



**DISCLOSURE VERSUS RECOGNITION IN STOCK OPTION REPORTING:  
ARE USERS' PERCEPTIONS AND DECISIONS INFLUENCED BY THE  
DISCLOSURE FORMAT?**

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## **DISCLOSURE VERSUS RECOGNITION IN STOCK OPTION REPORTING: ARE USERS' PERCEPTIONS AND DECISIONS INFLUENCED BY THE DISCLOSURE FORMAT?**

### **Abstract**

The recently passed Statement of Accounting Standard (SAS) 123R mandates that stock option compensation costs should be recognized in the income statement. This supersedes SFAS 148 and the earlier SFAS 123 which required only disclosure in the notes to the financial statements. The motivation of the FASB was to increase transparency in reporting of financial statements. The objective of this paper is to test the functional fixation hypothesis using mandated legislation relating to stock options. We used members of the Institute of Management Accountants (IMA) as the subjects in this study. Our results show that sophisticated users estimated, in the presence of recognition versus disclosure, a (1) higher perceived risk, (2) lower expected accounting return, (3) more pessimistic overall perception, (4) more negative future stock price direction and (5) lower stock price valuation. We conclude that information content is accentuated in the presence of recognition relative to disclosure. The findings support the stance of the FASB and the functional fixation hypothesis that investors are fixated by numbers reported in the financial statements.

Keywords: Stock option expensing, stock option recognition, disclosure, SFAS 123R.

### **Résumé**

Dans le but d'améliorer la transparence des états financiers, le FASB a imposé récemment l'obligation aux sociétés américaines de porter en charge aux résultats le coût des options d'achat d'actions attribuées à titre de rémunération. Jusqu'alors cette information pouvait être présentée par voie de note aux états financiers. Notre étude expérimentale a testé à l'impact relatif de la comptabilisation des options et de la simple présentation en note auprès d'un échantillon des membres de l'Institute of Management Accountants (IMA). Nos résultats sont à l'effet que la comptabilisation des options à titre de charge influence les perceptions et jugements des utilisateurs sophistiqués différemment de la simple présentation par voie de note. Les répondants qui ont reçu la version des états financiers où les options étaient passées en charge ont perçu un risque plus élevé, estimé un rendement comptable futur inférieur, porté un jugement global plus pessimiste, assigné une valeur inférieure et projeté une progression future plus négative de l'action ordinaire de la société. Nous concluons, en accord avec le FASB, que le contenu informationnel de la comptabilisation est plus fort que celui d'une note aux états financiers.

## INTRODUCTION

In December 2004, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standard (SFAS) 123R reasserting its position requiring the recognition of stock option expensing in the income statement. This latest pronouncement is effective for statements in the first reporting period after June 15, 2005. However, the SEC deferred the compliance date for companies to the beginning of the next fiscal year. Prior to this on March 31, 2004, FASB issued an exposure draft entitled *Accounting for Share Based Payments*, which mandated the recognition of the expense associated with employee stock options and it was met with considerable controversy. In fact, there was an attempt in Congress to have this rescinded. The effort, however, failed due to a lack of support in the Senate.

The motivation for the latest ruling is aptly summarized by Robert Herz, Chairman of the FASB testifying before a subcommittee in Congress on April 20, 2004 in which he said:

“Recent events have served as a reminder to all of us that clear credible and comparable financial information is essential to the health and vitality of our capital market system. In the wake of the market meltdown and corporate reporting scandals, the FASB has received numerous requests from individual and institutional investors, financial analysts and many others urging the Board to mandate the expensing of the compensation cost relating to employee stock options.” (Herz, 2004)

Robert Herz also noted that recognition as opposed to disclosure of stock option costs and its impact on profits in the notes to the financial statements (hereafter referred to as disclosure) provides greater transparency to financial statement users and hence the demand for recognition. A move to require expensing also can be seen as another step towards the convergence of U.S and international accounting standards.<sup>1</sup> The objective

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<sup>1</sup> The SFAS 123R is in accordance with the international standard on stock-based payments (IASB 2004), which was adopted for application in the financial statements of fiscal periods beginning on or after January 1, 2005. The

of our study is two-fold. First, using regulation relating to stock options, our objective is to examine if sophisticated financial statement readers are fixated on reported earnings and second, to provide further evidence to the FASB to either corroborate their stance regarding expensing of stock options.

Our sample was drawn from a membership list of the Institute of Management Accountants (IMA). Each member was provided with one of two case studies of the same company. One case provided information regarding stock option costs as a note with an attached pro forma statement in the notes to the financial statements. The other case recognized the stock option costs in the company's income statement. We asked respondents to indicate their underlying perceptions about the perceived investment risk, the expected accounting return and their overall perception of risk associated with this hypothetical company. Participants were also asked to indicate their primary judgments on the expected (1) future stock price direction and (2) stock price value. Overall we found that, when the expenses were recognized sophisticated users estimated a higher perceived risk, lower expected accounting return, and a higher overall perception. They also estimated a more pessimistic expected future stock price direction and a lower stock value in the presence of recognition relative to disclosure. These findings lend support to the functional fixation hypothesis indicating that even sophisticated readers of financial statements are fixated with reported earnings. Although participants found financial statements to be more helpful in the presence of recognition versus disclosure, they did not consider recognition to make the financial statements significantly less confusing, or to significantly increase the reliability and increase the clarity of financial statements. This is surprising that the subjects did not perceive financial statements to be significantly of higher quality in the presence of recognition as their underlying and primary investment judgments were significantly influenced by it.

## BACKGROUND

Accounting for stock options historically has been viewed as a form of non accounting because companies were allowed to blur the potential bottom line impact of stock options in a footnote to their financial statements. This form of reporting has been viewed to ignore economic reality and to be inconsistent with accounting standards for other types of compensation.

Regulations in stock option reporting date back to 1972. In that year APB Statement No. 25 acknowledged that, because of measurement considerations, (the option valuation models in use today were not yet developed) it did not require accrual of compensation cost. By disregarding the option's value, APB 25 ignored the fact that options give employees valuable rights and that options are compensation for services performed.

In 1995 FASB issued SFAS No. 123, which mandated footnote disclosure of pro forma net income and EPS as if the expense (using the fair value method) had been incorporated in the income statement if the intrinsic value was selected for the measurement at the granting date<sup>2</sup>. The intent of adding the pro forma figures was to provide a clearer signal to financial statement readers about the potential financial impact of stock option expenses. SFAS 123 also encouraged firms to report expenses in the income statement using the fair value method. Not surprisingly, few companies elected to use the fair value method until the recent scandals of Enron and Worldcom. A few firms such as DuPont, Conoco Phillips, Gabelli Asset Management, Microsoft Corporation, The Washington Post Company, and Coca Cola Corporation voluntarily began expensing stock option costs in 2003. The majority of companies, however, continued to show these costs as a footnote disclosure to their financial statements.

To provide guidance for the transition from pro forma footnote disclosure to mandatory recognition in the income statement, FASB issued SFAS 148 entitled *Accounting for*

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<sup>2</sup> If the exercise price is equal or greater than to the market price at the granting date, then the intrinsic value of stock options is equal to zero.

*Stock Based Compensation - Transition and Disclosure* in December 2002. However, it did not mandate recognition of expenses in the income statement. On March 31, 2004, FASB issued an exposure draft entitled *Accounting for Share Based Payments*, which mandated the recognition of the expense associated with employee stock options. The motivation of the FASB was to ensure convergence with international accounting standards which require expensing of stock option costs. The House of Representative, sought to repeal this through the passage of the Stock Option Reform Act (HR 3574) in May 2004. This Act basically espoused continuing the current treatment of footnote disclosure only of stock option costs. The Senate did not show the same level of interest as the House on this issue. In fact, this legislation caused controversy and contentious debate in the Senate. Rep Pete Stark (D – California) noted “lets help the rich get richer. Right now, companies can deduct the cost of stock options for income tax purposes, but don’t have to report that value to shareholders.”

Despite the contention that arose, the latest standard, SFAS 123R, requires mandatory expensing of stock option costs commencing as per the SEC directive from the beginning of the first fiscal year after June 15, 2005. Public firms will now be required to first estimate the fair value of stock options at the granting date and then expense it (between the granting date and the exercise date) from revenues. In essence, all forms of share-based payment to employees, including employee stock options, will now be treated the same as other forms of compensation by recognizing the related cost in the income statement.

### **RESEARCH QUESTION AND CONTRIBUTION**

Our research question is stated as follows: “Does recognition convey a clearer message to readers of financial statements relative to disclosure in notes to the financial statements?” The findings of our research provide several insights of the potential consequences of SAS 123R. First, the findings of this study contribute to the debate on the validity of the functional fixation hypothesis (which assumes that reported numbers in the financial statements influences decisions and information in notes is disregarded)

vis-à-vis the efficient markets hypothesis (which assumes that the information disclosed in the notes is taken into account into decisions) has not been concluded. The setting related to stock options recognition provides a unique opportunity to study this issue. If the functional fixation hypothesis holds, we would expect a significant difference in judgments and valuations for recognition versus footnote disclosure. If the efficient market hypothesis holds, we should not find any significant difference between recognition and disclosure since the same information and earnings figures are reported.

Second, the study's findings corroborate the stance of the members of the FASB who mandated recognition on the presumption that recognition enhances transparency relative to disclosure. Likewise it is consistent with views expressed by the Financial Accounting Standards Committee of the American Accounting Association (hereafter the AAA Committee) which is charged with responding to requests for comment from standard setters on issues relating to financial reporting. Recently, the AAA Committee commented in *Accounting Horizons* that "the Committee strongly endorses the conclusion that share-based payments should lead to expense recognition" (p. 103). They also noted that "disclosure is not an adequate substitute for recognition" (p. 104).

## LITERATURE REVIEW

Empirical research shows that placement of the option expense within the financial statements, whether in the Income statement or only in the footnotes, makes *little difference* to investors. The first studies in the area of footnote disclosure versus recognition in the financial statements examined the information content of footnote disclosures regarding pensions and post-retirement benefits. They examined stock price reactions and concluded that footnote disclosure did have information content (Barth 1991; Choi et al. 1997). These findings corroborate the efficient market hypothesis, which implies that once information is disclosed investors are intelligent enough to incorporate that information into their investment decision making. Initial studies on the topic of interest in this paper, namely presentation of stock option

information, initially investigated the relationship between SFAS 123 annual option values and stock prices. These studies sought to test whether the proforma disclosure mandated by SFAS 123 had information content. The studies hypothesized that the information would convey a significant negative signal to the market. Bell et al. (2002) investigated a sample of 85 profitable companies from the software industry in the 3 year period 1996 to 1998. They failed to find their expected negative relation between annual stock option expense disclosed in the footnotes and stock prices. Aboody et al (2004) used the same 3 year sample period with 2,274 firm years and documented a negative correlation between disclosed annual option expense and year end stock prices. They concluded that pro forma disclosure does convey information to investors. Aboody et al explained the differences in results by concluding that the Bell et al findings were sample specific and could not be generalized to other samples. In a more recent study Balsam et al. (2004) examined the same relationship for firms for the first year SFAS 148 became effective. They add to the literature by examining the information content of both recognition and pro forma footnote disclosure. They found that *placement* of the stock option information (whether on the Income statement or only in the footnotes as pro forma disclosure) made little difference to investors. In their study, the cumulative abnormal return (CAR) were regressed on recognized option expense and unrecognized option expense after controlling for variables shown by prior research to explain stock returns. Their results indicate that, while both forms of disclosure are value relevant, there is no significant difference in market reaction between them. They concluded that, hence, the economic consequences of option expense recognition are unlikely to be significant thereby addressing a major concern of opponents of recognition of stock option costs in the income statement. Despite the findings of research that indicate users consider information provided in financial statement footnotes, the AAA Committee supported the position held by the FASB that disclosure is not an adequate substitute for recognition.

From an experimental study point of view, the communication paradigm suggests that location of information does have an influence on financial statements users' perceptions and decisions. Hirst and Hopkins (1998) found that professional analysts

are more likely to discover earnings management when earnings components are clearly reported in a performance statement than when they are disclosed in notes thus requiring more analysis. Further, Hirst et al (2004) examined the influence of footnote disclosure of fair value instruments and concluded that disclosure was *not a substitute* for full fair value income measurement. This was also found to be true with respect to placement and location of going concern information (Viger et al., 2004; Anandarajan, et al., 2002 among others) and disclosure of comprehensive income (Hirst, et al., 2004 among others). In contrast, Frederickson and Miller (2004) examined the effect of pro forma earnings disclosures on investors' judgments. They concluded that, while nonprofessional (less sophisticated) investors were misled by favorable non-GAAP pro forma disclosures, analysts (sophisticated investors) acquired the information but were shrewd enough not to be deceived by the same information. Thus the debate with respect to professional users is still unresolved as revealed by two recent studies (Hirst et al. 2004; Frederickson and Miller 2004). Assuming the location and placement of information does influence financial statement users' perceptions and decisions, we should expect a significant difference between pro forma disclosure and recognition on investors' judgments and valuations.

Empirical studies, as noted above, focus on the reaction of the broader market and therefore their results do not apply to individual investors. Experimental study like this one adds to the extant literature by examining whether sophisticated individual investors are influenced by the two methods of reporting stock options (recognition versus disclosure). Most studies that used sophisticated users have investigated their job related judgments and decision-making; in this study we focus on the judgments of sophisticated users in the context of their personal investment decision-making. By using members of the IMA as opposed to MBA students as surrogate to investors, this study contrasts with previous experimental studies.

### **THEORY DEVELOPMENT AND HYPOTHESES**

An important tenet in the efficient market hypothesis is that investors learn to distinguish between changes in reported accounting numbers that are caused by fundamental

economic factors that affect cash flows and those that are prompted purely by accounting methods (Tinic 1990). In an efficient market, the theory states that stock prices reflect all publicly available information. The efficient markets hypothesis was challenged by Ou and Penman (1989) and Bernard (1993) among others.

It has been suggested that, alternatively, investors might interpret accounting information without regard to the rules used to produce it. This is the essence of the functional fixation hypothesis (FFH) which offers this alternative explanation. The FFH has its origins in psychology and was introduced into the accounting literature by Ijiri, Jaedicke and Knight (1966). Ijiri, Jaedicke and Knight stated that psychologists have found that there appears to be “functional fixation” in most human behavior in which the person attaches a meaning to a title or object and is unable to see alternative meanings and uses. They also note that if the outputs from different accounting methods are called by the same name such as profit, people will tend to neglect the fact that alternate methods have been used to prepare financial statements. Functional fixation was first applied in efficient market research by Beaver (1972) who extrapolated the FFH to groups and larger entities. He concluded that the market is not functionally efficient. In essence, FFH predicts that the stock prices will be mechanically related to reported earnings numbers. FFH was however introduced to explain individual behavior and not market behavior as a whole. Tinic (1990) notes that FFH has potentially important implications for setting accounting standards and procedures and for the mandated disclosure of accounting information.

Currently, both managerial and financial accounting research have examined whether individuals fixate on reported accounting numbers or whether they can see through alternative reporting formats in experimental settings (Luft and Shields 2001; Arunachalam and Beck 2002). Experimental research provides evidence that financial statement users are subject to functional fixation in individual settings (Hopkins 1996; Hirst and Hopkins 1998; Hopkins, Houston and Peters 2000). In contrast the results are not conclusive since some studies support functional fixation (Ashton 1976; Chang

and Birnberg) while other studies do not (Kachelmeier 1996; Waller, Shapiro and Sevcik 1999).

Most experimental studies including all the studies mentioned above, used graduate students as their subjects. Of the few studies that used non-students, Vergoossen (1997) examined the functional fixation hypothesis using Dutch investment analysts. They were considered sophisticated because investment analysts in the Netherlands work as either portfolio managers or investment analysts. The research concluded that, to a large extent, Dutch investment analysts appeared to be fixated on accounting numbers.

Studies using market data also appear to corroborate the existence of functional fixation. Studies by Hand (1990) and Harris and Ohlson (1990) both used stock market data to test FFH. Hand suggested a modified version of the functional fixation hypothesis which claimed that prices of some stocks at some points in time may be determined by unsophisticated marginal investors who are fixated on the bottom line accounting earnings. He concluded that the stocks of small capitalization firms (which tend to be more heavily owned by individual investors) was priced by fixated investors who did not understand the effects of accounting procedures on reported earnings. Hence, evidence supported the existence of functional fixation for investors of small capitalization firms. In a more recent empirical study, Chen and Schoderbek (2000) used a sample of deferred tax adjustments resulting from the Omnibus Budget Reconciliation Act of 1993 to explore the magnitude of analysts' and investors' functional fixation with reported accounting numbers. A one period adjustment could have been estimated using deferred tax information in the notes to the financial statements. Hence, fully rational investors should be able to react to it as a transitory earnings component. In contrast functionally fixated investors should not be able to distinguish the various components of reported earnings. They found that analysts did not include the adjustments in their earnings forecasts. Chen and Schoderbek concluded that investors did exhibit a degree of functional fixation.

Assuming the existence of functional fixation, we postulate that even sophisticated investors may gravitate towards reported accounting numbers in the financial statements. Thus, stock option cost information will be more apparent when the stock option costs are reported in the income statement relative to when the same information is disclosed in the notes to the financial statements.

If functional fixation applies then numbers reported in the financial statements may affect perceptions and be incorporated in decision making relative to if the same numbers are disclosed in the notes. Hence, investors' judgment and perceptions of risk should be affected by variations in reporting style (i.e., recognition versus disclosure in which reported earnings are less favorable in the former than in the latter). Hence, our first hypothesis is stated as follows for the underlying judgments:

H1: *Individual's overall underlying judgment of the company will be more pessimistic when stock option costs are recognized in the income statement than when they are disclosed in a footnote.*

Overall underlying judgment of the company was examined using a variety of questions relating to (1) perceived risk (which consist of the perceived investment risk, overall financial condition, ability to pay its debts), (2) expected accounting return (which consist of the expected return on equity and future net income direction) and (3) overall perception (namely the perceived investment attractiveness). These questions were used in previous research (Viger et al. 2006; Belzile et al. 2006; Elias and Johnston 2001; LaSalle and Anandarajan 1997; Bamber and Stratton 1997; Gul 1987; Bailey 1981; Libby 1979).

Tinic (1990) notes that the bottom line reported earnings number is the primary item of functional fixation. Aboody et al. (2004) in an empirical study find that share prices are negatively associated with stock based compensation recognized in the income statement. They conclude that recognition may convey an impression of weaker financial results to investors relative to disclosure. Similarly, Hirshleifer and Teoh

(2003) indicate that inattentive investors extrapolate reported earnings to formulate an opinion on a company. The implication is that recognition of stock option compensation may have an adverse impact on expected stock price. Based on the theory espoused by Hirshleifer and Teoh and the findings of Aboody, we conclude that recognition will have a more adverse impact on perceived stock price value relative to disclosure. Our second and third hypotheses are stated as follows:

H2: *Investors will predict a more pessimistic expected future stock price direction when stock option costs are recognized in the income statement than when they are disclosed in a footnote.*

H3: *Investors will estimate a lower stock price value when stock option costs are recognized in the income statement than when they are disclosed in a footnote.*

## METHODOLOGY

### Sample selection

Our sample of participants was randomly drawn from a membership list of the IMA. Members of the IMA represent a diverse mix of investors. They are heterogeneous and perform a wide range and variety of tasks in a variety of accounting related jobs. This makes this population particularly appealing for this task; they are qualified to see through the stock option information and as such are deemed sophisticated users.

The data was collected for this study in two forms. A case study and survey instrument was initially provided on a website. The sample for the website participation was a random selection made by the headquarters of IMA. The members were requested to enter the website, download the material, and after studying the case study, fill out the survey instrument. An e-mail request was sent to a randomly selected group of 4,000 IMA members to voluntarily participate in our study. A total of 42 completed and usable responses were downloaded from the website. We subsequently requested members at an IMA meeting to participate in this study. A hard copy of the case was provided to

and collected from this group of participants; 26 hard copy responses were obtained from this group. Our final sample of 68 participants can be criticized as not representing the population of IMA members at large<sup>3</sup>. However, a test comparing the demographic variables between the two experimental groups revealed no significant difference between the groups.

### **Research design**

The research design is shown in Figure 1. Each participant received an experimental package that included descriptive information on a hypothetical company. The financial statements included a standard (unqualified) auditor's report, a set of financial statements for two fiscal periods including a balance sheet, income statement, statement of retained earnings and statement of cash flow and accompanying notes. The information in the two case studies was identical. The only variable that was manipulated was the mode of communication of the stock option compensation. In one case study the stock option compensation information is reported in the notes to the financial statements (subjects receiving this case study are referred to as G1), which also includes a pro forma net income and EPS as if the fair value of stock options had been recognized. In the second case study the stock option compensation is recognized in the income statement (subjects receiving this case study are referred to as G2).

Insert Figure 1 here

### **Research instrument**

The methodology used in this study is based on prior experimental research that used survey instruments to examine information content of various forms of disclosure/reports. In those studies, significant variations in perception of risk and financial health were taken as evidence that one form of disclosure/report format

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<sup>3</sup> An analysis was performed in order to compare the demographic variables between those who responded via the website and those who responded at the seminar. No significant differences was found between the two groups.

conveyed a “stronger signal” than another (Elias and Johnston 2001; LaSalle and Anandarajan 1997; Bamber and Stratton 1997; Gul 1987; Bailey 1981; Libby 1979 among others). In line with these studies, we asked similar questions (albeit modified for this study).

The response portion of the survey instrument included three sections. Section one asked questions pertaining to respondents’ underlying and primary judgments as well as questions related to their perception of quality of the accounting information provided to them. The underlying judgments (H1) were measured using questions relating to the perceived risk (which consists of the (1) perceived investment risk, (2) overall financial condition, (3) ability to pay its debts), expected accounting return (which consists of the (1) expected return on equity, (2) future net income direction and (3) growth prospect) and the overall perception (namely the perceived investment attractiveness). The primary judgment (H2 and H3) referred to the expected (1) future stock price direction and (2) stock price value<sup>4</sup>

Sections II and III focused on demographic and manipulation questions. Specifically, respondents were asked (1) whether ABC reported pro forma compensation cost figure in the notes, (2) if ABC recorded a stock option expense in the financial statements and (3) to recall the net income trend. The final section of the survey instrument requested standard demographic information about the participants such as their education background, risk tolerance and gender among others.

Figure 2 provides a framework to analyze the effects of the reporting format of stock options (recognition or disclosure) on underlying and primary judgments. As shown it is expected that the reporting format influences the information processing (which consist of acquisition, evaluation and weighting of the information as suggested by Maines and McDaniel, 2000). We examined whether information was properly acquired with our

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<sup>4</sup> Question one also requested whether subjects would be willing to invest in the company however, quite a number answered this question ambiguously using the work “perhaps” or “it depends”. Due to the many ambiguous or equivocal answers we could not include responses to this question in our statistical tests.

manipulation check questions described above. Once the information is acquired, the information is then appraised (though the evaluation and weighting steps that are not investigated in this study) which lead to specific performance assessment judgments. We postulate, as shown in Figure 2, that the underlying judgments (related to the (1) perceived risk, (2) expected accounting return and (3) overall perception) will influence the primary judgments of the expected (1) future stock price direction and (2) stock price value.

Insert Figure 2 here

## **DISCUSSION OF RESULTS**

### **Preliminary check**

Descriptive statistics on demographic variables (see Table 1) indicate that randomization was successful in obtaining equal distribution among the groups with respect to all demographic variables. The difference between the groups was not statistically significant in terms of educational background, risk tolerance, gender, description of actual portfolio (in terms of percentage of companies and in dollar value that is being traded on the NYSE, NASDAQ and other exchanges), industry they tended to avoid investing in (with respective p value 0.1132, 0.0935, 0.3268, 0.9082, 0.5747 and 0.4336). Most of the respondents had at least general vocational college. With respect to gender, the majority of participants in both groups were males (80% and 70%, in G1 and G2 respectively). Although the respondents in group 1 had a greater number of subjects who categorized themselves as risk seekers (on a Likert scale ranging from 1 (risk averse) to 9 (high risk seeker)) but the difference was only marginally significant (p value 0.0935). On average, participants invested primarily in NYSE (69% for both G1 and G2 in terms of percentage of companies traded in; 65% in G1 and 71% in G2 in terms of dollar value). The results show that 54% in G1 and 64% in G2 indicate that there was no industry they tended to avoid investing in.

Insert Table 1 here

We also conducted manipulation checks. As already noted, three questions were asked of each participant to check the effectiveness of the manipulation. The results of these three questions are shown in Table 2. Participants were first asked whether ABC reported a pro forma figure in a note in the financial statements. For those participants receiving case one (i.e., the pro forma note disclosure), an affirmative response was given by all respondents, which is the correct response. For those participants receiving case two (i.e., the income statement recognition), a negative response was given by 91% of the respondents, which is the correct response. Secondly participants were asked whether the hypothetical company recorded stock option expense in the 2003 financial statements. For the participants receiving case one, the correct response was given by 80% (28 of the 33 participants). For the participants receiving case two, the correct response was given by 82% (27 out of 33 participants). With respect to the third manipulation question, 94% (88%) of the participants in G1 (G2) correctly responded that 2003 reported net income was superior (inferior) that its 2002 reported net income. Our conclusion is that, overall, the manipulation was well perceived.

Insert Table 2 here

### **Tests on underlying judgments (H1)**

The results for questions pertaining to the underlying judgments are presented in Table 3. As mentioned before, the underlying judgments were measured using questions relating to the perceived risk (Panel A), expected accounting return (Panel B) and the overall perception (Panel C). As Panel A of Table 3 reveals the responses to the questions relating to the perceived risk which consist of the (1) perceived investment risk, (2) overall financial condition, (3) ability to pay its debts. The perceived investment

risk is greater (more pessimistic) for G2 (mean 7.33) than for G1 (mean 6.49). The perceived overall financial condition is also more pessimistic (is lower) for G2 (mean 4.61) than for G1 (mean 5.43). Similarly, the judgments on the company's ability to pay its debts is more pessimistic (lower) for G2 (mean 4.76) as opposed to G1 (mean 5.71). In all three questions, the differences between G1 and G2 are all highly significant (with respective p value of 0.002, 0.012 and 0.005).

Panel B of Table 3 reveals the responses obtained for the questions pertaining to expected accounting return which consists of the (1) expected return on equity, (2) future net income direction and (3) growth prospects. The results for expected return on equity show that in all three yearly forecasts expected return on equity were smaller for G2 relative to G1. The difference is statistically significant at the one percent level for each year. The response to future net income direction shows that 34 percent predicted decrease in net income for G1 as opposed to 31 percent indicating increase and 12 percent indicating no change. For G2 55 percent predicted decrease as opposed to 12 percent predicting increase and 33% indicating no change. A chi square test indicated that the differences were statistically significant between the groups (p value 0.038). The responses to growth prospects show that the company's anticipated growth prospects are more pessimistic (smaller) for G2 (mean 4.30) relative to G1 (mean 4.80). The results from a Wilcoxon test show that the difference is marginally significant between the groups (p value 0.058). Panel C of Table 3 reveals the responses obtained to the overall perception. On average, results showed that subjects of G2 (mean 3.15) appeared feel their investment was less "attractive" relative to G1 (mean 4.46). The difference was statistically significant (p value 0.002).

In summary, the results of Table 3 show that that, in the presence of recognition versus disclosure, participants estimate more pessimistic underlying judgments (higher perceived risk, lower expected accounting return, less favorable overall perception). These results all provide evidence to support H1 which postulates that Individual's overall underlying judgment of the company will be more pessimistic when stock option

costs are recognized in the income statement than when they are disclosed in a footnote.

Insert Table 3 here

### **Tests on primary judgments (H2 and H3)**

As mentioned before, the primary judgments pertain to the (1) expected future stock price direction and (2) stock price value. The results are shown in Table 4. The mean expected future direction in stock price for subjects in G2 (3.15) was more pessimistic (lower) than the mean for subjects in G1 (4.80). The difference was statistically significant ( $p$  value 0.001). This provides evidence to support H2 which postulates that investors will predict a more pessimistic expected future stock price direction when stock option costs are recognized in the income statement than when they are disclosed in a footnote. Similarly, the mean estimated stock price value of subjects in G2 (\$7.30) was lower than the estimated mean for subjects in G1 (\$24.43). The difference was statistically significant ( $p$  value 0.001). This provides evidence to support H3 which postulates that investors will estimate a lower stock price value when stock option costs are recognized in the income statement then when they are disclosed in a footnote.

Insert Table 4 here

### **Supplementary tests on the perceived quality of accounting information**

We continued our analysis in order to investigate if users' perceived quality of accounting information is influenced by the stock option reporting format (recognition versus disclosure). This perceived quality was measured using five questions relating to the financial statement usefulness, limpidity, reliability and confidence in valuation judgment. As with previous other measures, a nine point Likert scale is used for each question. The results for this final section are presented in Table 5. Only one perception, financial statement usefulness, is influenced by the reporting format. Financial statement usefulness is perceived marginally higher for G2 (5.88) than for G1 (5.03) with a  $p$  value of 0.029. This result indicates that the financial statements were

seen more helpful in the presence of stock option costs recognition as opposed to a note disclosure. None of the other qualities (clarity, reliability and confidence in valuation judgment) was statistically different between the two experimental groups (with p value of 0.450, 0.329, 0.473 and 0.313)<sup>5</sup>.

In summary we find that members of the IMA, in the presence of recognition versus disclosure, estimate more pessimistic underlying judgments (higher perceived risk, lower expected accounting return, worse overall perception) and primary judgments (negative future stock price direction and lower stock price valuation). They also found financial statements to be marginally more helpful in the presence of recognition versus disclosure. This implies that members of the IMA were fixated on reported earnings in the income statement. The findings of this study further add to the debate on the validity of the functional fixation hypothesis versus the efficient markets hypothesis.

However, we also note that when questioned on the financial statements overall, the respondents did not find recognition of stock options to make the financial statements significantly less confusing, or to significantly increase the reliability and increase the clarity of financial statements. We conclude that simply recognizing stock option costs may not have been sufficient to significantly change their view points on the qualities of financial statements even if it influenced significantly their underlying and primary investment judgments.

Insert Table 5 here

## CONCLUSIONS

Most of the prior research has examined the consequences of stock option costs disclosure by means of stock market studies examining the impact of pronouncements

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<sup>5</sup> The responses to question asking respondents' perceptions about the perceived clarity of financial statements show that the financial statements were perceived slightly more confusing for group 2 (4.52) relative to group 1 (4.46); alternatively questioned, participant found that the financial statements were clearer for group 2 (5.48) relative to group 1 (5.51). Similarly, the responses to question asking respondents about the perceived reliability of financial statements showed a slightly higher mean for group 1 (5.66) relative to group 2 (5.48).

on share prices. We contribute to the literature by conducting an experiment and examining the judgments and decision-making of a select group of accountants to the two presentation methods of stock option cost information, namely, disclosure in the notes versus recognition in the income statement. If the efficient markets hypothesis holds, then financial statement users should not be influenced by different ways of reporting the same information. On the other hand, if the functional fixation hypothesis holds, then financial statement users would be more affected by the same earnings recognized in the income statement than disclosed in the footnotes.

We use the mandated changes requiring expensing of stock option costs to test the functional fixation hypothesis. Prior research suggests that unsophisticated investors are functionally fixated on reported accounting numbers. Our results indicate that sophisticated financial statement users exhibit functional fixation as well. Accounting for stock option costs is a particularly valuable context to examine the presence of functional fixation. First, it has broad policy implications. Our findings corroborate the stance of the FASB that disclosure is not a substitute to recognition. Second, we examine if individuals with accounting training and experience might reasonably be expected to see through the disclosure since the disclosure versus recognition issue has been widely publicized before the issuance of Statement 123R. By choosing the stock options reporting issue, we provide a realistic setting to test functional fixation. Experimental studies suggest that functional fixation results from lack of experience and therefore, opportunities to acquire this experience should eliminate it (Chen and Schoderbek 2000). Luft and Shields (2001), however, concluded that learning is not necessarily a quick remedy for fixation because accounting can influence the process itself. We find that even experienced and sophisticated users of financial statements exhibit functional fixation.

As a regulatory body, FASB must be concerned with the informational content for individuals, not just the whole market. In point of fact, Donald T. Nicholaisen, who was appointed as the Chief Accountant of the SEC in August 2003 commented in an interview given to the CPA journal (April 2004) that investors deserve financial

statements that are more transparent and easier to read. While talking in general terms, (though his statement is applicable to stock option reporting as well) he stated that in some cases excessively detailed accounting rules have given those who choose to abuse the system a means to achieve better looking numbers in the financial statements by circumventing the fundamental principles behind the rules. Not recognizing stock option expenses as was allowed prior to the introduction of SFAS 123R is a perfect example of this form of circumventing. He noted that a dominant item on his agenda was helping *all* investors (by implication large and small) to be better informed. Subsequently, a year later in an interview in the Journal of Accountancy, he noted that it was important to know if the “low hanging fruit” had in fact been plucked before proceeding to other issues which need to be addressed. Our results suggest that the SFAS 123R mandatory recording of stock options may prevent undesired consequences due to functional fixation on net earnings.

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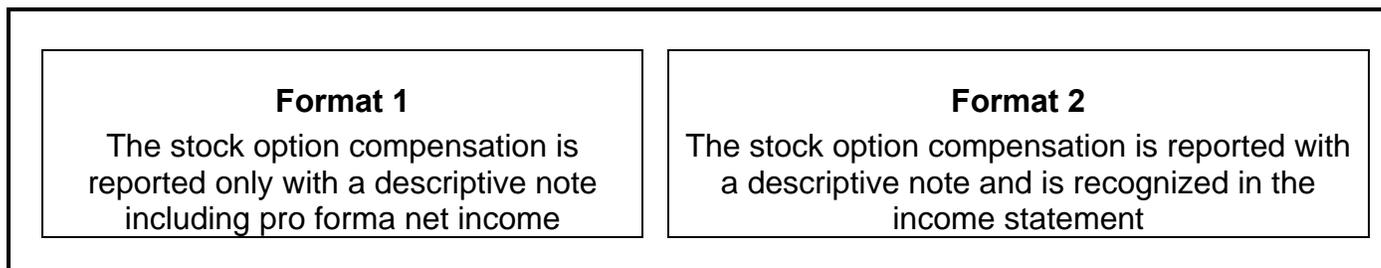
Wall Street Journal. 2004. Accounting cops delay change. C1.

**Figure 1  
Experimental Design**

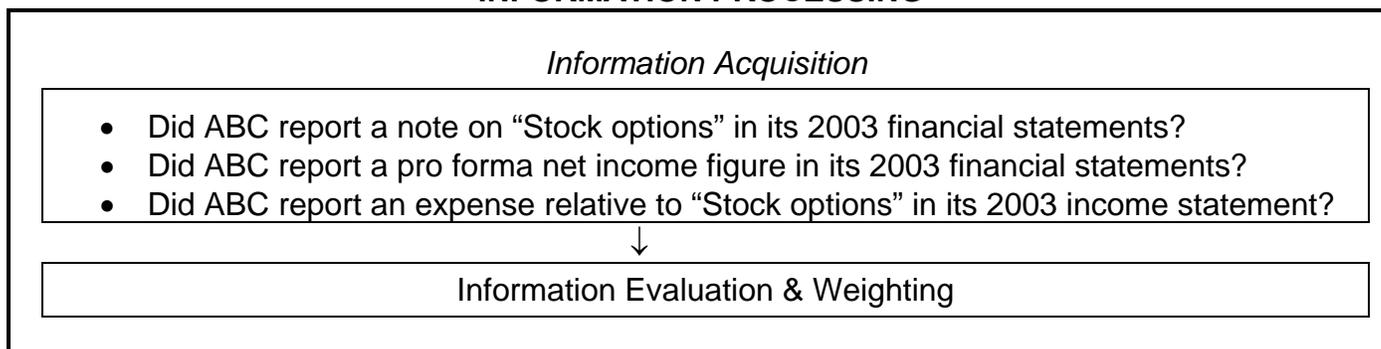
	<b>Experimental groups</b>			
	<b>Group 1</b>		<b>Group 2</b>	
<b>Experimental material</b>	Each participant received an experimental package that included descriptive information on ABC Inc., a standard auditor report, a set of financial statements for two fiscal periods including a balance sheet, income statement, retained earnings statement and cash flow statement, and accompanying notes and information on a potential investment decision.			
<b>Mode of communication of the stock option compensation</b>	The stock option compensation is reported with a descriptive note including pro forma net income		The stock option compensation is recognized in the income statement	
<b>Volatility</b> Net income for the year ended November 30	<u>2003</u> \$159,071	<u>2002</u> \$148,497	<u>2003</u> \$41,586	<u>2002</u> \$122,795

**Figure 2**  
**Framework for the effects of the reporting format of stock option costs on**  
**underlying and primary judgments**  
 (adapted from Maine and McDaniels, 2000)

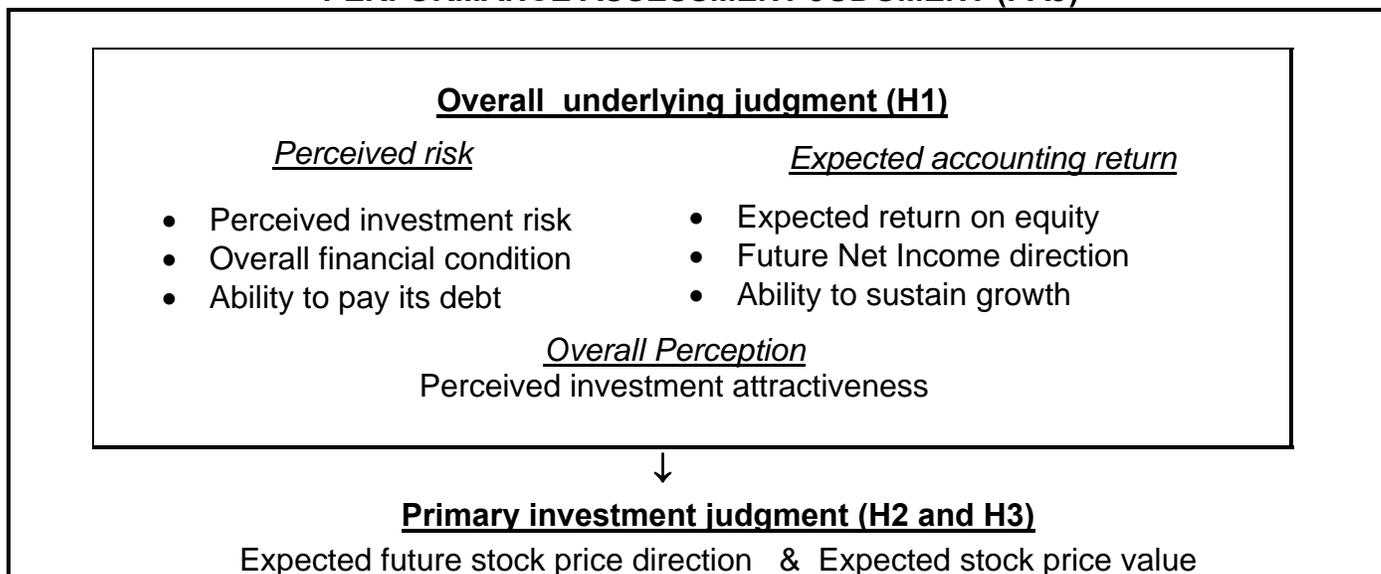
**REPORTING FORMAT OF STOCK OPTION COMPENSATION COSTS**



**INFORMATION PROCESSING**



**PERFORMANCE ASSESSMENT JUDGMENT (PAJ)**



<b>Educational background:</b> What is your highest educational background? 1. High school 2. General and vocational college 3. Bachelor's degree 4. Master's degree 5. Doctorate degree	Group	N	Mean	Standard. Deviation	t	P value
	1	35	2.24	0.55	- 1.61	0.1132 0.1568 <sup>(1)</sup>
	2	33	2.45	0.56		
<b>Risk tolerance(Type of investor):</b> When it comes to my investment decisions, I generally consider myself _____ (on a 9 points Likert scale where 1 represents risk averse and 9 represents a risk seeker)	Group	N	Mean	Standard. Deviation	1.70	0.0935 0.0841 <sup>(1)</sup>
	1	35	5.94	1.68		
	2	33	5.24	1.71		
<b>Gender</b> Male/Female	Group	N	Male	Female	Pearson Chi-square	P value
	1	35	80%	20%		
	2	33	70%	30%		
<b>Actual portfolio</b> What percentages (approximately) of the companies that are in your portfolio are trading on the (1. New York Stock Exchange (NYSE); 2. NASDAQ; 3. Other Exchanges	Group	N	Mean (Std deviation)			
			NYSE	NASDAQ	Other	
	1	35	69.0(28.31)	23.00(21.67)	8.00(21.39)	
	2	33	69.09(24.86)	22.42(17.55)	8.64(23.92)	
	t		- 0.01	0.12	- 0.12	
	Pr >  t		0.9888	0.9049	0.9082	
	W <sup>(1)</sup>		0.7098	0.8521	0.5353	
<b>Actual portfolio</b> What percentage (approximately) of the companies that are in your portfolio in terms of dollar value, is trading on? (1. New York Stock Exchange (NYSE); 2. NASDAQ; 3. Other Exchanges	Group	N	Mean (Std deviation)			
			NYSE	NASDAQ	Other	
	1	35	65.00(30.17)	23.14(22.20)	11.86(25.30)	
	2	33	71.82(23.88)	19.70(15.41)	8.48(23.93)	
	t		- 1.03	0.74	0.56	
	Pr >  t		0.3071	0.4623	0.5747	
	w		0.3280	0.6455	0.8459	
<b>Industry</b> Is there any industry that you tend to avoid investing in? (Yes/No)	Group	N	Yes	No	Pearson Chi-square	P value
	1	35	46%	54%		
	2	33	36%	64%		
Group 1: Pro forma net income disclosed in notes to financial statements Group 2: Recording in the income statement of the expense related to stock options (1) Wilcoxon 2 sample test: two-sides normal approximation						

**Table 2**  
**Statistics on Manipulations questions**

Cross-Tabulation of Format and Acknowledgement Regarding Pro forma disclosure,  
Income Statement Expense for Stock Options and net income trend

	Group	N	Yes	No	Pearson Chi-square	P value	
<b>Pro forma disclosure</b> Did ABC report a pro forma figure in its 2003 note on "Stock options (Yes/No)	1	35	100%	0%	3.3287	0.0681 0.1089 <sup>(1)</sup>	
	2	33	9%	91%			
	Group	N	Yes	No			Pearson Chi-square
<b>Expense relative to stock options</b> Did ABC record a "Stock options" expense in its 2003 financial statements? (Yes/No)	1	35	20%	80%	25.9636	<0.0001	
	2	33	82%	18%			
	Group	N	<	same			>
<b>Net income trend</b> ABC's reported net income for fiscal year 2003 that was _____ than its reported net income in fiscal year 2002. (inferior, stable, superior)	1	35	6%	0	94%	46.2270	<0.0001
	2	33	88%	0	12%		

Group 1: Pro forma net income disclosed in notes to financial statements

Group 2: Recording in the income statement of the expense related to stock options

(1) Fisher Exact test two-sided

**Table 3**  
**Tests on underlying judgment of the company (H1)**

**Panel A: Perceived risk**

	G	N	Mean	Std deviation	t- test (P value)	Wilcoxon (P value)
<b>1. Perceived investment risk</b> I believe that an investment in ABC Inc. is ____ (on a 9 points Likert scale where 1 represents very low risk and 9 represents very high risk)	1	35	6.49	1.40	0.005	0.002
	2	33	7.33	1.22		
<b>2. Overall financial condition</b> I believe ABC's overall financial condition is ____ (on a 9 points Likert scale where 1 represents a very poor and 9 represents very good)	1	35	5.43	1.63	0.015	0.012
	2	33	4.61	1.39		
<b>3. Ability to pay its debts</b> I believe ABC's ability to pay its debts as they come due is ____ (on a 9 points Likert scale where 1 represents a very poor and 9 represents very good)	1	35	5.71	1.62	0.008	0.005
	2	33	4.76	1.54		

**Panel B: Expected accounting return**

	Mean (Std deviation)			t- test (P value)	Wilcoxon (P value)		
	Year	G1	G2				
<b>1. Expected return on equity</b> What accounting return on equity do you expect for the next 3 years? ____%	2004	7.86	3.58	<0.001	<0.001		
	2005	8.17	5.18	0.002	0.001		
	2006	8.34	5.85	0.014	0.013		
<b>2. Future Net Income direction</b> I believe ABC's future Net Income will ____ (decrease,, no change, increase)	G	N	↓	No change	↑	Chi-square (P value)	
	1	35	34%	34%	31%		0.038
	2	33	55%	33%	12%		
<b>3. Growth prospects</b> I believe ABC's growth prospects are ____: (on a 9 points Likert scale where 1 represents very unfavorable and 9 represents very favorable)	Group	N	Mean	Std deviation	t- test (P value)	Wilcoxon (P value)	
	1	35	4.80	1.66	0.102	0.058	
	2	33	4.30	1.53			

**Panel C: Overall perception**

<b>1. Perceived investment attractiveness</b> I believe that an investment in ABC shares is (on a 9 points Likert scale where 1 represents not at all attractive and 9 represents very attractive)	1	35	4.46	2.01	0.002	0.002
	2	33	3.15	1.50		

<b>Table 4</b>						
<b>Tests on primary judgments (H2 and H3)</b>						
<b>Expected future stock price direction</b> Assume that the financial information for 2003 has just been publicly released and that the stock market is receiving this information for the first time. Please indicate what you believe will most likely happen to the stock price of ABC upon release of this information. (on a 9 points Likert scale where 1 represents significant price decrease and 9 represents significant price increase)	Group	N	Mean	Std deviation	t- test (P value)	Wilcoxon (P value)
	1	35	4.80	1.86	< 0.001	< 0.001
	2	33	3.15	1.30		
<b>Stock price value</b> Assume that ABC's financial information for 2003 has just been publicly released. Please indicate what you believe to be a fair price for one share of ABC stock: ____\$	1	35	24.43	22.86	0.001	0.001
	2	33	7.30	8.66		
	2	33	4.27	1.66		

**Table 5**  
**Tests on the Perceived Quality of Accounting Information**

<b>Financial statements usefulness</b> I believe ABC's financial statements are in determining the company's true, overall financial performance is_____ (on a 9 points Likert scale where 1 represents not at all helpful and 9 represents very helpful)	Gro up	N	Mean	Std deviation	t- test (P value)	Wilcoxon (P value)
	1	35	5.03	1.92	0.029	0.077
	2	33	5.88	1.69		
<b>Limpidity of financial statements</b> I believe ABC's financial statements are:_____ (on a 9 points Likert scale where 1 represents not at all confusing and 9 represents very confusing)	1	35	4.46	2.08	0.450	0.465
	2	33	4.52	1.70		
<b>Reliability of financial statements</b> I believe ABC's financial statements are:_____ (on a 9 points Likert scale where 1 represents very unreliable and 9 represents very reliable)	1	35	5.66	1.85	0.329	0.182
	2	33	5.48	1.28		
<b>Clarity of financial statements</b> I believe ABC's financial statements are_____: (on a 9 points Likert scale where 1 represents not at all clear and 9 represents very clear)	1	35	5.51	2.08	0.473	0.351
	2	33	5.48	1.48		
<b>Confidence in valuation judgment</b> Please assess how confident you are in your valuation judgment (on a 9 points Likert scale where 1 represents not confident and 9 represents very confident)	1	35	5.14	2.38	0.313	0.258
	2	33	4.88	2.04		