Early Adopters of Fair Value Accounting for Stock-Based Compensation: A Case for Signaling

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ABSTRACT

This paper explores signaling as a possible explanation as to why companies voluntarily used the fair value method to account for stock-based compensation prior to it becoming mandatory in 2004. Our sample was divided into two groups, early adopters and non-adopters, to determine whether early adopters were signaling through their adoption decision that they were higher quality firms. A univariate analysis was performed to test the differences between the means of quantifiable attributes of the adopting and non-adopting firms for 2002 and 2003. Our findings are consistent with a signaling explanation that, for some firms, the decision to voluntarily expense options long before there was a requirement to do so signaled that these firms were committed to earnings quality and reporting transparency, and thus were more desirable to investors than were their non-adopting counterparts.

INTRODUCTION

The turn-of-the century accounting scandals, corporate bankruptcies, and the well-publicized Arthur Anderson debacle are stark reminders of the regulatory environment in which corporate misconduct and deceptive accounting practices have occurred, and often with dire consequences to investors. In response to the pubic outcry for regulatory change, Congress passed the Sarbanes-Oxley Act in 2002. This legislation was seen as an important first step in demanding more corporate accountability, but it also sent a strong message to the accounting profession that accounting rules and standards should promote quality and transparent reporting. During the time Congress was enacting Sarbanes-Oxley, the accounting profession was grappling with one of the most difficult and politically charged issues it had faced in recent years - how to account for stock-based compensation. The issue was further complicated by the fact that, at the time, accounting standards allowed stock-based compensation to be accounted for with either of two vastly different methods: the Intrinsic Value Method (IV) or the Fair Value Method (FV). The Intrinsic Value Method is based on Accounting Principles Board Opinion No. 25: Accounting for Stock Issued to Employees (APB 25), and the Fair Value Method is based on the Statement of Financial Accounting Standard No. 123, Accounting for Stock-based Compensation (SFAS 123).

Under IV, stock-based compensation cost was seldom reflected in earnings because the recognized expense was based on the excess, if any, of the market price of the stock at the grant date over the exercise price of options. Since the option price was routinely set to equal the market price on the grant date, companies avoided recognizing compensation costs from such transactions. In fact, IV only required companies to provide pro forma disclosures of net income and earnings per share as if SFAS 123 had been adopted.

In contrast, stock-based compensation costs were reflected in earnings under the FV because the costs were measured at the grant date based on the expected fair value of the stock award and recognized over the service period. Intuitively, most would have argued that FV promoted more quality and transparent reporting because it more accurately reflected the economic substance of the underlying transactions. Despite this compelling argument, few companies voluntarily adopted FV prior to FAS 123(R) in 2004. Instead, most companies remained steadfast in their opposition to FV, but by March, 2003, 179 companies had adopted or announced their intention to adopt the FV approach. The number had risen to 276 by May, 2003, and had increased to 483 public companies by February, 2004 (McConnell et al, 2004).

In *Take on the Street* (2002), Arthur Levitt, Jr., former chairman of the SEC, points out that Federal Reserve researchers concluded that between 1995 and 2000, the average earnings growth of the companies in the S&P 500 would have been 2.6% less had stock options been expensed. A similar study of companies in the S&P 500 concluded that average earnings may have been overstated by as much as 10 percent because of not recognizing stock-based compensation expense (Kieso et al., 2005). The impact was even greater on companies with broad based stock option plans. For example, if Cisco Systems, which granted stock options to virtually all its employees, had been required to expense its options in 2001, the organization's reported loss would have been $1.7 billion greater than the figure actually reported.

In October 1995, the FASB issued SFAS 123 which encouraged (but did not require) companies to account for stock-based compensation at the estimated fair value of stock options on the grant date. This standard prompted few additional companies to use FV. Similar to the behavior before this standard was issued, most companies continued to account for stock-based compensation under IV.

One could argue that allowing companies to account for stock-based compensation under IV contributed to an environment where reported earnings and financial position were systematically distorted, thus contributing to a general lack of reporting quality and transparency. Despite the obvious inadequacy and inconsistency in the applicable standards, the Financial Accounting Standards Board (FASB) did not require the FV until 2004. The reluctance of companies to voluntarily use FV suggests a general willingness of companies to sacrifice earnings quality and reporting transparency for short-term earnings objectives. A similar concern was expressed by the Conference Board, a blue-ribbon research committee, that accounting for stock options under IV encouraged a short-term focus rather than on long-term, sustainable growth strategies (Francis, 2003). For example, managers who receive a substantial portion of their compensation from stock options profit from short-term gains in stock price more than from the long-term benefits provided by efficient management.

Although there was a modest increase in the use of FV by companies from 2002 and 2004, such use represented only a small percentage of the more than 9000 public corporations. What factors, if any, distinguished the early adopters of the FV (FASB's recommended approach) from companies that continued to use IV?

BACKGROUND

Signaling Theory

Signaling was first proposed by Michael Spence (1973) to address the problem of information asymmetry in transactions where one party has more or better information than others. Spence suggested that the problem could be resolved by having one party send a signal to reveal relevant information about itself to the other party. The party receiving the signal would interpret it and adjust its behavior accordingly, thus resolving the problem of information asymmetry. The concept was originally studied in the context of prospective employees signaling their skills to prospective employers, but has since been broadened to apply to many other economic decisions.

In general, signals are used to indicate a certain quality that would otherwise not be directly observable. Signaling occurs in competitive environments where it is beneficial to produce an honest signal, but prohibitively costly to produce a deceptive one. The costs include both the cost to produce the signal and the punitive cost for producing a deceptive signal. Signals tend to be honest and reliable when the potential benefits of producing them truthfully exceed the costs. A signal is honest and reliable when it indicates a quality that the signaler, indeed, possesses, and is given when the quality it represents is present.

Information not directly observable that FV companies would want to convey through signaling are earnings quality and more transparent reporting practices. Although some companies produce higher quality earnings and engage in more transparent accounting practices, such qualities can only be confirmed through costly and detailed analysis. Signaling is a cost effective alternative that allows firms to distinguish themselves as higher quality firms because the cost of adopting FV is more than off-set by the perceived quality from signaling. In the current study, we assume that the voluntary adoption of the FV is a cost-effective way to signal quality.

APB 25: Intrinsic Value Method

After debating this issue for decades, accounting regulators and others in the business community finally came to a consensus that stock options represent employee compensation that should be expensed at the fair value of the stock options over the service period. Despite this consensus, most companies still used APB 25 to account for stock-based compensation until SFAS 123 (R) became mandatory.

Issued in 1972 by the Accounting Principle Board (the predecessor to the Financial Accounting Standard Board), APB 25 provides guidance on generally accepted methods of accounting for most types of stock-based compensation awards. It requires companies to use the intrinsic value method where compensation expense is measured as the difference between the market price of the stock and exercise price of the stock option on the measurement date. The measurement date is the first date on which both the number of options and the exercise price are known. For the typical stock option plan, the measurement date is the date options are issued to the employees. This is also referred to as the grant date. Compensation expense is almost never recorded under APB 25 because most companies use a fixed plan whereby the exercise price is routinely set to equal the market price on the grant date. Companies that apply APB 25 and related interpretations to account for stock options must adopt the disclosure provisions of SFAS 123. These provisions are further explained in the next section.

Companies were allowed to used the Intrinsic Value Method despite the concerns expressed by users of the financial statements (primarily through their comment letters) that the intrinsic value method would result in financial statements that would not adequately account for the economic impact of underlying transactions when employees received stock-based compensation in exchange for their services.

SFAS 123: Fair Value Method

The FASB first proposed in June, 1993, that firms account for stock options at fair value on the grant date and expense the fair value over the periods that employees provided service. This proposal was abruptly withdrawn in December, 1994, in response to opposition by a vast majority of comment letters to the exposure draft.

In October, 1995, the FASB issued SFAS 123, effective for fiscal years beginning after December 15, 1996. SFAS 123 recommended (but did not require) that compensation expense from stock options be measured at FV and recognized in the financial statements over the service period. In a political response to companies' overwhelming opposition to the FV method, SFAS 123 was modified to allow the use of the intrinsic value method under rules of APB 25. Companies that elected to use APB 25 were required to disclose in footnotes the pro forma effect on net income and earnings per share as if the preferable fair value method had been used to recognize the stock-based compensation expense.

SFAS 148: Alternative Methods of Transition and Disclosure

SFAS No. 148, Accounting for Stock-Based Compensation- Transition and Disclosure- an amendment of FASB No. 123, provided alternative methods of transition for voluntary change to the FV method. Disclosure requirements in SFAS No. 123 were also amended to require more prominent exposure in both interim and annual financial statements about the method of accounting for stock-based compensation and the effects of the method on reported results. The effective date for SFAS No. 148 was for fiscal years ending after December 15, 2002.

International Accounting Standards

International Accounting Standards Board (IASB) issued IFRS 2, Accounting for Share-based Payment, in February, 2004, which required the recognition of expense for employee stock options using the FV method. This standard went into effect in fiscal years beginning in 2004 for companies using international standards for financial reporting. IASB’s standards differ from those of the FASB as to recognition and measurement, but the basic requirement of recognizing expense over the vesting period based on a FV measurement of stock-based employee compensation is the same. Greater convergence with international standards was one of the key reasons given by FASB for proposing amendment to SFAS 123 and 95.

Proposed Amendment to SFAS 123 and 95

In April, 2003, the FASB unanimously voted in favor of expensing stock options at fair value over the service period based on an option pricing model. This was followed in March, 2004, by an exposure draft entitled "Share-Based Payment-an amendment of Statements No. 123 and 95 (Proposed Statement of Financial Accounting Standards)". This proposed statement mandated the use of only the FV method and was designed to improve comparability by eliminating the use of the intrinsic value method. The FV method required the recognition of compensation cost incurred as a result of receiving employee services in exchange for valuable equity instruments issued by the employer. The FASB's position is that recognizing compensation cost in the financial statements, as opposed to footnote disclosures, improves the relevance and reliability of the financial information. Users would benefit from the proposed changes by better understanding the economic transactions affecting an enterprise. In addition, a better understanding of the economic impact of share-based compensation arrangements on a company's financial condition and operations should lead to more efficient resource allocation decisions.

The FASB noted three principal reasons for issuing the proposed statement. The first concern was that financial statements under the intrinsic value method do not faithfully represent the economic transactions affecting the issuer, namely, receipt and consumption of employee services in exchange for value (equity instruments). Secondly, it recognized a need to improve the comparability of reported financial information by eliminating alternative accounting methods. Finally, the FASB wanted to simplify U.S. GAAP with respect to the accounting for stock-based compensation and provide greater convergence with international accounting standards. This proposal was adopted in 2004 as SFAS 123 (R).

Over 4000 comment letters were received in response to the FASB's March 2004, exposure draft. Most investor responses preferred the expensing of options, whereas most corporate responses preferred that options not be expensed. Some of the comment letters questioned the treatment of stock options as an expense.

RESEARCH MOTIVATION AND PURPOSE

We argue that stock options are costs of doing business that should be reflected in earnings like any other measurable cost of doing business. Furthermore, by including these costs in earnings, both the quality of earnings and financial position of a company are improved. Therefore, we hypothesize that these companies are signaling their commitment to earnings quality and transparent reporting by voluntarily adopting FV. Although we recognize that the adoption decision may have been motivated by other factors, signaling is one of the more theoretically compelling possibilities. Given all the recent accounting scandals in which numerous high profile companies were forced to restate their financial statements for various improprieties, signaling to the public that a firm is proactive in adopting accounting standards that promotes earnings quality and transparency seem like a smart strategy. Qualities that FV companies would want to signal are a sound financial position and a commitment to quality, transparent reporting. Such reporting would be highly desirable if these firms were more profitable and/or less risky than the IV firms

What motivated those relatively few companies to adopt FV voluntarily? Were they, in fact, signaling information about their philosophies, future prospects, or earnings quality? This paper

addresses these and other questions by analyzing selected variables for differences between early adopters (FV firms) and non-adopters (IV firms) for explanations consistent with signaling theory. It is our expectation that firms' willingness to voluntarily expense options is related to key financial variables associated with firm size, growth, net profit margin, quality of earnings, and stock market performance. We therefore hypothesize that FV firms are significantly different from IV firms as to those key variables listed above.

It is also possible that some companies may have been responding to the inevitability that the FV method was going to become mandatory in the near future. In fact, at the time of our analysis, the FASB had already released a proposed amendment to SFAS 123 for comment that would require use of the FV approach and disallow the use of the intrinsic value method under APB 25. Another possibility is that companies adopted the FV approach for all options after being required to do so for repriced options.

EMPIRICAL METHODOLOGY

For each of the fiscal years ending in 2002 and 2003, we used the population of S&P 500 companies and divided it into two categories: 1) those that adopted the FV method (SFAS 123) of recognizing stock-based compensation expense in earnings and 2) those that chose the alternative intrinsic value method (APB 25) of providing such information in a footnote disclosure only. The appropriate category was determined by reviewing each company's annual report (or form SEC 10-K) for accounting procedures and related disclosures concerning stock-based compensation. During this review we collected data for net income as reported, FV stock-based compensation expense for the FV companies, and pro forma net income for the IV firms as if FV method had been used to account for stock-based compensation expense. The other variables (Tables 1 and 2) used in the analysis for the S&P 500 companies were obtained from the COMPUSTAT data base.

Univariate tests of the differences between the means of the variables for the fair value and the intrinsic value firms were performed. T-tests of the null hypothesis that the mean values of each variable for the two groups of firms are equal were performed using the SPSS. In 2002, 19 of the 500 S&P firms had adopted the fair value method, and the other 481 used the intrinsic value method. In 2003, the number of fair value firms had risen to 101 while 399 firms continued to use the intrinsic value method.

RESULTS

The evaluation of differences in means revealed statistically significant differences between fair value companies and intrinsic value companies. The key variable of interest for our study was the ratio of stock-based compensation expense to reported income. This ratio was computed for all companies that reported positive net income for the year. In 2002, 400 companies reported positive net income while 100 had losses, and in 2003, 435 firms were profitable while 65 had losses. The amount of stock-based compensation expense is not recorded as an expense by intrinsic value companies, but is shown only as a disclosure item in a firm's "Notes to Consolidated Financial Statements." This amount is reported as an expense by fair value firms, and thus reduces net income or increases a loss. Thus, the higher the ratio of stock-based compensation expense to reported income, the greater the chance a firm would prefer not to use the fair value method. For the FV firms, the ratio was computed by dividing reported stock-based compensation by reported net income; for the IV firms, the ratio was computed by dividing the

amount of stock-based compensation disclosed in the "Notes" by adjusted net income. This ratio was significantly higher (at the .01 level) in both 2002 and 2003 for companies using the intrinsic value method (see Table 1 for the 2002 results and Table 2 for the 2003 results). In 2003, the mean value was 27% for intrinsic value firms and 6% for fair value firms. When this ratio exceeds one, a reported profit becomes a loss. Our review of the firms' annual reports revealed that eleven profitable intrinsic value companies in both 2002 and 2003 would have reported a loss if they had used the fair value method and recorded their stock option cost as an expense. It is no surprise that none of these companies chose to expense their options.

TABLE 1. Mean Values and Standard Deviations for Selected Variables in 2002 for S&P 500

Variable	Intrinsic Value Firms (n = 481)	Fair Value Firms (n = 19)	t-statistic	Standard Error Difference
EBIT margin	12.99 (26.00)	28.50 (24.46)	-2.704**	5.74
Return on assets	1.97 (24.92)	3.36 (4.44)	-0.913	1.526
Return on equity	11.63 (55.21)	14.63 (12.60)	-0.781	3.83
Total debt to capital	41.03 (342.47)	88.32 (45.94)	-2.51**	18.84
Beta	0.95 (0.66)	0.68 (0.37)	2.968***	0.09
3 year average total asset growth	19.01 (30.59)	14.80 (16.30)	1.055	3.99
3 year average sales growth	15.34 (23.68)	13.03 (16.82)	0.576	4.01
Level of total assets	31,524 (90,444)	135,047 (177,382)	-2.531**	40,903
Level of sales	12,317 (21,346)	22,772 (29,320)	-1.538	6,796
Relative stock price	3.20 (1.53)	3.40 (1.15)	-0.712	0.27
Relative price change	45.89 (123.17)	47.16 (96.23)	-0.054	23.38
Dividend yield	1.45 (1.58)	3.23 (2.35)	-3.279***	0.54
Dividend yield to dividend yield of the S&P 500	96.10 (107.06)	216.27 (129.38)	-3.891***	30.89
1 year total return	0.41 (35.13)	3.49 (28.1)	-0.451	6.82
3 year total return	7.99 (20.32)	-2.12 (9.42)	4.187 ***	2.41
5 year total return	13.84 (16.46)	8.06 (7.90)	2.868***	2.02
Option expense to reported income*	27.16 (104.725)	5.89 (6.20)	3.832***	5.55

Notes. Mean values are presented with standard deviations in parentheses. Total assets and sales are expressed in millions of dollars; means are expressed as percentages.

*Only firms reporting positive net income are included here; 400 of the 500 S&P firms reported positive income in 2002, and all 19 fair value firms were profitable.
**Significant at 5 percent level
***Significant at 1 percent level

TABLE 2. Mean Values and Standard Deviations for Selected Variables in 2003 for S&P 500

Variable	Intrinsic Value Firms (n = 399)	Fair Value Firms (n = 101)	t-statistic	Standard Error Difference
EBIT margin	12.24 (24.47)	21.86 (20.24)	-4.080***	2.36
Return on assets	2.07 (19.54)	3.10 (7.18)	-0.833	1.21
Return on equity	13.48 (57.48)	9.45 (20.77)	1.136	3.54
Total debt to capital	50.48 (51.91)	66.69 (206.71)	-0.782	20.73
Beta	1.03 (0.78)	0.85 (0.52)	2.702***	0.07
3 year average total asset growth	12.58 (19.21)	11.23 (16.43)	0.709	1.90
3 year average sales growth	7.87 (15.99)	9.21 (19.03)	-0.652	2.06
Level of total assets	17,039 (35,178)	118,391 (204,502)	-4.962***	20,425
Level of sales	8,984 (11,459)	25,148 (40,441)	-3.977***	4,065
Relative stock price	3.37 (1.98)	3.83 (1.74)	-2.314**	0.20
Relative price change	30.85 (135.14)	18.69 (104.76)	0.975	12.47
Dividend yield	1.62 (2.24)	2.88 (2.41)	-4.742***	0.27
Dividend yield to dividend yield of the S&P 500	81.17 (116.48)	135.43 (111.96)	-4.314***	12.58
1 year total return	-14.42 (29.70)	-16.53 (22.76)	-0.777	2.72
3 year total return	-3.29 (22.50)	-2.33 (18.70)	0.429	2.24
5 year total return	2.47 (14.10)	-0.29 (9.94)	2.164**	1.28
Option expense to reported income*	21.92 (59.12)	8.47 (15.61)	3.755***	3.58

Notes. Mean values are presented with standard deviations in parentheses. Total assets and sales are expressed in millions of dollars; means are expressed as percentages

*Only firms reporting positive net income are included here; 435 of the 500 S&P firms reported positive income in 2003, and 94 of the 101 fair value firms were profitable.
**Significant at 5 percent level
***Significant at 1 percent level

Our analysis also revealed that in 2002, none of the 19 companies using the FV method reported a loss, whereas 100 (or 21%) of the 481 companies using the intrinsic value method reported a loss (see Table 3).

TABLE 3. Number of firms reporting profits or losses for 2002

	Firms reporting losses	**Firms reporting profits**	**Total**
Intrinsic value firms	100	381	481
Fair value firms	0	19	19
Total	100	400	500

For firms reporting losses, none chose to expense options; but firms that were profitable, 5% (19/400) had chosen the fair value approach that expensed options. The results were similar in 2003, where only 7 (7%) of the 101 companies using the FV method reported a loss, but 58 (17%) of the intrinsic value companies reported a loss (see Table 4). For firms reporting losses, 11% (7/65) chose to expense options; but firms that were profitable, 22% (94/435) chose the fair value approach.

TABLE 4. Number of firms reporting profits or losses for 2003

	Firms reporting losses	**Firms reporting profits**	**Total**
Intrinsic value firms	58	341	399
Fair value firms	7	94	101
Total	65	435	500

The earning before interest and taxes margin (EBIT) was significantly higher for the fair value firms in both 2002 and 2003, indicating more relative earnings to absorb the option expense. Actually, fair value firms had a lower stock option expense than the intrinsic value firms, as indicated by their significantly lower ratio of option expense to reported income. The higher profitability of these firms may be due in part to their low stock option expense. The decision to expense stock options is relatively easy to make when the amount involved is relatively small. We recognize that firms with low stock option costs may have higher personnel costs since stock options provide an alternate source of executive and employee compensation. The fair value firms in the S&P 500 appear to have managed all of their compensation and other expenses in such a manner that resulted in a higher EBIT margin.

Firms with higher EBIT margin may reflect higher quality of earnings. EBIT is calculated before adjustments for nonrecurring items, value changes in investment securities, write-down of assets, gains or losses from discontinued operations, other income, and other extraordinary items. It is in these areas that there are significant opportunities to "manage" reported net income. Although the components of EBIT (and EBIT margin) can also be "managed" to some extent, it is likely that EBIT is a "purer" figure than net income. Firms with higher EBIT margin would be less likely to try to manufacture profits, and thus these firms could be said to have a higher quality of earnings.

Our analysis also suggests that the lower stock option cost and higher EBIT margin may have contributed to the fair value firms paying higher dividends, given the significantly higher

dividend yield and the higher relative dividend yield for these firms. Higher dividend yield may also be a signal of greater earnings quality. Firms that pay out a large portion of their reported profits in dividends may have real earnings that have not been doctored; other firms, with large reported earnings but minimal dividend payments, may have reported earnings that have been disguised, falsified, or "adjusted". A firm cannot pay dividends unless sufficient real earnings and cash are available. Farinha and Moreira (2007) tested the relationship between dividend payments and earnings quality for the period 1987 – 2003. Using a sample of approximately 40,000 firm-year observations, they found a positive relationship between dividend payments and several measures of earnings quality. These results are consistent with our findings that the more profitable FV firms share a larger portion of reported earnings with their stockholders than is the case for the IV firms.

Our results also indicate that it was the larger firms that took the lead in adopting the fair value method of accounting for stock option expenses. Although the growth rate was similar for both sets of firms, the level of total assets was significantly higher for fair value firms. Also, growth in sales was similar for both groups of firms, but the level of sales was higher for fair value firms. The difference was statistically significant in 2003 but not in 2002, again indicating that larger firms made the switch to the fair value method.

Risk and return characteristics of firms are of interest to security analysts and investors. A common measure of a firm's risk, the beta coefficient, was significantly lower for fair value firms. It is expected that lower market risk would be accompanied by lower market return, and indeed this is the case. The 5 year total return, which consists of price appreciation, dividend reinvestment and dividends earned on reinvested dividends, was significantly lower for the fair value companies in both 2002 and 2003. The 3 year total return was also lower for these firms in 2003, but the difference was not significant in 2002; nor were there significant differences for the 1 year total return in either year. Although the low risk, low return characteristics of the fair value firms have an appeal to some investors, it should be noted that the intrinsic value firms cannot be considered "risky." With a beta of 0.95 in 2003 and 1.03 in 2003, these firms exhibit average market risk, while fair value firms are less risky. Two other market variables, relative stock price and relative price change were similar for both sets of firms.

The low risk, low return characteristics of the FV firms is a signal of their greater transparent financial statements and higher earnings quality. This relationship has been verified by several researchers who have evaluated the relationship between earnings quality and the cost of capital. In an exhaustive review of over 35 articles on this issue, Habib (2006) found that higher earnings quality was associated with lower cost of capital in virtually all cases. Since risk is positively related to the cost of capital, lower risk firms can be expected to have a higher quality of earnings.

CONCLUSIONS

The decision to use the fair value method or the intrinsic value method in accounting for stock options is a choice that corporations have freely made. Since the proposed amendment to FASB 123 and 95 has become effective, however, firms no longer have that choice; they are required to use the fair value method. The results of this paper suggest that there are significant differences between firms that expensed their stock options and those that had chosen not to. Clearly, the impact on the bottom line appeared to have been paramount to the decision to expense stock options given that it resulted in a decrease in a net income or an increase in a net loss. Our study reveals that firms reporting a loss were less likely to use the fair value method, presumably, because of the negative impact it had on earnings.

Fair value firms had a significantly higher EBIT margin, indicating that they had relatively more earnings to absorb the option expense. Not surprisingly, the ratio of option expense to reported income was significantly lower for FV firms. The lower stock option cost and higher EBIT margin were also found to be associated with a higher dividend pay out by fair value firms. Both of these results are consistent with FV firms providing a signal to investors that they are committed to reporting transparency and earnings quality.

The rate of growth was also similar for both groups of firms, but size was significantly different. As measured by total assets, fair value firms were significantly larger in 2002 and 2003. The level of sales was also higher for fair value firms, although the difference was not significant in 2002.

Our results also confirmed the expected risk-return relationships that investors require. The 5-year total return was lower for the fair value firms in both 2002 and 2003, and the 3-year total return was also lower in 2003. Risk, as measured by beta, was also lower in both years, indicating that fair value firms provide a low risk, low reward investment compared with their intrinsic value brothers. Lower risk was also related to signaling higher earnings quality.

One justification for requiring FV expensing of stock options is to improve the transparency of financial reporting. As we observed in this evaluation of IV and FV firms, the FV firms are indeed sending a signal that they are more committed to transparency in financial reporting and earnings quality. The lower beta, higher EBIT margin, and higher dividend yield are components of a signal to investors that the FV firms can be expected to have higher earnings quality and greater transparency in financial reports.

We observed in the annual reports of the S&P 500 companies that many intrinsic value firms question the assertion that the requirement to expense stock options will improve the transparency of financial reporting. No one valuation model is used by all firms or recommended by FASB, each model requires assumptions (on which reasonable people may disagree), and more than one method is available for allocating the expense to various periods. This issue awaits further research.

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