57% (68%) in 2003. The sample firms are fairly small in size which, given that a large number of companies in the sample are in high tech and other emerging industries, is expected and consistent with their propensity to issue options. The firms' market values over the three-year period range from a mean (median) of \$581 to \$652 million (\$463 to \$504 million).

Table 4 contains the correlation coefficients of the independent variables used in regression [1]. The primary variables of interest, IncEffect and InfoEffect are not significantly related and thus appear to capture different aspects of firms' reporting environments. There are some significant correlations among the control variables: the amount of debt in the company is negatively related to the percentage of options in the top 5 executives' compensation package, size is positively correlated both with the top 5 executives' compensation package as well as cash flows from operations. However overall, the level of correlation across all of the variables used to examine the cross-sectional response to events indicating a change in the likelihood of mandated option expensing is relatively low.

6. Results

6.a. Stock Price Response to Events Affecting Likelihood of Mandated Option Expensing

Table 5 displays the market reaction to pronouncements hypothesized to affect the likelihood that option expensing will be required in the pre-SFAS No. 123 and the pre-SFAS No. 123(R) periods. Panel A contains the mean stock-returns and t-statistics for the three events that preceded the original statement that had a bearing on the likelihood of mandated option expensing.

A total of 87 out of the total sample of 235 firms existed in the 1993-1994 period and had sufficient return data needed to perform this analysis.⁴⁷ The mean three-day abnormal returns to each of the three events was negative, with the response to the FASB's initial vote to require expensing (event A) being significant statistically significant at the 5% level and its announcement that it was moving to footnote disclosure dropping the requirement for income statement recognition (event C) being marginally significant at the 10% level. These results support the notion that investors responded negatively to the possibility of option expensing in the period preceding the enactment of the original standard and provide a benchmark for gauging the response to the revised standard.

Panel B shows the market response to events preceding the enactment of the revised standard. Considering the eight events expected to increase the likelihood of a revised standard mandating stock option expensing, five of these generated a positive response (events numbered 2, 3, 5, 6 and 8) with the mean three-day abnormal returns ranging from 1.51% to 4.21% (all statistically significant at the 10% level or better). Four of these were FASB announcements, with the strongest response to the news in April 2003 that the members of the FASB had unanimously agreed to proceed in their efforts to require stock option expensing. The fifth event, news in January 2004 that the Senate Banking Committee was officially backing the FASB's moves, also resulted in a statistically significant market reaction. This event was noteworthy in that it halted the Congressional uprising that originated in the House and cleared the way for the FASB to issue SFAS No. 123(R).

The reaction to the first identified event, announcement that a bill would be introduced in the Senate to expense the amount of options deducted for tax purposes, was insignificant. While we included this event because it appeared to have a bearing on stock option expensing, apparently it did not. A possible explanation for this is that similar bills had been discussed years earlier during the SFAS No. 123 debates. Perhaps announcement of such a bill did not constitute news. Or, it may have been the case that getting such a bill approved was a "long-shot," just as it had been back in the 1990s.

Similarly, the market reaction to the announcement that the FASB had issued an Exposure Draft (event nine) was insignificant. Although we included this because it is one of the formal steps in the standard-setting process and because there was a strong negative reaction to the

⁴⁷ Repeating the main tests on this subset of firms did not significantly alter the results.

Exposure Draft that preceded SFAS No. 123, apparently investors had already incorporated any relevant information over the many months of discussion that preceded this issuance.

Surprisingly, announcement of SFAS 123(R) (event 15) evoked a marginally significant negative market response (significant at the 0.10 level). This response might reflect the belief of investors who favored option expensing that the standard did not go far enough in fairly measuring the option expense or promoting transparent disclosure.⁴⁸

Panel B also contains the seven events hypothesized to decrease the likelihood that a standard mandating option expensing would be enacted. The market reaction to all of these events was negative as hypothesized and significant at the 10% level or better. Announcements that option expensing might be delayed or postponed by the FASB or the SEC (events 7, 13 and 14) resulted in a combined market reaction of -4.19%. Congressional actions (events 4, 10, 11 and 12), culminating in the approval of a watered down bill by the House Financial Services Committee, an action that many felt could derail the FASB's efforts, resulted in a combined market response of -5.32%.⁴⁹

The results reported in panel B for the revised standard are in sharp contrast to those provided in panel A for the original standard. While the original standard was preceded by a negative response to the possibility of option expensing, similar events preceding the revised standard elicited a positive response. Underscoring this apparent shift in public sentiment regarding option expensing, the results of panel B indicate that investors reacted negatively when it appeared that opposition to a revised standard was gaining strength.

To account for the cross-sectional correlation in stock returns that may arise because this analysis focuses on the same dates for our sample firms, we employ the Fama-MacBeth (1973) approach, considering each event date as one observation and then combining the events hypothesized to increase the likelihood of mandated option expensing around the original standard reported in panel A and the events hypothesized to increase (decrease) the likelihood of a revised standard requiring option expensing reported in panel B. The results, presented in Panel C, are consistent with those reported above. Namely, the three events that preceded the original standard resulted in negative and marginally statistically significant mean abnormal returns. Similar events occurring almost a decade later suggesting an increased likelihood that option expensing would be

⁴⁸ Many argued that the measurement date should not be the grant date as specified in SFAS 123 but rather the exercise date. (See Dyson, 2004.)

⁴⁹ See, for example, "House Panel Set to Rein in FASB on Options Rule," Wall Street Journal, June 16, 2004.

required generated a positive and significant mean abnormal return whereas the seven events suggesting that the FASB's attempts to require option expensing would fail have negative and statistically significant mean abnormal returns. This analysis suggests that the results reported in panels A-C are robust to alternative statistical methodologies and, in particular, are not driven by biased standard errors arising from positive cross-sectional correlations among the stock returns.

6.b. Cross-Sectional Tests

Table 6 presents the results from regressing the market response to events related to the passage of SFAS No. 123(R) on our three variables of interest: the income effect (IncEffect) which captures the reduction in income when options are expensed, the information effect (InfoEffect) which captures the transparency of the financial statements, and the interactive effect of these (IncEffect*InfoEffect) which captures the interrelationship between the income reduction and financial statement transparency, as well as on the four control variables (Leverage, Cashflow, Top5, and Size).⁵⁰ Panel A contains the results for the events combined based on their expected impact on the likelihood of mandated option expensing while Panels B and C present the results for the separate events. Panel D contains the results of a Fama-MacBeth analysis.

Our hypothesis on the cross-sectional response to events hypothesized to increase the likelihood of mandated option expensing is borne out by the data. As reported in panel A, the coefficient of IncEffect (-0.042) is significantly negative for the increased likelihood events, similar to results documented by Espahbodi et al. (2002; see their table 7) in the pre-SFAS No. 123 period. That is, the greater the reduction in earnings due to option expensing, the more negative the market response to events indicating that this accounting treatment was likely to be required. For these increased likelihood events, the coefficient on the variable proxying for the information effect, β_2 , is significantly positive (0.083) as hypothesized. Apparently, the investors viewed the possibility of option expensing more favorably for firms that were more aggressive in their accounting and that had weaker corporate governance. The interactive variable is also positive and highly significant indicating that the sensitivity of the stock price response to news of potentially greater transparency as stock options are expensed is a function of the income effect.

Two control variables were marginally significant for the increased likelihood events: Cashflow and Top5. The positive coefficient on Cashflow suggests that the stronger the

⁵⁰ While it would be interesting to contrast the results of this cross-sectional test with the one performed on the events preceding the enactment of the original standard, data on the income statement effect of expensing options and the data required to compute the InfoEffect variable is not available for the 1993-1994 period.

company's ability to generate cash internally, the less dependent it is likely to be on external financing and thus the lower the potential impact of option expensing. The significantly positive coefficient on Top5 is consistent with the results of Dechow et al. Namely, the greater the proportion of options included in the top executives' compensation packages, the more favorably the market viewed option expensing.

The second line of results contains the results of the market response to events hypothesized to decrease the likelihood of mandated option expensing. The coefficient for IncEffect is not significant. However, the coefficient capturing the information effect of option expensing, InfoEffect, is negative and marginally significant suggesting that investors were troubled by the prospect that mandated option expensing would not be enacted. The interactive variable, which is significant at the 0.05 level, suggests that investors were more concerned about this possibility for firms with a potentially large option expense and lower reporting transparency. Top5, a control variable, is negative and significant (at the 0.05 level), consistent with the results in Panel A. Investors apparently favored the greater reporting transparency gained by expensing options, particularly for those firms that depended more on options to compensate their top executives. The reason for this may be twofold. If the option expense is reported directly on the income statement, this may give investors a greater ability to monitor the compensation package of top management and thus prevent excessive option grants. Also, to the extent that the reported numbers are judged to be more credible, investors might weight the compensation package more accurately in their valuation of the firm.

In Panels B and C, we examine regression (1) separately for each of the fifteen events. For 11 of the 15 events (six associated with an increased likelihood of mandated option expensing and five associated with a decreased likelihood), the results indicate that the income and information effects are in the predicted direction. We further performed a Fama-MacBeth analysis.⁵¹ The results, reported in Panel D, are consistent with those reported in Panel A. Specifically, the mean values for the IncEffect, InfoEffect, and the interactive variable (IncEffect*InfoEffect) are significant and in the hypothesized direction for the events hypothesized to increase the likelihood of mandated option expensing and insignificant for events hypothesized to decrease the likelihood of mandated option expensing.⁵²

⁵¹ Since we are looking at common event dates for the sample firms, the error terms likely violate the OLS assumptions of cross-sectional independence.

⁵² An examination of median values leads to similar conclusions.

Taken together, the stock price reaction to the key events and the cross-sectional analyses indicate that while investors appear to consider both the income effect and the information effect in evaluating the impact of stock option expensing, their perceived need for greater reporting transparency outweighs any perceived costs associated with the reduced income resulting from option expensing.

6.c. Supplemental Tests

The results above on the IncEffect variable suggest that the market fixates on earnings and that the possibility of reporting lower income causes investors to downgrade the firm's stock price. In order to explore this issue further, we examine whether the market reaction is more pronounced for firms that move from a profit to a loss as a result of expensing options. Approximately 11% of the firm-years in our sample fall into this situation. To test this impact, we incorporate a dummy variable (Loss) that takes on a value of 1 if expensing stock options would cause an otherwise profitable firm to report a loss and 0 otherwise in regression (1) as follows:

$$\begin{aligned} \text{Ret}_{i,e,t} = & \alpha + \beta_1(\text{IncEffect}_{it-1}) + \beta_2(\text{InfoEffect}_{it-1}) + \beta_3(\text{IncEffect}_{it-1}) * (\text{InfoEffect}_{it-1}) + \beta_4(\text{Loss}_{it-1}) \\ & + \beta_5(\text{Loss}_{it-1}) * (\text{IncEffect}_{it-1}) + \Sigma \beta_c(\text{Control Variables})_{i,t-1} + \varepsilon_{i,e} \end{aligned} \quad [2]$$

If firms take pains to avoid reporting a loss as previous research suggests (e.g., Hayn (1995), Burgstahler and Dichev (1997), DeGeorge, Patel and Zeckhauser (1999)), then the market response for firms in this situation is expected to be particularly pronounced. That is, for increased (decreased) likelihood events, we expect β_4 and β_5 to be negative (positive). The results of this test provide evidence consistent with this expectation. For both the increased (decreased) likelihood events, β_4 is significantly negative (positive) at the 5% level. The coefficient on the additional interactive term, β_5 is marginally significant (at the 10% level) for the increased likelihood events but not significant for the decreased likelihood ones.

We provide one more supplemental test in order to further understand what appears to be investors' changing sentiment regarding option expensing. Here we examine a very different group of firms (none of which are included in our main sample) that voluntarily switched to option expensing under SFAS No. 123 before the enactment of the revised standard. Two findings from past research lead us to believe that this group of firms can provide interesting insights as to how investors view option expensing. First, previous studies indicate that the market responded positively to *some* (but not all) of these firms' announcements that they were voluntarily moving to expensing. Second, previous research suggests and data we collected (described below) confirm

that the income effect for these firms was negligible. If there is virtually no impact on reported income from expensing options on the income statement, then why did the market respond positively to the announcement that these firms were adopting option expensing? Given the insignificance of the reported pro forma impact of expensing options for these firms, one might think that any information provided by option expensing would also be negligible since it is not likely that any particular line item on the income statement would be altered significantly by incorporation of the option expense.

The positive response might be due to a “signaling effect” related to the adoption of expensing *per se* rather than any specific information that would be generated by the new disclosure.⁵³ The finding that the market response was much more pronounced for firms that adopted option expensing relatively early in 2002 as compared with those that adopted later, even though both groups of firms preempted the mandatory requirement, suggests that if signaling were the cause of the positive market response, it dissipated over time for some reason. Perhaps the market anticipated later announcers’ decision to adopt option expensing. Or, perhaps the earlier and later announcers differ along some important dimensions.

We hypothesize that there was a difference between the earlier and later voluntary adopters and that the more pronounced positive response to the earlier adopters is due to the greater information effect. That is, we hypothesize that the previously documented results arise because the earlier adopters had (a) less transparent financial statements and/or (b) they belonged to one of the more scandal-ridden industries and thus the move toward more transparent financial statements distinguishing the adopting company from its peers who remained opposed to option expensing.⁵⁴

To test this hypothesis, we examine the relation between these firms’ excess returns at the time of their adoption announcement and our variables of interest (as well as the control variables) specified in equation [1].⁵⁵ *A priori*, these early adopters are expected to be quite different from our main sample (i.e., firms we chose because they were likely to be significantly affected by option expensing) in that the impact of option expensing on net income is expected to be considerably less. In terms of equation [1], we hypothesize that the coefficient on IncEffect for

⁵³ Because the early adopting firms “self-selected” to be in this group, this is not a random sample and there could be other motives for their adoption.

⁵⁴ Note that we do not include a variable for membership in a “scandal-ridden industry” in our primary analysis because a revised standard would apply to all firms in the economy. We include it here since the early adopters “self-selected” into the sample and several of them are in industries where major accounting scandals were uncovered.

⁵⁵ Most of these firms had already announced their intention to begin expensing options prior to many of the dates that we examine in our primary analysis.

this sample will be insignificant while that on InfoEffect will be significantly positive. Distinguishing between the earlier and later announcers as done in Aboody et al. (2004) and Robinson and Burton (2004) (i.e., firms that announced adoption prior to and after August 1, 2002, respectively), we expect that the coefficient on InfoEffect will be significantly larger for the earlier announcer sample. To see whether industry affiliation played a role in the market response, we also distinguish between scandal-prone and scandal-free industries on the basis of the firms' SICs. The following industries were identified as being particularly scandal-prone since at least two major scandals had been uncovered in these industries over the 1999-2002 time period: computers and computer components (SIC 357), computer programming and related services (SIC 737) and pharmaceuticals and drugs (SIC 283).⁵⁶

To construct our sample for this investigation, we identify firms on the Factiva database that announced that they were voluntarily adopting option expensing. These announcements had to be "clean" in the sense that they were not "confounded" by other firm-specific news. (We eliminated all firms whose announcements were combined with earnings releases or other news such as changes in dividend policy, stock repurchases, etc.) Further, these firms had to have the necessary data needed to participate in the analysis. We began our search in January 2002 but detected no early adopters until July 2002. Perhaps not coincidentally, this was the month in which the FASB announced that it was once again taking up the issue of option expensing, following the IASB's earlier lead (our event 2). In all, we found a total of 131 "clean" announcements through November 2002. We define the first one-quarter of the voluntary adopters as "early announcers" and the remaining three-quarters of the firms as the "later announcers."

Descriptive statistics on the full sample of 131 early adopters are provided in table 7. Most of these firms were in industries other than electronic, computer, business services or biotech, the industry concentrations in our primary sample. Further, these early adopters are much larger firms and the pro forma impact of expensing options for them, as expected, is considerably smaller than our sample firms, with a mean (median) effect of only -11.2% (-3.86%) compared to a mean (median) effect that ranged from -65.1% to -262.2% (-383.2% to -430.3%) for the primary sample. Further, on average, these companies already have more transparent reporting as seen by the lower

⁵⁶ We identify these industries as being particularly prone to accounting scandals given that a number of the largest scandals occurred in firms in these industries (e.g., Xerox, Lucent, Computer Associates, Iomega, Telxon, Critical Path, Peregrine Systems, Bristol-Myers, Merck, etc.).

values of InfoEffect (a mean value of 0.33 as compared with the previous sample's mean value which ranged from 0.46 to 0.53).

To test regression [1] on this sample, we form the dependent variable by computing the three-day announcement period excess returns centered on the day each firm announced it was adopting stock option expensing using the procedure described in section 4.2. Consistent with previous research, we find a mean positive three-day announcement period excess return for the sample firms of 1.14% which is marginally significant (at the 0.10 level), as reported in table 8, panel A. About 40% of the firms' stock prices increased significantly upon announcement that they were voluntarily adopting option expensing. Dividing the sample into the earlier and later announcers, comparable with prior studies' results, we find that the excess returns of the earlier announcers were significantly larger (t-statistic of 4.12) than those of firms that announced that they were voluntarily adopting option expensing later in 2002 or 2003.

Results of the cross-sectional analysis, reported in table 8, panel B, indicate that the income effect is insignificant for the early adopters. This comes as no surprise given the relatively low impact that option expensing has on these firms. Interestingly, the InfoEffect variable is statistically significant for this sample of firms, even though they are more transparent than the previous sample. Apparently, in the wake of the accounting scandals, any move that promised to increase financial transparency was rewarded by investors. However, this effect was dominant for the earlier announcers; the coefficient on InfoEffect is not significant for the later announcers. This finding complements the results of Aboody, Barth and Kasznik (2004) who find a significant positive announcement period return to early adopters that gave, as a motivation for adopting option expensing, the desire to increase their financial reporting transparency. The significance of the interactive variable in the regression highlights this point. For the earlier announcer subsample, the market response is most favorable for adopting firms most affected by option expensing and that had the lowest level of financial reporting transparency.

To test whether being affiliated with a scandal-prone industry gives an added signal to investors that the firm is taking actions to become more transparent, we add a dummy variable to regression [1] equaling 1.0 if the firm belongs to one of the three identified industries notes above and 0.0 otherwise. The results, presented in Panel C, suggest that firms that voluntarily adopted option expensing were regarded more positively by investors, particularly if there had been major accounting scandals in the industry to which they belonged.

6.d. Sensitivity Analyses

To determine the robustness of our results, we perform two tests to determine the extent to which our results are sensitive to the measure of transparency we employ, our sample and the identified dates as discussed below.

Our primary measure of transparency, InfoEffect, is based on firms' accounting-governance rankings (AGR) that are derived from comprehensive econometric models that encapsulate numerous aspects of the firm that have a bearing on its reporting transparency. As noted earlier, it is difficult to quantify transparency and the scores provided by Audit Integrity LLD appear to be the best measure available. However, to determine if our results are robust to other indicators of transparency, we also consider a second measure based on accruals. Our rationale for using accruals as a second measure to assess transparency is twofold. First, the more significant are a firm's accruals, the greater the measurement problems inherent in assessing its true performance. In speaking with analysts, one of the frustrations they point to is trying to "see through accruals" to discern the firm's actual operating performance. Research by Bradshaw, Richardson and Sloan (2000) which shows that neither analysts nor investors fully incorporate the future impact of high accruals in projecting future earnings supports the notion that more accruals lead to less understood, and thus less transparent, financial statements. Our second reason for focusing on accruals is that in general, the greater the level of accruals, the greater the effort that financial statement users have to expend to track down the source of the accruals and to understand how the reported income numbers differ from the cashflow effects. Relatedly, the more consistent are accruals from year to year, the more predictable they are and, it seems reasonable to assume, the easier it may be to understand and interpret them.

To capture these aspects of accruals, our alternative measure of transparency is computed as the absolute value of accruals in year $t-1$ divided by the mean value of accruals over the three years ending with year $t-2$.⁵⁷ This measure is designed to detect an accrual level that departs from the "normal" level reported over the preceding three-year period. If accruals indeed render the financial statements less transparent, the higher and more unusual this measure, the more effort required to understand how the components of reported income differ from their cash flow effects. The correlation between this measure of transparency and InfoEffect is low but marginally

⁵⁷ Bushman, Piotroski and Smith (2003) consider various "macro" aspects of transparency including frequency and extent of disclosure, corporate governance measures (e.g., composition of board of directors) and auditor size. Their focus is on differences across countries with different reporting regimes rather than differences across firms within the same regime.

significant (at the 0.10 level). Since InfoEffect reflect not only accruals but also a much broader range of firm characteristics, this result is not surprisingly.⁵⁸

Using the accruals measure of transparency, we rerun regression [1] for the combined increased- and decreased-likelihood events preceding the revised standard as shown in table 6, panel A. For the increased likelihood events, the findings remain intact although the coefficients on both the InfoEffect and the interactive variable (IncEffect*InfoEffect) become significant at the 0.10 level (rather than the 0.05 level) as reported in the table. For the decreased-likelihood events, the coefficient on InfoEffect remains negative but becomes insignificant, while the coefficient on the interactive variable remains significant at the 0.10 level as reported in the table. We suspect that the decline in significant of the variables is due to the fact that the accruals measure incorporates significantly more “noise,” reflecting many aspects of the firm that are not related to reporting transparency. Also, as noted earlier, InfoEffect captures features of a firm’s reporting stance beyond those reflected by the accruals measure. The fact that we do find generally significant results on the increased likelihood events for this alternative specification of the transparency measure does, however, increase our confidence in the previous findings based on the AGR scores.

Our second sensitivity test involves an examination of the cross-sectional response of our primary sample of firms, those with potentially large option expenses, to news events other than the 15 events that we focus on during the pre-SFAS No. 123(R) period. In order to ensure that our cross-sectional results are not spurious, we run regression [1] on the size-adjusted excess returns of the sample firms on the nine dates in the 2002-2004 period that had the most positive return on the Russell 2000 index and, separately, on the nine dates that had the most negative return on that index. If the variables of interest (IncEffect, InfoEffect, and the interactive variable, IncEffect*InfoEffect) do have a significant coefficient in either of these regressions, this could indicate that our main results may have little to do with changes in the likelihood of option expensing (i.e., a spurious correlation).

The size-adjusted excess returns for 14 of these 18 dates were not significantly different from zero. Four dates had marginally significant returns (around the 0.10 significance level).⁵⁹ The

⁵⁸ Audit Integrity LLP confirmed that this correlation was comparable with their calculations.

⁵⁹ Examining our three news sources for other news on these dates yielded only one article with news that would have remotely affected our sample firms. This article described the government’s activities to “fix” the accounting scandals and implied that stock options were one of the causes of the scandals, giving management incentives to manipulate income (“The Market Punishes Its Own,” The Wall Street Journal, July 23, 2002).

results from estimating regression [1] separately for the positive and negative news events produced no statistically significant coefficients on our variables of interest, lending credence to our primary results.

7. Conclusion

SFAS No. 123, enacted in 1995, was a political compromise between the FASB and companies and other constituents that argued that option expensing would depress stock prices, making it difficult to raise capital and thereby dampening economic growth. Nine years later, in the wake of the accounting scandals that began to surface in 1998 and rose to a boiling point in 2001 and 2002, a demand arose for more transparent financial reporting. This, along with the IASB's adoption of mandated option expensing, provided a strong impetus for the FASB to revisit option accounting.

We document a shift in public sentiment towards option expensing in the 2002-2004 period as the debate on stock option accounting raged. First, we show that the stock prices of those firms most likely to be affected by option expensing based on the pro forma data provided in the footnotes responded positively to events suggesting that option expensing would eventually be mandated and negatively to events indicating that the move toward option expensing was losing ground. This is contrary to findings around the passage of SFAS No. 123 when the stock prices of firms most likely to be affected by option expensed dropped when expensing efforts gained momentum, reflecting investors' fears that these firms would face difficulties raising capital. Second, examining simultaneously the income effect and the information effect inherent in option expensing, we document that while the income effect still appears to be present, it is offset by investors increased need for financial reporting transparency. Several sensitivity tests suggest that our results are robust and not caused by omitted variables or spurious correlations.

Given the FASB's recent postponement of the date when all companies will have to expense stock options in accordance with SFAS No. 123 (R), the jury is still out on whether or not such reports will increase financial reporting transparency. However, based on our results, investors appear to believe that recognizing option costs on the income statement provides value-relevant information beyond that previously available in the footnote disclosures and view the revised standard as indeed providing a more "relevant and representationally faithful" computation of income, in keeping with the Financial Accounting Standards Board's intentions.

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Table 1
Anecdotal Evidence Suggesting a Change in Sentiment toward Stock Option Expensing

Group	Pre-SFAS No. 123 Period	Pre-SFAS No. 123(R) Period
Investors	<i>Both the Council of Institutional Investors and United Shareholders Assn., the two most prominent groups of shareholder activists, have joined AT&T, General Electric, and others in rejecting the change (to mandated option expensing). (Business Week, April 12, 1993)</i>	<i>The change in investor sentiment was on full display yesterday, when the Council of Institutional Investors, an influential coalition of pension funds, endowments and investment houses, voted overwhelmingly to reverse its mid-1990s position and endorsed the expensing of options. "We recognize the downside of options more," said Sarah Teslik, the group's executive director. "They turn companies into Ponzi schemes," she added. (The Wall Street Journal, March 26, 2002)</i>
	<i>The United Shareholders Association, a group representing 65,000 investors in American companies, has informed FASB, on a number of occasions, of its opposition to the proposed stock option guidelines. (New York Times, September 1, 1993)</i>	<i>A decade ago, there was little support among investors for expensing options. But now many investors have concluded that options are an expense and that they would be better off with information on them in the financial statements. (New York Times, April 1, 2004)</i>
Politicians	<i>"The venture capitalists tell me that the FASB rule will simply make stock options more expensive...which will make the cost of starting a new company rise. Now this might be acceptable if some greater public purpose were served by the FASB rule...but it is difficult to find such a benefit in the current FASB proposal." (John Kerry in a speech to the Senate, 1994.)</i>	<i>Sen. John F. Kerry, who before the recent accounting scandals had opposed requiring expensing, has privately told corporate types that he now supports such a rule. (The Washington Post, July 10, 2003)</i>
	<i>Members of a Senate subcommittee joined in threats of legislative intervention if the FASB follows through with a proposal to change the way stock options are accounted for on companies' financial statements. Sen. Gramm (R., Texas) said he would reluctantly support legislation overturning the FASB proposal if the board does not drop its proposal. His sentiment was echoed by others on the Senate panel, including Sen. Boxer (D., Calif.), Sen. Dodd (D., Conn.) and Sen. Shelby (D., Ala.) (Dow Jones News Service, October 21, 1993)</i>	<i>Sen. Richard Shelby, who is fighting congressional efforts to block changes to stock options accounting rules, acknowledges that he was once on the other side of the issue. Now chairman of the Senate Banking Committee, the Alabama Republican strongly opposes efforts in Congress to curb a move by the Financial Accounting Standards Board to make companies record options as an expense. (Reuters News, June 22, 2004)</i>
Accounting Firms	<i>In response to the 1993 Exposure Draft, the Big Six accounting firms wrote the FASB that "(W)e believe that the best solution is to withdraw the proposal to change the accounting and, instead, expand disclosures" (letter dated July 15, 1994 addressed to FASB chairman Dennis Beresford).</i>	<i>Top accounting firms, who backed their clients' vehement opposition to expensing stock options the last time accounting rulemakers took up the issue, have changed their tune this time around. Several major accounting firms have written to the FASB in favor of requiring companies to deduct stock option costs from profits, a move some analysts say reflects their efforts to emphasize their independence following a spate of accounting scandals. (Reuters News, February 14, 2003)</i>

Table 2
Distribution of Sample Firms by 2-digit SIC Code

2-digit SIC: Industry Description	No. of Firms (% of sample)	No. of Firm-Years (% of sample)
Industries with only 1 firm in sample		
10: Metal mining 16: Heavy construction contractors 17: Special trade contractors 20: Food and kindred products 30: Rubber and miscellaneous plastics products 32: Stone, clay, glass, and concrete products 41: Local and interurban passenger transit 42: Motor freight transportation and warehousing 51: Wholesale trade-nondurable goods 52: Building materials, hardware 57: Furniture, home furnishings and equipment stores 58: Eating and drinking places 59: Miscellaneous retail 63: Insurance carriers 65: Real estate 67: Holding and other investment offices 72: Personal services 78: Motion pictures	34 (14.5%)	555 (16.2%)
Industries with 2-9 firms in sample		
13: Oil and gas extraction 26: Paper and allied products 33: Primary metal industries 34: Fabricated metal products 37: Transportation equipment 39: Miscellaneous manufacturing industries 45: Transportation by air 50: Wholesale trade durable goods 53: General merchandise stores 56: Apparel and accessory stores 79: Amusement and recreation services	42 (17.9%)	564 (18.4%)
Industries with 10 or more firms in sample		
28: Chemicals and allied products (14 firms) 35: Industrial machinery and equipment (24 firms) 36: Electronic and other electric equipment (62 firms) 38: Instruments and related products (16 firms) 73: Business services (43 firms)	159 (67.7%)	2,303 (67.3%)
Total	235 (100.0%)	3,422 (100.0%)

Table 3
Descriptive Statistics on Reported Net Income,
Pro Forma Impact of Option Expensing
and Independent Variables by Year

Panel A: Reported Net Income and Pro Forma Impact of Option Expensing

(all \$ in thousands except EPS data)

Year (No. of firms)	Variable ^a	Mean	Std. Dev.	Quartile 1 ^b	Quartile 2 ^b	Quartile 3 ^b
2001 (196 firms)	Reported Net Income	-354.68	4271.36	-49.19	-6.03	65.20
	Pro Forma Net Income	-585.72	4412.81	-56.15	-23.26	-55.84
	Diff. in Net Income ^a	-231.04		-6.96	-23.26	-55.84
	% drop from expensing options	-65.1%		-14.15%	-385.74%	-185.64%
	Reported EPS	-0.62	4.55	-1.98	0.37	0.95
	Pro Forma EPS	-1.15	4.71	-2.26	-0.53	-0.24
	Difference in EPS ^a	-0.53		-0.28	-0.90	-1.19
2002 (235 firms)	Reported Net Income	-123.48	1116.31	-72.95	-2.74	39.20
	Pro Forma Net Income	-263.78	1394.25	-126.54	-14.53	-19.87
	Diff. in Net Income	-140.3		-53.59	-11.79	-59.07
	% drop from expensing options	-113.6%		-73.46%	-430.29%	-150.69%
	Reported EPS	-0.34	3.19	-0.54	-0.17	0.10
	Pro Forma EPS	-0.97	3.61	-0.94	-0.28	-0.05
	Difference in EPS	-0.63		-0.40	-0.11	-0.15
2003 (224 firms)	Reported Net Income	-34.28	872.57	-15.42	11.61	135.75
	Pro Forma Net Income	-124.16	990.23	-38.00	-32.88	69.31
	Diff. in Net Income	-89.88		-22.58	-44.49	69.31
	% drop from expensing options	-262.2%		-146.43%	-383.20%	51.06%
	Reported EPS	-0.25	2.66	-0.10	0.31	0.28
	Pro Forma EPS	-0.61	2.89	-0.16	-0.57	0.14
	Difference in EPS	-0.36		-0.06	-0.88	-0.14

^a The difference in net income and the difference in EPS are computed as reported pro forma income (or pro forma EPS) minus reported net income (or EPS).

^b To determine the values in the quartile columns, firms are ranked each year based on reported net income. The values of reported net income, pro forma net income and the respective per share amounts for the firm at each of the quartile “breakpoints” in the annual distribution are reported in the table.

Table 3 (Continued)
Descriptive Statistics on Reported Net Income,
Pro Forma Impact of Option Expensing
and Independent Variables by Year

Panel B: Independent Variables

Year	Variable	Mean	Std. Dev.	Quartile 1	Quartile 2	Quartile 3
2001 (196 firms)	IncEffect	0.03	0.18	0.02	0.03	0.05
	InfoEffect	0.46	0.24	0.34	0.45	0.56
	Leverage	0.11	0.17	0.00	0.04	0.16
	Cashflow	-0.10	0.21	-0.24	-0.12	0.06
	Top5	0.70	0.28	0.53	0.77	0.89
	Size (\$ millions)	605	82	382	490	1,120
2002 (235 firms)	IncEffect	0.07	0.34	0.03	0.05	0.07
	InfoEffect	0.50	0.27	0.33	0.44	0.59
	Leverage	0.17	0.57	0.00	0.06	0.28
	Cashflow	-0.12	0.18	-0.27	-0.10	0.05
	Top5	0.61	0.30	0.41	0.72	0.83
	Size (\$ millions)	581	84	371	463	1,214
2003 (224 firms)	IncEffect	0.08	0.36	0.04	0.06	0.08
	InfoEffect	0.53	0.29	0.32	0.51	0.54
	Leverage	0.20	0.43	0.00	0.07	0.24
	Cashflow	-0.14	0.22	-0.23	-0.09	0.06
	Top5	0.57	0.27	0.44	0.68	0.79
	Size (\$ millions)	652	91	412	504	1,276

Legend

- IncEffect: the income effect measured as the dollar amount of the reduction in net income due to the expensing of options as reported in the SFAS No. 123 footnote disclosures for the year, divided by the market value of equity at yearend
- InfoEffect: the information effect based on the AGR score; variable ranges from 0 (most transparent) to 1 (least transparent)
- Leverage: long-term debt divided by the market value of equity, both measured at yearend
- Cashflow: cashflow from operations divided by the market value of equity at yearend
- Top 5: the ratio of stock options granted to the top five executives during the year divided by their total annual compensation (computed as the sum of salary, bonus, other annual compensation, restricted stock, long-term incentive plans, other compensation and the value of stock options granted)
- Size: market value of the firm's equity

Table 4
Correlation between the Independent Variables Used in Regression [1]

Pearson Correlation Coefficients Above the Diagonal;
Spearman Rank Order Correlation Coefficients Below the Diagonal

	IncEffect	InfoEffect	Leverage	Cashflow	Top5	Size
IncEffect	1.000	0.124	-0.078	-0.032	0.149*	0.069
InfoEffect	0.101	1.000	0.036	-0.193**	0.175**	-0.113
Leverage	-0.051	-0.081	1.000	0.062	-0.180**	-0.096
Cashflow	-0.062	-0.046	0.072	1.000	0.033	0.399**
Top5	0.133	0.101	-0.134	0.028	1.000	0.168**
Size	0.045	0.073	-0.060	0.276**	0.141	1.000

** significant at the 0.05 level or higher

* significant at the 0.10 level or higher

Legend:

IncEffect: the income effect measured as the dollar amount of the reduction in net income due to the expensing of options as reported in the SFAS No. 123 footnote disclosures for the year, divided by the market value of equity at yearend

InfoEffect: the information effect based on the AGR score; variable ranges from 0 (most transparent) to 1 (least transparent)

Leverage: long-term debt divided by the market value of equity, both measured at yearend

Cashflow: cashflow from operations divided by the market value of equity at yearend

Top 5: the ratio of stock options granted to the top five executives during the year divided by their total annual compensation (computed as the sum of salary, bonus, other annual compensation, restricted stock, long-term incentive plans, other compensation and the value of stock options granted)

Size: log of the market value of the firm's equity

Table 5
Market Reaction to Events Influencing the Likelihood of Mandated Option Expensing

A. Pre-SFAS No. 123 Period (1993-1994) (n=87)

Event No.	Date	Event	Hypothesized Impact on Likelihood of Mandated Expensing	Mean Abnormal Return (%) ^a
A	April 7, 1993	FASB proposed that companies be required to take a charge for stock options on their income statements.	Negative	-1.48 (-2.32)*
B	June 30, 1993	FASB reports that it will issue an Exposure Draft requiring companies to expense stock options.	Negative	-0.92 (-1.51)
C	December 15, 1994	FASB announces that it will change its proposal to require footnote disclosure of the option expense, dropping income statement recognition.	Negative	-1.33 (-1.87)#

B. Pre-SFAS No. 123(R) Period (2002-2004) (n≈226)^b

Event No.	Date	Event	Hypothesized Impact on Likelihood of Mandated Expensing	Mean Abnormal Return (%) ^a
1	Feb. 06, 2002	Senate bill to be introduced that would force companies to expense stock options that are deducted for tax purposes.	Positive	-0.62 (-0.98)
2	July 27, 2002	The FASB reports that it will once again consider expensing stock options, following the IASB's decision on options a week earlier.	Positive	1.51 (1.72)#
3	Aug. 7, 2002	The FASB announces that it is exploring a requirement that companies disclose the bottom-line impact of stock options prominently on the face of the income statement (but not to actually expense the options).	Positive	1.74 (3.45)**
4	Feb. 7, 2003	A total of 70 House and Senate members, spurred on by a coalition of tech companies, notify the FASB that they oppose stock option expensing and vow to halt the FASB's actions.	Negative	1.95 (4.43)**
5	Feb. 18, 2003	The FASB announces that it will move in the same direction as the IASB and add stock options to its agenda for the year.	Positive	4.21 (6.73)**
6	April 20-23, 2003	The FASB announces that it will proceed "along the path of stock options expensing," and unanimously agrees (via vote) that stock options should be expensed.	Positive	2.68 (5.12)**
7	Sept. 11, 2003	The FASB postpones issuing an exposure draft on option expensing until the first quarter of 2004 thus pushing the expected date for a final rule into the second half of 2004.	Negative	0.43 (0.76)
8	Jan. 9, 2004	The two most powerful members of the Senate Banking Committee lend their support to the FASB, opposing any Congressional intervention in the stock option debate.	Positive	-0.51 (-1.67)#

Table 5 (continued)
Market Reaction to Events Influencing the Likelihood of Mandated Option Expensing

Event No.	Date	Event	Hypothesized Impact on Likelihood of Mandated Expensing	Mean Abnormal Return (%) ^a
9	March 31, 2004	The FASB issues an Exposure Draft requiring stock option expensing.	Positive	-1.16 (-2.71)**
10	April 21, 2004	A lobbying blitz to prevent option expensing gains momentum in Congress. The House Financial Services Committee announces that it will introduce a bill, with more than 100 bipartisan co-sponsors, that waters down the FASB's proposal by requiring expensing only of options issued to a firm's top five executives; the bill also prohibits the SEC from enforcing any new accounting rule on options until a study of its economic impact is made.	Negative	-0.94 (-2.32)*
11	June 16, 2004	The majority (45-13) of the House Financial Services Committee approves the bill.	Negative	-1.83 (-2.67)**
12	July 20, 2004	The House, responding to intensive lobbying by technology companies, overwhelmingly approves the bill (vote of 312-111).	Negative	-1.46 (-2.79)**
13	Aug. 11, 2004	Chief Accountant of the SEC, Donald Nicolaisen, says that the SEC will likely postpone the effective date of any stock option expensing plan for at least a year	Negative	-0.87 (-2.12)*
14	Oct. 14, 2004	The FASB announces a six-month delay in its plan to require option expensing.	Negative	-2.04 (-4.81)**
15	Dec. 16, 2004	The FASB issues SFAS No. 123(R), "Share-Based Payment," requiring the expensing of stock options beginning for fiscal periods after June 15, 2005.	Positive	-1.21 (-2.46)**

Panel C: Fama-Macbeth Tests

Hypothesized Impact of Events on the Likelihood of Mandated Option Expensing	No. of Obs. (Events)	Mean Abnormal Return, % ^c (p value of Student t) ^d
Pre-SFAS No 123 (events in panel A): Increased Likelihood	3	-1.11 (0.10)#
Pre-SFAS No. 123(R) (events in panel B): Increased Likelihood	8	1.42 (0.03)*
Decreased Likelihood	7	-1.36 (0.00)**

^a Abnormal returns are measured as the raw returns minus the returns for the CRSP portfolio of similar-size firms. T-statistics are provided in parentheses.

^b The number of firms with available data varies slightly across the events, ranging from 220 to 235, with the mean and median number of firms per event in Panels A and B equal to 226 firms.

^c Abnormal returns are measured as the raw returns minus the returns for the CRSP portfolio of similar-size firms. T-statistics are given in parentheses.

** significant at the 0.01 level; * significant at the 0.05 level; # significant at the 0.10 level

Table 6
Cross-Sectional Response to Events Related to SFAS 123(R)

$$Ret_{i,e} = \alpha + \beta_1(IncEffect_{it-1}) + \beta_2(InfEffect_{it-1}) + \beta_3(IncEffect_{it-1})*(InfoEffect_{it-1}) + \Sigma\beta_c(\text{Control Variables})_{i,t-1} + \varepsilon_{i,e} \quad [1]$$

Panel A: Combined Events (t-statistics provided in parentheses)									
Hypothesized Impact of Events on Likelihood of Mandated Option Expensing	Intercept	IncEffect	InfoEffect	IncEffect* InfoEffect	Leverage	Cashflow	Top5	Size	Adj. R ²
Increased Likelihood (n=1,856)	0.005 (0.62)	-0.042** (-3.59)	0.083** (3.10)	0.158** (4.32)	0.214 (0.61)	0.018* (1.81)	0.021* (1.76)	-0.044 (-1.48)	4.71%
Decreased Likelihood (n=1,694)	-0.010 (-1.48)	0.010 (0.90)	-0.021# (-1.81)	-0.037* (-1.94)	0.613 (1.28)	0.012 (0.91)	-0.034** (-2.73)	0.112# (1.69)	2.42%
Panel B: Increased Likelihood Events (n~226 firms per event)^a									
1: Senators introduce bill	0.014	-0.281	0.214	0.926	0.212	-0.031	0.016	-0.327	4.18%
2: FASB will reconsider option expensing	-0.017	-0.313	0.425	0.667	5.417	-0.416	0.028	-0.227	5.12%
3: FASB explores reporting requirement	-0.011	-0.106	0.331	0.276	4.237	0.057	0.034	-0.453	3.94%
5: FASB announces that it will follow lead of IASB	0.018	-0.094	0.301	0.417	0.762	0.081	0.052	-0.371	5.31%
6: FASB unanimously agrees to expense options	0.022	-0.168	0.405	0.522	1.273	0.032	0.041	-0.316	6.24%
8: Senate Committee lends support to FASB	0.034	-0.121	0.279	0.341	1.142	-0.131	-0.021	-0.429	8.25%
9: FASB issues exposure draft	0.007	0.001	0.054	0.031	0.871	-0.038	-0.014	-0.079	0.25%
15: FASB issues SFAS 123(R)	-0.003	0.031	0.061	0.098	1.231	-0.041	-0.006	0.084	0.44%
Panel C: Decreased Likelihood Events (n~226 firms per event)^a									
4: Congressional members vow to fight FASB	-0.056	0.015	-0.024	-0.054	-0.761	-0.045	-0.037	0.582	4.04%
7: FASB postpones issuing exposure draft	0.009	0.061	-0.053	-0.097	-2.765	-0.069	-0.052	0.167	1.91%
10: House will introduce "watered down" proposal	-0.018	0.032	-0.061	-0.085	-0.523	0.218	-0.072	0.242	2.18%
11: House Committee approves new proposal	-0.015	-0.007	-0.060	-0.089	1.746	0.312	-0.088	0.316	5.47%
12: House overwhelmingly approves new proposal	-0.019	0.026	-0.058	-0.037	-1.289	0.047	-0.033	0.418	2.83%
13: SEC will postpone effective date of any plan	-0.016	0.012	-0.018	-0.019	-0.463	-0.199	-0.056	0.217	1.21%
14: FASB announces a six-month delay	0.007	-0.009	-0.012	0.010	-1.314	0.032	-0.076	-0.116	0.95%

Table 6 (continued)
Cross-Sectional Response to Events Related to SFAS 123(R)

$$\text{Ret}_{i,e,t} = \alpha + \beta_1(\text{IncEffect}_{i,t-1}) + \beta_2(\text{InfEffect}_{i,t-1}) + \beta_3(\text{IncEffect}_{i,t-1}) * (\text{InfoEffect}_{i,t-1}) + \sum \beta_c (\text{Control Variables})_{i,t-1} + \varepsilon_{i,e} \quad [1]$$

Panel D: Fama-MacBeth Tests (mean values are reported in table)^b								
Increased Likelihood	0.008 (0.58)	-0.131 (0.03)	0.259 (0.05)	0.410 (0.03)	1.893 (0.42)	-0.061 (0.12)	0.016 (0.10)	-0.265 (0.57)
Decreased Likelihood	-0.015 (0.17)	0.021 (0.12)	-0.041 (0.16)	-0.053 (0.14)	-0.767 (0.36)	0.043 (0.56)	-0.059 (0.06)	0.261 (0.21)

** significant at the 0.01 level; * significant at the 0.05 level, # significant at the 0.10 level

^a The number of firms that had sufficient data for each event varied slightly from 223 firms to 235 firms, with an average number of 226 firms across the 15 events.

^b p-value of Student t for the mean and p-value of the signed rank provided in parentheses

Legend:

- Ret: the three-day abnormal returns centered on the event announcement date, measured as the raw returns of the firm minus the returns for the CRSP portfolio of similar size firms
- IncEffect: the income effect measured as the dollar amount of the reduction in net income due to the expensing of options as reported in the SFAS No. 123 footnote disclosures for the year, divided by the market value of equity at yearend
- InfoEffect: the information effect based on the AGR score; variable ranges from 0 (most transparent) to 1 (least transparent)
- Leverage: long-term debt divided by the market value of equity, both measured at yearend
- Cashflow: cashflow from operations divided by the market value of equity at yearend
- Top 5: the ratio of stock options granted to the top five executives during the year divided by their total annual compensation (computed as the sum of salary, bonus, other annual compensation, restricted stock, long-term incentive plans, other compensation and the value of stock options granted)
- Size: log of the market value of the firm's equity

Table 7
Reported and Pro Forma Net Income for Early Adopter Sample

Variable ^a	Mean	Std. Dev.	Quartile 1 ^c	Quartile 2 ^c	Quartile 3 ^c
Early Adopter Sample (n=131)					
Reported Net Income ^b	892.21	25,601.0	-21.92	790.23	2,184.34
Pro Forma Net Income ^b	812.67	28,208.9	-24.64	750.44	2,104.43
Diff. in Net Income ^b	-79.54		-2.72	-39.79	-59.91
% drop from expensing options	-8.91%		-12.41%	-5.04%	-2.74%
% of firms in scandal-prone industries	13%				
Independent Variables in Reg. [1]					
IncEffect	0.00	0.16	0.01	0.01	0.02
InfoEffect	0.32	0.19	0.25	0.30	0.38
Leverage	0.23	0.26	0.00	0.10	0.28
Cashflow	0.13	0.27	-0.12	0.19	0.26
Top5	0.44	0.32	0.12	0.26	0.61
Size (\$ millions)	894	227.0	542	1,191	2,143
Selected Variables by Subsample					
Early Announcers (n=33)					
% drop from expensing options	-20.29%		-15.22%	-10.31%	-6.47%
IncEffect	0.03	0.21	0.02	0.04	0.34
InfoEffect	0.40	0.29	0.14	0.26	0.42
% of firms in scandal-prone industries	21%				
Later Announcers (n=98)					
% drop from expensing options	-5.10%		-8.54%	-3.11%	-1.34%
IncEffect	0.00	0.15	0.01	0.02	0.21
InfoEffect	0.28	0.16	0.10	0.22	0.30
% of firms in scandal-prone industries	10%				

^a Variables are measured at the yearend prior to the announcement year

^b Reported and pro forma net income, and the difference between them, are in \$ thousands.

^c To determine the values in the quartile columns, firms are ranked each year based on reported net income. The values of reported net income, pro forma net income and the respective per share amounts for the firm at each of the quartile “breakpoints” in the annual distribution are reported in the table.

Legend

IncEffect: the income effect measured as the dollar amount of the reduction in net income due to the expensing of options as reported in the SFAS No. 123 footnote disclosures for the year, divided by the market value of equity at yearend

InfoEffect: the information effect based on the AGR score; variable ranges from 0 (most transparent) to 1 (least transparent)

Leverage: long-term debt divided by the market value of equity, both measured at yearend
Cashflow: cash flow from operations divided by the market value of equity at yearend

Top 5: the ratio of stock options granted to the top five executives during the year divided by their total annual compensation (computed as the sum of salary, bonus, other annual compensation, restricted stock, long-term incentive plans, other compensation and the value of stock options granted)

Size: log of the market value of the firm’s equity

Table 8
Firms that Announced Early Adoption of Option Expensing under SFAS 123

Panel A: Market Response to Early Adoption Announcement

Sample	3-day excess returns		
	Mean	Median	% of firms with significant positive response (at the 0.10 0.05 significance level)
Overall sample (n=131)	1.14%*	0.69%	42% 29%
By subsample:			
Earliest adopters (prior to August 1, 2002) (n=33)	2.56%**	2.23%	74% 56%
Later adopters (after August 1, 2002 (n=98)	0.79%	0.66%	32% 21%

Panel B: Cross-Sectional Response to Early Adoption Announcement:

$$Ret_{i,e} = \alpha + \beta_1(IncEffect_{it-1}) + \beta_2(InfEffect_{it-1}) + \beta_3(IncEffect_{it-1})*(InfoEffect_{it-1}) + \Sigma\beta_c(Control\ Variables)_{i,t-1} + \epsilon_{i,e} \quad [1]$$

Sample	Intercept	IncEffect	InfoEffect	IncEffect* InfoEffect	Leverage	Cashflow	Top5	Size	Adj. R ²
Overall Sample (n=131)	0.012 (0.78)	0.009 (0.85)	0.023** (1.96)	0.071** (2.04)	0.181 (0.98)	0.029 (1.25)	0.021* (1.81)	-0.017 (-1.31)	2.31%
By Subsample:									
Earlier Announcers (n=33)	0.015 (1.28)	0.010 (0.74)	0.031** (3.12)	0.092* (1.73)	0.213 (1.34)	0.031 (1.29)	0.026 (1.75)	-0.015 (-1.42)	1.82%
Later Announcers (n=98)	0.008 (0.82)	-0.006 (-0.95)	0.014 (1.48)	0.062 (1.56)	0.315 (1.54)	-0.061* (-1.95)	0.034 (1.80)**	-0.027* (-1.86)	2.46%

Table 8 (continued)
Firms that Announced Early Adoption of Option Expensing under SFAS 123

Panel C: Cross-Sectional Response to Early Adoption Announcement – Include Variable for Scandal-Prone Industries

$$Ret_{i,e} = \alpha + \beta_1(IncEffect_{i,t-1}) + \beta_2(InfEffect_{i,t-1}) + \beta_3(IncEffect_{i,t-1})*(InfoEffect_{i,t-1}) + \beta_4(Industry) + \sum \beta_c(\text{Control Variables})_{i,t-1} + \varepsilon_{i,e} \quad [1]$$

Sample	Intercept	IncEffect	InfoEffect	IncEffect* InfoEffect	Industry	Leverage	Cashflow	Top5	Size	Adj. R ²
Overall Sample (n=131)	0.010 (0.65)	0.009 (0.81)	0.021** (2.02)	0.065** (1.98)	0.007** (1.78)	0.176 (1.02)	0.031 (1.33)	0.024* (1.95)	-0.014 (-1.28)	2.48%
By Subsample:										
Earlier Announcers (n=33)	0.013 (1.41)	0.012 (1.15)	0.030** (3.01)	0.087* (1.69)	0.011* (1.92)	0.210 (1.31)	0.034 (1.46)	0.031 (1.88)	-0.018 (-1.56)	1.94%
Later Announcers (n=98)	0.008 (0.86)	0.006 (0.74)	0.013 (1.51)	0.059 (1.54)	0.006** (1.74)	0.336 (1.58)	-0.054 (-1.72)	0.035 (1.81)**	-0.028* (-1.89)	2.52%

** significant at the 0.05 level, * significant at the 0.10 level

Legend

Earlier (later) adopters: the earlier adopters are the first 25% (remaining 75%) of the firms that announced voluntary adoption of option expensing

Ret: the three-day abnormal returns centered on the early adoption announcement date, measured as the raw returns of the firm minus the returns for the CRSP portfolio of similar-size firms.

IncEffect: the income effect measured as the dollar amount of the reduction in net income due to the expensing of options as reported in the SFAS No. 123 footnote disclosures for the year, divided by the market value of equity at yearend

InfoEffect: the information effect based on the AGR score; variable ranges from 0 (most transparent) to 1 (least transparent)

Leverage: long-term debt divided by the market value of equity, both measured at yearend (results are multiplied by a factor of 100)

Cashflow: cash flow from operations divided by the market value of equity at yearend

Top 5: the ratio of stock options granted to the top five executives during the year divided by their total annual compensation (computed as the sum of salary, bonus, other annual compensation, restricted stock, long-term incentive plans, other compensation and the value of stock options granted)

Size: log of the market value of the firm's equity (results are multiplied by a factor of 100)