The Impact of the Sarbanes-Oxley Act of 2002 on the Value Relevance of Nonaudit Fees

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ABSTRACT:

In the wake of the Enron and WorldCom accounting scandals, nonaudit services provided by auditors have come under the scrutiny of Congress as reflected in the Sarbanes-Oxley Act of 2002. In an attempt to better understand the impact of the Act, this study sets forth two specific objectives. The first objective is to examine the value relevance of auditor’s fees. The other objective is to investigate which components of the fees, if any, are important in the determination of firm values. We find that nonaudit fees have a positive association with firm values, which suggests that investors perceive nonaudit services as value increasing services. Among the components of auditor’s fees, audit related fees and tax fees have significant positive relationships with firm values. These results are contrary to the prevailing belief that nonaudit services impair auditor independence. However, in additional analysis, we find that investors’ perception of nonaudit fees has changed. In particular, investors react more favorably to an increase in nonaudit service fees after SOX while they did not have such a reaction prior to SOX.

Keywords: Sarbanes-Oxley Act, Value relevance, Auditor’s fees, Nonaudit fees

JEL Description: G14, G18, G38, M41
I. INTRODUCTION

There are long standing public policy concerns about whether auditors should be allowed to provide both audit and nonaudit services to their clients without any restriction on the scope of their services. At issue is whether auditors act more favorably toward those clients from which they receive higher nonaudit fees. As a way of providing investors with more transparent information about the auditor-client relationship, the SEC has mandated that firms disclose the amount of all audit and nonaudit fees paid to their auditors. The SEC released the initial regulation requiring this disclosure in November 2000 (SEC 2000), and later modified these disclosure requirements in conjunction with the implementation of the regulatory initiatives of the Sarbanes-Oxley Act of 2002 (SOX hereafter), in 2003. This modification includes expanding the definition of audit fees and requiring further articulation of the components of nonaudit fees in the proxy disclosure (SEC 2003).

Interestingly, a presumption of the discussion among policymakers and researchers has been the negative influence of nonaudit services: i.e., the likely impairment of auditor independence when auditors are engaged to perform both audit and nonaudit services. However, it is quite possible that nonaudit services could have positive effects. Similar to advertising or R&D, nonaudit services represent voluntary expenditures intended to enhance the firm’s value.\(^1\) Also, the knowledge “spilled over” from nonaudit services may even improve audit quality.
Nevertheless, these potential positive aspects of nonaudit services have been largely ignored.

In addition to concentrating more on the dysfunctional influence of nonaudit services, prior studies use abnormal stock market returns as surrogates for investors’ perceptions of impairment of auditor independence and thus, concentrate more on the short-term information effect of nonaudit services (Frankel et al. 2002; Chaney and Philipich 2002; Ashbaugh et al. 2003). On the other hand, the benefits of nonaudit services may not occur immediately and could last for a relatively long time. Moreover, abnormal stock market returns, which essentially measure the short-term reaction of investors to the unexpected portion of nonaudit fees, can be a noisy measure since controlling for other information effects is problematic. For example, it is difficult to distinguish the market’s reaction to auditor’s fee information from the reaction to the other information simultaneously disclosed in the proxy filings. The timing mismatch between the recognition of the cost of nonaudit services and the realization of the benefits of those services, and the use of abnormal stock market returns could be the cause of the rather mixed and inconsistent results of the prior studies. Frankel et al. (2002) find a negative association between nonaudit fees and abnormal returns on the date the fees are disclosed. On the other hand, Ashbaugh et al. (2003) and Chaney and Philipich (2002) discover no significant association between nonaudit fees and abnormal returns. While Frankel et al. (2002) and
Ashbaugh et al. (2003) document that the market reaction to the nonaudit fees disclosure is not economically significant, Francis and Ke (2003) find a significant disclosure impact on stock prices.

The purpose of our study is to directly examine the economic consequences of firms’ expenditures on auditor services in order to understand whether the market perceives that such services create “economic dependency” for the auditor or substantive “value enhancement” for the client. The economic dependency hypothesis refers to the possibility that nonaudit fees could cause auditors to become economically dependent on their clients who provide significant extra economic rents and thus lose their independence. On the other hand, the value enhancement hypothesis refers to the possibility that nonaudit services not only provide auditors with more knowledge about their clients but also strengthen independence by increasing auditors’ accountability and legal liabilities. Accordingly, we test which of the two hypotheses better explains the economic consequence of services provided by auditors.

Another major purpose of our study is whether SOX changed investor’s perception on nonaudit fees. SOX not only banned audit firms from providing many nonaudit services but also required company executives to certify the accuracy and completeness of their major financial filings each quarter. This rule change could have a substantial impact on investors’ perceptions of the association between nonaudit services and auditor independence.
In order to examine the economic consequence of the structure of auditor’s fees, this study adopts the value relevance approach (Amir 1993, 1996; Barth 1994; Barth et al. 1992; Barth and Kallapur 1996) based on the Ohlson (1995) model specification which demonstrates how specific accounting numbers are summarized in stock prices. In contrast to the information content approach adopted in the prior studies (Frankel et al. 2002; Chaney and Philipich 2002; Ashbaugh et al. 2003), the value relevance approach not only captures investors’ use of accounting information in assessing the value of a firm but also enables us to examine the long-term association between stock price and expenditures for auditor’s fees. By adopting the value relevance approach, therefore, we are able to avoid the two problems (i.e., use of a noisy measure and the timing issue) that inherently exist in the information content approach.

This study uses the annual auditor’s fees disclosed in the proxies for the firms listed in the NYSE, NASDAQ, and AMEX exchanges with December fiscal year-ends for the period from 2000 to 2003. Most of the prior studies use fee data from the first half of 2001 or earlier in their analyses. However, the emergence of the Enron scandal in the latter half of 2001, the collapse of Andersen, and the ensuing SOX legislation and SEC regulatory efforts could have significantly affected investors’ awareness of or reaction to nonaudit services since the initial enactment of the disclosure requirements. By including this time period in our analyses, we can examine whether auditor’s fees change the valuations of firms in
a context where policy makers have voiced extensive warnings about the potential for nonaudit services to impair auditor independence.

Our study reveals several interesting findings. First, we find that nonaudit fees, both amount and the ratio to the total fees, have a positive association with firm values throughout the entire sample period. This result is contrary to the prevailing belief that nonaudit services impair auditor independence. Our findings suggest that investors perceive nonaudit services as value increasing services, which is consistent with the value enhancement hypothesis. Next, our analyses of the components of auditor’s fees indicate a significant positive association with stock prices for both audit related fees and tax fees. These results imply that investors perceive audit fees as expenses whereas they perceive audit-related services and tax services as value increasing activities. These findings do not change even after we control for the differences in the reporting formats between the old and new disclosure rules. Finally, firm values are negatively but insignificantly associated with the change in nonaudit fees before SOX. The insignificant negative association before SOX may explain why the results from the prior information content studies (Frankel et al. 2002; Ashbaugh et al. 2003; Chaney and Philipich 2002) are mixed regarding the association between nonaudit fees and abnormal returns. On the other hand, after SOX, firm values have a significant positive association with the change in nonaudit fees. Our findings imply that SOX has made a substantial impact on investors’
perception of nonaudit fees, and has led investors to view the increase in nonaudit service favorably.

The remainder of this paper is structured as follows. Section 2 presents the theoretical background and develops the hypotheses to be tested. Section 3 describes our methods and Section 4 reports our results. After describing additional analysis in Section 5, we discuss concluding remarks in Section 6.

II. THEORETICAL BACKGROUND AND HYPOTHESES

Economic Dependency Hypothesis and Value Enhancement Hypothesis

The public policy debate about whether auditors should be permitted to provide both audit services and nonaudit services to the same clients has long been a controversial subject. Critics argue that auditors would act more favorably toward those clients from which they receive higher nonaudit fees. For example, former SEC Chairman Arthur Levitt (2000) voiced fears that nonaudit services “shorten the distance between the auditor and management.” One of the major reasons\(^2\) for this concern is that nonaudit services could provide auditors significant extra economic rents.

Simunic (1984) suggests that nonaudit services provide specific economic rents\(^3\) because “knowledge spillover” could reduce audit-related costs. Knowledge spillover refers to the fact that the increase in client knowledge associated with the joint provision of audit and nonaudit services by the auditors may “spillover” from one service to the other, leading to cost reductions. In other
words, the knowledge spillover causes the total costs of one firm jointly performing both audit and nonaudit services to be less than the sum of the costs if each service were performed by different firms (DeBerg et al. 1991). On the other hand, these extensive economic rents from nonaudit services paid to auditors increase the financial reliance of the auditor on the client who awards a significant amount of nonaudit services (hereafter referred to as the “Economic Dependency” hypothesis). As a result of this economic dependency, auditors’ independence could be impaired because the auditors may become reluctant to challenge management concerning the content of the financial statements at the risk of foregoing lucrative economic rents.

Responding to concerns about auditor independence, the SEC now requires registrants to disclose fees paid to their auditors for both audit and nonaudit services in order to help investors better understand the relationship between the registrant and its auditor, and thus improve investment decisions. The initial disclosure requirement was mandated in the SEC’s Revision of the Commission’s Auditor Independence Requirements (SEC 2000) released in November 2000. As a result of this enactment, the auditor’s fee data became publicly available for all proxy statements filed after February 5, 2001.

However, there are several bases on which to argue that nonaudit services enhance firm values rather than impair auditors’ independence (hereafter referred to as the “Value Enhancement” hypothesis). First, the knowledge spillover from
nonaudit services could actually improve independence. For example, knowledge of a client’s information system and tax accounting could spill over to the audit, improve the information available to the auditor, and thus improve audit quality which, in turn, would increase the probability that problems are discovered (Kinney et al. 2004). Consistent with DeAngelo’s (1981) definition of auditor independence, the knowledge spillover from nonaudit services could improve auditors’ independence by increasing the probability of detecting misstatements even though the auditor-client relationship impairs independence by decreasing the probability of reporting the misstatements detected. Second, auditors’ concern for reputation (Benston 1975; Dopuch et al. 2003) and legal liability (Palmrose 1988; Shu 2000) should drive auditors to maintain their independence. For example, provision of nonaudit services increases the auditor’s investment in reputation, which the auditor is not likely to jeopardize to satisfy the demands of any one client. If so, providing such services is less likely to impair independence. Third, nonaudit services may increase not only the auditor’s dependency on its client, but also the client’s dependency on its auditor (Lennox 1999). The client’s dependency on its auditor resulting from nonaudit services could reduce the threat of the client switching auditors, thereby improving the auditor’s independence.

Prior Studies of Auditor Independence and Nonaudit Fees

The concern about auditor independence and availability of new, publicly available data on auditor’s fees have prompted studies on whether nonaudit fees
influence auditor independence using stock valuation measures as the indicator of
the impairment (Frankel et al. 2002; Ashbaugh et al. 2003; Chaney and Philipich
2002). In these studies using stock market data, the common assumption is that
investors penalize those clients whose auditors’ independence may be impaired as
a result of nonaudit fees.

However, there are several issues which must be considered in order to
investigate this contention. First, the results from prior studies are mixed and
inconclusive. Frankel et al. (2002) find a negative association between nonaudit
fees and abnormal returns on the date the fees are disclosed. However, Ashbaugh
et al. (2003) discover no significant association between nonaudit fees and
abnormal returns. Finally, Chaney and Philipich (2002) find that nonaudit fees
are negatively associated with abnormal returns, but the association is not
significant as Frankel et al. (2002) and Ashbaugh et al. (2003) document. On the
other hand, a significant negative disclosure impact on market reaction to earnings
announcement is documented by Francis and Ke (2003) .

Second, prior studies adopt an information content approach, which uses
abnormal returns as the measure of market reaction. This approach examines the
market’s response to the unexpected portion of the auditor’s fee disclosure
assuming that fees disclosed are unexpected information. However, abnormal
returns are noisy measures for capturing the information effect of the news about
auditor’s fees which may be expected by investors or privately collected and
available among audit firms. For example, while Frankel at al. (2002) use the proxy statements filed from February 5 through June 15, 2001, the disclosure of auditor’s fees was discussed extensively in the popular press prior to that sample period. This prior exposure of investors to auditor’s fees could have led investors to expect rule changes, which in turn could have reduced the information effect of the disclosure of auditor’s fees. In addition, the timing of the fee disclosure may be confounded with other information simultaneously disclosed in the firms’ SEC filings containing their auditor’s fees. Thus, it is difficult to distinguish the market reaction to fee information from the market reaction to other important information disclosed in the proxy filings. Therefore, the information effect of fee disclosure becomes a secondary effect which is not directly related to the income numbers, since the other income components are already impounded in the prior earnings news such as 10-K filings. As a consequence, abnormal returns are not informative regarding the benefits for investors or costs of the firms, attributable to the auditor’s fees disclosure.

Finally, prior studies use the data of the period of the first half of year 2001 or earlier. However, a series of important events and rule changes has occurred since then. For example, the Enron scandal emerged in October 2001. Subsequently, Andersen, the fifth largest audit firm in the world, collapsed after being barred from auditing SEC registrants in June 2002. Later, in July of that same year, SOX not only banned audit firms from providing many nonaudit
services but also required company executives to certify the accuracy and completeness of their major financial filings each quarter. This series of significant events and rule changes could have a substantial impact on investors’ perceptions of the association between nonaudit services and auditor independence.

**Hypotheses**

While prior studies examine the market’s response to the unexpected part of the auditor fee disclosure, the current study examines the value relevance of auditor fees regardless of whether the market may expect the fees. The value relevance approach examines the long-term relationship between stock prices and auditor’s fees, instead of the short-term market reaction to the unexpected portion of the fees.

The implication of economic dependency on the value relevance of nonaudit fees is rather clear. The economic dependency hypothesis argues that providing nonaudit services impairs auditor independence and thus impedes earnings quality. If this is true, the market would perceive that the fees paid for these services decreases the value relevance of accounting information. As a result, the association between the stock price and accounting information would diminish as firms’ expenses for nonaudit fees increase.

On the other hand, the value enhancement hypothesis supports the idea that firms may benefit even more from nonaudit services because of the
improvement of earnings quality due to the knowledge spilled over from nonaudit services. Then, we could expect that providing nonaudit services improves the value relevance of accounting information, and thus the association between the stock price and accounting information would increase as firm’s expenses for nonaudit fees increase. Given these two competing hypotheses, the economic dependency hypothesis and the value enhancement hypothesis, we cannot make a definitive prediction regarding the association between stock prices and nonaudit fees. Thus, we make a null hypothesis,

H1: Nonaudit fees do not affect the value relevance of accounting information.

SOX could have a significant impact on the investor’s perception on the quality of accounting earnings. On the one hand, the recent significant events and rules changes could have captured investors’ attention, inducing them to form more negative expectations about the fee information. Francis and Ke (2003) report that, before the fee disclosures, the market response did not depend on the level of nonaudit fees. However, after fees were disclosed, the market response to quarterly earnings surprises is significantly more negative for firms with high nonaudit fees. Such behavior may be due to investors perceiving an impairment of auditor independence resulting from greater economic dependency such that the reliability of the accounting information deteriorates enough to produce greater uncertainty about the firm. On the other hand, the same recent significant
events and rules changes could have induced investors to form positive expectations about the fee information. The reduction in the economic rents due to the prohibition of some major nonaudit services could have induced auditors to be more steadfast in resisting client pressure to permit earnings manipulation. Moreover, the increased awareness of the importance of reputation and legal liability for auditors presumably would reduce their incentives to allow earnings manipulation. Such enhancements of auditor independence may lead investors to perceive that nonaudit services could increase rather than decrease earnings quality. Thus, we form our hypothesis without any directional prediction. The question is whether nonaudit fees are value relevant and incorporated into stock prices differently from other earnings numbers.

H2: SOX has no impact on the investor’s perception on the quality of accounting earnings.

III. RESEARCH METHODS

Sample Data

To test our hypotheses, we use annual auditor’s fees disclosed in the proxies for the firms listed in NYSE, NASDAQ, AMEX exchanges with December fiscal year end for the fiscal years from 2000 to 2003. For all the available firms, we collect price and earnings information from COMPUSTAT. The initial sample yields 20,292. We also require the firms to be non-financial
firms listed on NYSE, AMEX, and NASDAQ which reduces the new sample size to 12,921. In order to identify whether the fee disclosure is affected by the change in SEC rules, we require our sample to have fiscal years ending in December. Thus, our final sample contains 8,700 observations (1,831, 2,289, 2,348, and 2,232 for the years 2000 through 2003, respectively) need to check with pooled model.

**Base Model**

In the examination of the association between the stock prices and accounting numbers, prior studies commonly use Ohlson (1995)’s clean surplus relation. We also adopt Ohlson (1995)’s clean surplus relation model as used in prior studies (Amir 1996; Barth 1994; Barth et al. 1992; Barth and Kallapur 1996; Callimaci and Landry 2004) in the investigation of the usefulness of accounting numbers.

We use fiscal year end price ($PRICE$), book value of equity ($BV$) and earnings before extraordinary items divided by total number of shares outstanding ($EPS$). There is also concern that auditors’ fee may represent the association between need for additional audit or nonaudit services and firms growth such that the coefficient on the auditor fees may not reflect the value relevance of the fees. So, we include the growth variable measured by market to book ratio ($MKTBOOK$) to control for the potential association between other information and price reflected in auditors’ fees for growing firms.
We augment the value relevance model with additional information about auditor fee composition as explored in prior studies (Frankel et al. 2002; Larker and Richardson 2004). Since fees paid to auditors are included in the SG&A expenses of their clients, we separate audit fees and nonaudit fees from book value per share and earnings per share. Thus, we modify valuation model of Ohlson (1995) as follows:

\[
PR_{it} = \alpha_0 + \alpha_1 BV_{ADJit} + \alpha_2 EPS_{ADJit} + \alpha_3 AUFEE_{it} + \alpha_4 NAFEE_{it} + \alpha_5 MKTBOOK_{it} + \varepsilon_{it} 
\]

(1)

where:

- \(PR_{it}\) = stock price of firm i at the end of fiscal year t (Annual COMPUSTAT item #199);
- \(BV_{it}\) = book value per share of firm i at the end of fiscal year t per share (Annual COMPUSTAT items (#6-#181)/#25);
- \(EPS_{it}\) = earnings before extraordinary items per share (Annual COMPUSTAT items #18/#25);
- \(BV_{ADJit}\) = \(BV_{it}\) after adjusting for total auditor’s fees per share;
- \(EPS_{ADJit}\) = \(EPS_{it}\) after adjusting for auditor’s total fees per share;
- \(AUFEE_{it}\) = audit fees of firm i in the fiscal year t per share;
- \(NAUFEE_{it}\) = nonaudit fees of firm i in the fiscal year t per share; and,
- \(MKTBOOK_{it}\) = market to book ratio (COMPUSTAT item #199x#25 divided by #60);
- \(\varepsilon_{it}\) = error term.

**Impairment of Auditor Independence**

Hypothesis 1 is proposed to test whether nonaudit fees impair the quality of accounting information. In order to test Hypothesis 1, we modified the base model by using nonaudit fee ratio to the total fees (\(RATIO\)) rather than the amount of nonaudit fees (\(NAUFEE\)). This is because, in prior studies (Frankel et al. 2002;
Chaney and Philipich 2002; Ashbaugh et al. 2003), auditor nonaudit fee ratio to the total fees ($RATIO$) is a common proxy for the impairment of auditor independence. In addition, our test model adds two interaction terms, one for book value ($RATIO \times BV$) and the other for earnings ($RATIO \times EPS$) to the base model. Thus, the test model is as follows:

$$PRICE_{it} = \beta_0 + \beta_1 BV_{it} + \beta_2 EPS_{it} + \beta_3 RATIO_{it} \times BV_{it} + \beta_4 RATIO_{it} \times EPS_{it} + e_{it} \quad (2)$$

, where:

$$RATIO_{it} = \text{nonaudit fee ratio divided by total fees for firm } i \text{ in the fiscal year } t.$$  

and all remaining terms are as previously defined.

The positive (negative) coefficients on interaction terms ($\beta_3, \beta_4$) will suggest the positive (negative) impact of the nonaudit fees on the value relevance of accounting numbers.

**Effect of SOX on the Relevance of Auditor’s Fee**

To test the effect of SOX on the value relevance of auditor’s fees as we propose in Hypothesis 2, we modify the base model with an additional indicator variable ($DUM$) to distinguish pre- and post-SOX period observations. We create interaction terms by multiplying $DUM$ to audit fee ($AUFEE$) and nonaudit fee ($NAUFEE$) respectively. Thus, our test model is a modified version of equation (1) as follows:
\[
    PRICE_{it} = \alpha_0 + \alpha_1 BV_{ADJit} + \alpha_2 EPS_{ADJit} + \alpha_3 AUFE{it} + \alpha_4 NAUFEE_{it} \\
    + \alpha_5 DUM_{it} \times AUFE_{it} + \alpha_6 DUM_{it} \times NAUFEE_{it} \\
    + \alpha_7 MKTBOOK_{it} + \epsilon_{it} \tag{3}
\]

where:

\[
    DUM_{it} = 1, \text{ if the observation is from post SOX, otherwise, 0,}
\]

and all remaining terms are as previously defined.

Thus, the significant positive (negative) coefficients on auditors’ fees will indicate the value enhancement (value decreasing) of fee expenditures attributable to the enactment of SOX.

IV. RESULTS

Descriptive Statistics

Table 1 shows the summary of the variables used in the analysis and the coefficients for the correlations among the variables. Panel A shows that the average size of the firm in the sample does not change much during the test period but the nonaudit fee ratio decreases substantially from 54.4% in 2000 to 30.6% in 2003 due to audit fees increasing while nonaudit fees are decreasing during the period. Panels B and C show that the correlation coefficients of the major test variables, with the exception of SIZE and audit fee, are positively correlated with each other. Especially, nonaudit fee per share (all the other fees except audit fees)
is positively related to the price under both disclosure requirements. In addition, the tax service fee is positively associated with price.

[Insert Table 1]

Table 2 reports the summary of auditor’s fees by year and classification. Auditor’s fees for 2003 are presented separately in Panel B because of the change of the disclosure rule in 2003. Panel A and B of Table 2 show that, on average, total fees have decreased, from $2,340,583 in 2000 to $1,741,385 in 2003. This sharp decrease is due to a decrease in nonaudit fees which fell from a mean of $1,694,128 in 2000 to $682,400 in 2003. This represents an average per share decrease of approximately fifty percent, from 1.9 cents per share to 1 cent per share. However, audit fees have increased over this same period, from a mean of $646,458 to $1,058,985. On a per share basis, audit fees increased from 1.2 cents in 2000 to 2 cents in 2003. As a result of these changes, the ratio of audit fees to total fees increased from 27.6% ($646,458/$2,340,583) in 2000 to 60.8% ($1,058,985/$1,741,385) in 2003, while the ratio of nonaudit fees decreased from 72.4% ($1,694,128/$2,340,583) to 39.2% ($682,400/$1,741,385) over the same period. This change in the ratio is consistent with the increasing importance of the audit as the primary service provided to clients during this period, while nonaudit services have been on the decline. During the study period, the amount of FSDI fees in ratio to total fees is very small. These fees virtually disappear later in the study period due to the proscription of such services by SOX in 2002.
Table 2 also shows how significant the auditor’s fees are in terms of the proportion of auditor’s fee to the total revenue. The auditor’s fee proportion to sales is the lowest in fiscal year 2000 (2.67%) and the highest in fiscal year 2001 (5.71%). In year 2003, the proportion to sales is 3.71%.

[Insert Table 2]

**Value Relevance of Auditor’s Fees and the Effect of SOX**

Table 3 reports the pooled regression results for the value relevance of auditor’s fees. Generally accepted accounting principles classify auditor’s fees as a portion of expenses usually included in selling, general and administrative (SG&A) expenses. Moreover, given that publicly held firms are required to undergo an annual audit, investors may view fees paid to auditors as merely a tax imposed by an external regulatory mechanism. Then, we can conjecture that investors may regard these fees as an ordinary expense that merely sustains firm value, and thus predict that there would be a negative association between stock prices and nonaudit fees. On the other hand, even though nonaudit fees are recorded as expenses, nonaudit fees are the results of a firm’s voluntary investment to obtain the future benefits. Prior studies (Sougiannis 1994, Lev and Sougiannis 1996, Callimaci and Landry, 2004) find, even though R&D expenditures are recorded as expenses according to generally accepted accounting principles, there is a positive association between stock prices and R&D
expenditures. Thus, if the market recognizes the expenditure for nonaudit services as a value enhancing activity as it does for R&D expenditures, we can expect a positive association between stock prices and nonaudit fees.

Table 3 shows that the audit fees \( (\alpha_3) \) are negatively associated with firm value while nonaudit fees \( (\alpha_4) \) are positively associated with the firm value. These results suggest that the investors perceive nonaudit fees as ‘value-enhancing’ expenditures. This calls into question the prevailing belief that higher levels of nonaudit services would result in lower stock prices as a result of concerns over possible impairment of auditor independence. Contrary to nonaudit fees, the results indicate that investors perceive audit fees as expenses. Thus, the findings with audit fees are consistent with those of Brandon et al. (2004) reporting a negative but insignificant relationship between audit fees and bond ratings. As an additional support for our findings in audit fees, Kinney et al. (2004) report that audit fees often have a positive association with restatements of financial statement, which can adversely affect firm value. Thus their finding suggests potential negative association between audit fees and firm value.

[Insert Table 3]

Table 3 also presents the results of the base model, i.e., model (1), including the interaction terms that show us the impact of SOX on the value relevance of auditors’ fees. Table 3 shows that the coefficients on the interaction terms, \( DUM_{it} \times AUFEE_{it} \) and \( DUM_{it} \times AUFEE_{it} \), are positive and statistically
significant (at 1% level). These results suggest that the value relevance of both audit fees and nonaudit fees are perceived more value enhancing after SOX than prior to SOX. However, the larger coefficient on $AUFEE$ than on the coefficient on the interaction term, $DUM_{it} \times AUFEE_{it}$ (statistically significant at 1% level) suggests that audit fees are still perceived as expenses while nonaudit fees are perceived as value enhancing even after SOX.

In short, the test results of the base mode, which is presented in Table 3, show that the investors perceive (1) nonaudit fees as ‘value-enhancing’ expenditures, and (2) even more value-enhancing expenditure after SOX. However, these results do not necessarily mean that auditor’s independence is not impaired. If investors perceive auditor’s independence is impaired by the provision of nonaudit fees, they would perceive that the quality of of accounting numbers would decrease as nonaudit fees increase. In other words, in order to test Hypothesis 1, i.e., whether the market perceives that the auditor’s independence is impaired by nonaudit fees, we should examine the interaction between nonaudit fees and the value relevance of accounting numbers.

**Tests of Hypothesis 1**

Table 4 shows the test results for model (2). The coefficients on the interaction terms, $RATIO_{it} \times AUFEE_{it}$ and $RATIO_{it} \times AUFEE_{it}$ are both positive and statistically significant. These results suggest that the higher the nonaudit fee ratio is, the higher the value relevance of accounting numbers (both book value
and earnings). This result rejects Hypothesis 1 and contrasts itself to Economic dependency hypothesis. Instead, overall, the results on Table 4 suggest that investors view nonaudit fees as ‘value-enhancing’ expenditures.

Because of this value relevance of the nonaudit fees, measuring auditor independence impairment using the ratio of nonaudit fee ratio to the total fees can be a problem. Thus, we cannot conclude that auditor independence impairment affects value relevance. Instead, we interpret the nonaudit fee ratio as inappropriate measure for the auditor independence impairment in our tests. (I do not understand this part)

Test of Hypothesis 2

In the same table, we also provide the test results for the effect of SOX on the interaction terms. The results show that the coefficients on the interaction terms, $DUM_{it} \times RATIO_{it} \times AUFEE_{it}$ and $DUM_{it} \times RATIO_{it} \times AUFEE_{it}$ are both positive and statistically significant. The results show that the impact of SOX on the value relevance attributable to audit independence impairment measure was positive. Again, it is difficult to interpret these results as auditor independence impairment has been changed as we mentioned before due to the value relevance of nonaudit fees. (I do not understand this either)

This finding is quite interesting in light of the descriptive statistics reported in Table 2, which indicate that the amount of nonaudit fees and nonaudit
fees per share, as well as the proportion of nonaudit fees to total fees, decrease during the study period. Nevertheless, the market perceives nonaudit fees as more important determinant of firm value even after SOX.

V. ADDITIONAL ANALYSIS

Effects Due to Rule Changes

The major value relevance results found in Table 3 could be confounded by the rule change effect, which suggests that the changes in the fee definition produced the results. For example, the definition of audit fee was modified in the new disclosure rule in 2003. To verify this rule change effect, we perform an additional analysis for fiscal 2002 when auditor’s fees are available for both the old and new disclosure formats. This analysis requires the collection of data reported for fiscal 2002, for which both old and new disclosure format fee data are available. This data collection process yields 601 firms for 2002.

Table 5 shows the descriptive statistics for the sample. In comparison to Table 2, Table 5 shows that the sample has smaller average total fees ($1,698,594) than that of the whole sample ($1,829,670) in 2002. On the other hand, audit fee per share ($0.018) is higher than that of the whole sample ($0.016). Overall, this sample appears to have a lower level of total fees but has higher
levels of audit fees, which is also reflected in the higher level of auditor’s fees in proportion to total sales (7.53%).

[Insert Table 5]

To address the rule change effect, we replicate our findings reported in Table 3 and 4 in Table 6 and Table 7. Table 6 and 7 we present the results for the sample using both old and new definition of auditor fees. The results on Table 6 show that the coefficients on $AUFEE$ ($NAUFEE$ ) in both old and new definitions are negative (positive) and statistically significant, which is consistent with our pooled sample analyses.

[Insert Table 6]

Table 7 also shows the coefficient on the interaction terms, $RATIO_{it} \times AUFEE_{it}$ and $RATIO_{it} \times AUFEE_{it}$. Thus, the results are consistent with our findings on the auditor independence impairment measure in pooled sample (see Table 4) regardless of new or old definition. Overall, the results on Table 6 and 7 show that our findings with the pooled sample are robust to the rule change.

[Insert Table 7]

Next, we disaggregate the audit fee ($AUFEE$) and nonaudit fee ($NAUFEE$) of the new disclosure format into the audit fee reported in the old disclosure format ($AUFEE_O$ and $NAUFEE_O$) and the incremental additions to the audit fee and nonaudit fee in the new disclosure format ($AUFEE_D$, and $NAUFEE_D$) as follows:
By substituting the above equation into (1), we form the following model:

\[
PRICE_{it} = \gamma_0 + \gamma_1 BV\_ADJ_{it} + \gamma_2 EPS\_ADJ_{it} + \gamma_3 AUFEE\_O_{it} \\
+ \gamma_4 AUFEE\_D_{it} + \gamma_5 NAUFEE\_O_{it} + \gamma_6 NAUFEE\_D_{it} + \xi_{it}
\]  

(3)

where:

- \( AUFEE\_O_{it} \) = audit fee of firm \( i \) in the fiscal year \( t \) per share defined by the old disclosure requirements;
- \( AUFEE\_D_{it} = AUFEE_{it} - AUFEE\_O_{it} \), difference between the audit fee reported under the old disclosure requirements and the audit fee reported under the new disclosure requirements of audit fee of firm \( i \) in the fiscal year \( t \) per share;
- \( NAUFEE\_O_{it} \) = nonaudit fee of firm \( i \) in the fiscal year \( t \) per share defined by the old disclosure requirements;
- \( NAUFEE\_D_{it} = NAUFEE_{it} - NAUFEE\_O_{it} \), difference between the nonaudit fee reported under the old disclosure requirements and the audit fee reported under the new disclosure requirements of nonaudit fee of firm \( i \) in the fiscal year \( t \) per share;
- \( \xi_{it} \) = error term; and
- all remaining terms are as previously defined.

In model (3), we are especially interested in the statistical significance of the coefficients of the variables, \( AUFEE\_D (\gamma_4) \), and \( NAUFEE\_D (\gamma_6) \), representing the rule changes effect.

The results on Table 8 show that the coefficient of the old format audit fee \( (AUFE\_O) \) is significant and negative. Similarly, old format nonaudit fees \( (NAUFEE\_O) \) are positive and significant. Table 8 also reveals that the
incremental change in audit fee due to the new disclosure format ($AUFEE_D$) is significant and negative. On the other hand, the coefficient on the incremental change in nonaudit fee due to the new disclosure format, $NAUFEE_D$, is positive and significant. This implies that the value relevance of change in audit fee and nonaudit fee is in the same manner regardless of the change in their classification. This finding is interesting given the concerns expressed by many critics (Weil and Rapoport 2003) when the new reporting format was mandated by the SEC. Such concerns include the inability of investors to determine how much firms pay for the financial statement audit alone, and/or the auditor’s exploitation of the flexibility of the new rule in defining attest services which could make audit fees appear larger and nonaudit fees smaller. As a result, the auditors may seem to be more independent from their clients while their actual fees may have remained the same except for the manner in which they are classified. Our finding suggests such concerns are unfounded.\(^7\)

[Insert Table 8]

**VI. DISCUSSION**

In this study, we use a value relevance framework to explore whether the market perceives that services provided by auditors result in the economic dependency of auditors on their clients or that these services result in value enhancement for firms relying on the expertise of their auditors. To address this question, we form and test hypotheses addressing the economic consequences of
firms’ expenditures on such services. Recognizing that fees paid to auditors are a component of firms’ expenditures, we are able to assess the value relevance of these fees directly. Further, our value relevance framework provides a more robust method to test fee disclosure than an information content approach, which requires the assumption that the fee disclosure is unexpected. In addition, our approach enables us to reconcile the inconsistent results of prior studies examining the market perception of auditor independence by providing additional tools for analyze the information effect of fee changes in a long-term window.

Our results indicate that nonaudit fees have a positive association with stock prices throughout our sample period. In the analysis of the value relevance of fee components, we find that tax service fees are the most value relevant among nonaudit service fees. These findings support the value enhancement hypothesis for nonaudit fees. These results are robust with respect to the effects of rule changes.

Since our data do not provide a specific description of the tax services included in tax fees (e.g., tax opinions, tax planning, or tax return preparation), we cannot determine which specific tax service is most influential in enhancing valuations. However, consistent with the interpretation of Kinney at al. (2004), this positive relation suggests that investors perceive some types of tax services to be valuable. If other measures which could differentiate the specific tax services
become available, future research could explore further which tax service is the most value relevant.

Contrary to our major finding of a positive association of nonaudit fees to stock prices, findings of prior studies (Frankel et al. 2002; Chaney and Philipich 2002; Ashbaugh et al. 2003) show a negative market response to the disclosure of nonaudit services. Our interpretation of these prior findings is that they appear to capture the information content of unexpectedly large nonaudit fees. In contrast, our results demonstrate the long-term association of audit and nonaudit fee information with stock prices apart from any “news” effect. Moreover, the difference in findings may result from the use of different sample periods. Prior information content studies examine the fee-price relation only for relatively brief sample periods at a time when the disclosure of auditor’s fees represented very “fresh” information (e.g., early 2000). However, our study examines this association over a four-year period (from 2000 through 2003) after the enactment of the first disclosure requirement. Therefore, our results are less vulnerable to the influence of transitory reactions driven by press coverage. Finally, we provide a way to reconcile our seemingly inconsistent results with the findings of others. Performing additional analysis, we examine the information effect of fee changes in a long-term window, and find that SOX has a significant impact on investors’ perception of nonaudit fees, eliciting a favorable reaction to increases in nonaudit services. Therefore, we can conjecture that if we were to perform the same
analysis for the period after SOX, we would be more likely to find positive investors’ reactions to the unexpected increases in nonaudit fees, while prior studies (Frankel et al. 2002; Ashbaugh et al. 2003; Chaney and Philipich 2002) examine the period before SOX and find negative associations between nonaudit fees and abnormal returns. However, we have left the demonstration of such expectations for future research.

Overall, we hope that our articulation of the value enhancement hypothesis provides a helpful perspective from which to better understand the market’s perception of services provided by auditors. Further, we feel that our findings may inform the ongoing policy debate over the scope of auditor services by providing insight into how investors value such services. While our approach cannot demonstrate the actual presence or absence of independence impairment, our evidence does challenge the accepted notion that investors will inevitably respond negatively to nonaudit services provided by auditors.
REFERENCES


accruals. *The Accounting Review. 78*: 931-55


### TABLE 1
Descriptive Statistics of Sample and Correlation Coefficients

**Panel A: Descriptive Statistics of Sample**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>STD</th>
<th>Lower Quartile</th>
<th>Median</th>
<th>Upper Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year=2000</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>19.931</td>
<td>17.097</td>
<td>6.625</td>
<td>14.875</td>
<td>29.000</td>
</tr>
<tr>
<td>Earnings Per Share</td>
<td>0.495</td>
<td>2.092</td>
<td>-0.465</td>
<td>0.512</td>
<td>1.515</td>
</tr>
<tr>
<td>SIZE(Log of Total Assets)</td>
<td>6.080</td>
<td>1.826</td>
<td>4.773</td>
<td>5.808</td>
<td>7.224</td>
</tr>
<tr>
<td>Audit Fee per Share(A)</td>
<td>0.012</td>
<td>0.014</td>
<td>0.004</td>
<td>0.008</td>
<td>0.015</td>
</tr>
<tr>
<td>Nonaudit Fee per Share(B)</td>
<td>0.019</td>
<td>0.026</td>
<td>0.005</td>
<td>0.011</td>
<td>0.023</td>
</tr>
<tr>
<td>Nonaudit Fee Ratio(B/(A+B))</td>
<td>0.544</td>
<td>0.222</td>
<td>0.382</td>
<td>0.578</td>
<td>0.715</td>
</tr>
<tr>
<td><strong>Year=2001</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Earnings Per Share</td>
<td>-0.153</td>
<td>2.756</td>
<td>-0.751</td>
<td>0.054</td>
<td>0.914</td>
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<tr>
<td>SIZE(Log of Total Assets)</td>
<td>5.650</td>
<td>2.030</td>
<td>4.258</td>
<td>5.450</td>
<td>6.861</td>
</tr>
<tr>
<td>Audit Fee per Share(A)</td>
<td>0.014</td>
<td>0.018</td>
<td>0.005</td>
<td>0.009</td>
<td>0.018</td>
</tr>
<tr>
<td>Nonaudit Fee per Share(B)</td>
<td>0.017</td>
<td>0.027</td>
<td>0.003</td>
<td>0.008</td>
<td>0.020</td>
</tr>
<tr>
<td>Nonaudit Fee Ratio(B/(A+B))</td>
<td>0.463</td>
<td>0.226</td>
<td>0.300</td>
<td>0.475</td>
<td>0.640</td>
</tr>
<tr>
<td><strong>Year=2002</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>13.095</td>
<td>15.069</td>
<td>2.735</td>
<td>7.745</td>
<td>19.225</td>
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<tr>
<td>Earnings Per Share</td>
<td>0.145</td>
<td>2.924</td>
<td>-0.531</td>
<td>0.125</td>
<td>1.032</td>
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<tr>
<td>SIZE(Log of Total Assets)</td>
<td>5.621</td>
<td>2.106</td>
<td>4.117</td>
<td>5.441</td>
<td>6.981</td>
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<tr>
<td>Audit Fee per Share(A)</td>
<td>0.016</td>
<td>0.018</td>
<td>0.006</td>
<td>0.011</td>
<td>0.021</td>
</tr>
<tr>
<td>Nonaudit Fee per Share(B)</td>
<td>0.013</td>
<td>0.022</td>
<td>0.002</td>
<td>0.006</td>
<td>0.015</td>
</tr>
<tr>
<td>Nonaudit Fee Ratio(B/(A+B))</td>
<td>0.373</td>
<td>0.214</td>
<td>0.215</td>
<td>0.364</td>
<td>0.524</td>
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### Table 1 (continued)

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</tr>
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<td>Earnings Per Share (EPS)</td>
<td>0.458</td>
<td>2.486</td>
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<tr>
<td>SIZE (log of Total Assets)</td>
<td>5.788</td>
<td>2.073</td>
</tr>
<tr>
<td>Audit Fee per Share (A)</td>
<td>0.020</td>
<td>0.025</td>
</tr>
<tr>
<td>Nonaudit Fee per Share (B)</td>
<td>0.010</td>
<td>0.014</td>
</tr>
<tr>
<td>Nonaudit Fee Ratio (B/(A+B))</td>
<td>0.306</td>
<td>0.187</td>
</tr>
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</table>


<table>
<thead>
<tr>
<th></th>
<th>Price</th>
<th>EPS</th>
<th>Audit Fee per Share</th>
<th>Nonaudit fee per Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS</td>
<td>0.367***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audit Fee per Share</td>
<td>0.057***</td>
<td>0.051***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonaudit fee per Share</td>
<td>0.192***</td>
<td>0.047***</td>
<td>0.471***</td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>0.587***</td>
<td>0.188***</td>
<td>-0.002</td>
<td>0.206***</td>
</tr>
</tbody>
</table>

*, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 level, respectively


<table>
<thead>
<tr>
<th></th>
<th>Price</th>
<th>EPS</th>
<th>Audit Fee per Share</th>
<th>Audit Related fee per Share</th>
<th>Nonaudit fee per Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS</td>
<td>0.407***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audit Fee per Share</td>
<td>0.146***</td>
<td>0.029</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audit Related fee per Share</td>
<td>0.134***</td>
<td>0.097***</td>
<td>0.356***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonaudit fee per Share</td>
<td>0.208***</td>
<td>0.144***</td>
<td>0.492***</td>
<td>0.657***</td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>0.572***</td>
<td>0.260***</td>
<td>0.026</td>
<td>0.148***</td>
<td>0.149***</td>
</tr>
</tbody>
</table>

*, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 level, respectively
TABLE 2
Auditor’s Fees


<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>AUFEE</th>
<th>NAUFEE</th>
<th>SUBTOTAL</th>
<th>FSDI</th>
<th>OTHFEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2000&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean ($)</td>
<td>2,340,583</td>
<td>646,458</td>
<td>1,694,128</td>
<td>293,999</td>
<td>1,400,129</td>
<td></td>
</tr>
<tr>
<td>Fees per share ($)</td>
<td>0.031</td>
<td>0.012</td>
<td>0.019</td>
<td>0.002</td>
<td>0.017</td>
<td></td>
</tr>
<tr>
<td>Proportion to Sales (%)</td>
<td>2.67</td>
<td>1.38</td>
<td>1.29</td>
<td>0.04</td>
<td>1.25</td>
<td></td>
</tr>
<tr>
<td>&lt;2001&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean ($)</td>
<td>1,971,270</td>
<td>652,303</td>
<td>1,318,967</td>
<td>186,581</td>
<td>1,132,386</td>
<td></td>
</tr>
<tr>
<td>Fees per share ($)</td>
<td>0.031</td>
<td>0.014</td>
<td>0.017</td>
<td>0.002</td>
<td>0.015</td>
<td></td>
</tr>
<tr>
<td>Proportion to Sales (%)</td>
<td>5.71</td>
<td>3.10</td>
<td>2.61</td>
<td>0.01</td>
<td>2.60</td>
<td></td>
</tr>
<tr>
<td>&lt;2002&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean ($)</td>
<td>1,829,670</td>
<td>848,267</td>
<td>981,403</td>
<td>79,806</td>
<td>901,597</td>
<td></td>
</tr>
<tr>
<td>Fees per share ($)</td>
<td>0.029</td>
<td>0.016</td>
<td>0.013</td>
<td>0.001</td>
<td>0.012</td>
<td></td>
</tr>
<tr>
<td>Proportion to Sales (%)</td>
<td>3.96</td>
<td>1.97</td>
<td>1.99</td>
<td>0.00</td>
<td>1.99</td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>AUFEE</th>
<th>NAUFEE</th>
<th>SUBTOTAL</th>
<th>AUFEE</th>
<th>FSDI</th>
<th>OTHFEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean ($)</td>
<td>1,741,385</td>
<td>1,058,985</td>
<td>682,400</td>
<td>234,546</td>
<td>439</td>
<td>447,415</td>
<td></td>
</tr>
<tr>
<td>Fees per share ($)</td>
<td>0.030</td>
<td>0.020</td>
<td>0.010</td>
<td>0.003</td>
<td>0.000</td>
<td>0.007</td>
<td></td>
</tr>
<tr>
<td>Proportion to Sales (%)</td>
<td>3.71</td>
<td>2.80</td>
<td>0.91</td>
<td>0.44</td>
<td>0.00</td>
<td>0.47</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 3  
Value Relevance of Auditor’s Fees and the Effect of SOX

\[ \text{PRICE}_{it} = \alpha_0 + \alpha_1 \text{BV}_{ADJit} + \alpha_2 \text{EPS}_{ADJit} + \alpha_3 \text{AUFEE}_{it} + \alpha_4 \text{NAUFEE}_{it} + \epsilon_{it} \quad (1) \]

\[ \text{PRICE}_{it} = \alpha_0 + \alpha_1 \text{BV}_{ADJit} + \alpha_2 \text{EPS}_{ADJit} + \alpha_3 \text{AUFEE}_{it} + \alpha_4 \text{NAUFEE}_{it} + \alpha_5 \text{DUM} \times \text{AUFEE}_{it} + \alpha_6 \text{DUM} \times \text{NAUFEE}_{it} + \epsilon_{it} \quad (1)' \]

where:
- \( \text{PRICE}_{it} \) = stock price of firm \( i \) at the end of fiscal year \( t \) (COMPUSTAT item #199);
- \( \text{BV}_{it} \) = book value per share of firm \( i \) at the end of fiscal year \( t \) per share (COMPUSTAT (#6-#181)/#25);
- \( \text{EPS}_{it} \) = earnings before extraordinary items per share (COMPUSTAT #18/#25);
- \( \text{BV}_{ADJit} \) = \( \text{BV}_{it} \) after adjusting for total auditor’s fees per share;
- \( \text{EPS}_{ADJit} \) = \( \text{EPS}_{it} \) after adjusting for auditor’s total fees per share;
- \( \text{AUFEE}_{it} \) = audit fees of firm \( i \) in the fiscal year \( t \) per share;
- \( \text{NAUFEE}_{it} \) = nonaudit fees of firm \( i \) in the fiscal year \( t \) per share;
- \( \text{DUM} \) = 1 if the observation is after SOX and \( \text{DUM} = 0 \) otherwise;
- \( \epsilon_{it} \) = error term.

\[
\begin{array}{cccccccc}
\text{BV ADJ} & \text{EPS ADJ} & \text{AUFEE} & \text{NAUFEE} & \text{DUM} \times \text{AUFEE} & \text{DUM} \times \text{NAUFEE} & \text{Adj } R^2 \\
\text{Pooled} & 1.140 & 1.157 & -69.505 & 46.563 & & 0.5000 \\
(t\text{-statistics}) & (75.63)^{***} & (22.96)^{***} & (-9.69)^{***} & (7.71)^{***} & & \\
\text{SOX Effect} & 1.132 & 1.128 & -111.720 & 50.954 & 80.330 & 55.123 & 0.5152 \\
(t\text{-statistics}) & (76.16)^{***} & (22.59)^{***} & (-11.51)^{***} & (7.80)^{***} & (5.42)^{***} & (2.58)^{***} & \\
\end{array}
\]

*, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 level, respectively, for a two-tailed test.

Note: Audit fees are negatively associated and non-audit fees are positively associated.

Since SOX, audit fees are viewed as less value decreasing expense compared to the pre SOX, while non audit fees are viewed as more value increasing expenditures.
### TABLE 4

**Value Relevance of Accounting Information, Nonaudit Fees Ratio and the Effect of Sox**

\[
\text{PRICE}_{it} = \beta_0 + \beta_1 BV_{it} + \beta_2 EPS_{it} + e_{it} \quad (2)
\]

\[
\text{PRICE}_{it} = \beta_0 + \beta_1 BV_{it} + \beta_2 EPS_{it} + \beta_3 RATIO_{it} \times BV_{it} + \beta_4 RATIO_{it} \times EPS_{it} + e_{it} \quad (2')
\]

\[
\text{PRICE}_{it} = \beta_0 + \beta_1 BV_{it} + \beta_2 EPS_{it} + \beta_3 RATIO_{it} \times BV_{it} + \beta_4 RATIO_{it} \times EPS_{it} + \beta_5 DUM_{it} \times RATIO_{it} \times BV_{it} + \beta_6 DUM_{it} \times RATIO_{it} \times EPS_{it} + e_{it} \quad (2'')
\]

where:
- \(\text{PRICE}_{it}\) = stock price of firm \(i\) at the end of fiscal year \(t\) (COMPUSTAT item #199);
- \(BV_{it}\) = book value per share of firm \(i\) at the end of fiscal year \(t\) (COMPUSTAT (#6-#181)/#25);
- \(EPS_{it}\) = earnings before extraordinary items (COMPUSTAT #18/#25);
- \(RATIO_{it}\) = Non audit fees/Total fees;
- \(DUM_{it}\) = 1 where the observation is post SOX, and 0 otherwise;
- \(e_{it}\) = error term.

<table>
<thead>
<tr>
<th></th>
<th>BV</th>
<th>EPS</th>
<th>(RATIO \times BV)</th>
<th>(RATIO \times EPS)</th>
<th>(DUM \times RATIO \times BV)</th>
<th>(DUM \times RATIO \times EPS)</th>
<th>Adj. (R^2)</th>
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<tbody>
<tr>
<td>Pooled</td>
<td>1.126</td>
<td>1.139</td>
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<tr>
<td>t-statistics</td>
<td>(77.81)***</td>
<td>(22.65)***</td>
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<tr>
<td>Auditor’s Independence</td>
<td>1.030</td>
<td>0.596</td>
<td>0.291</td>
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<tr>
<td>t-statistics</td>
<td>(49.05)***</td>
<td>(5.75)***</td>
<td>(6.72)***</td>
<td>(5.76)***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOX Effect</td>
<td>1.017</td>
<td>0.496</td>
<td>0.238</td>
<td>1.302</td>
<td>0.419</td>
<td>0.841</td>
<td>0.5142</td>
</tr>
<tr>
<td>t-statistics</td>
<td>(47.98)***</td>
<td>(4.56)***</td>
<td>(5.41)***</td>
<td>(8.11)***</td>
<td>(4.85)***</td>
<td>(2.27)***</td>
<td></td>
</tr>
</tbody>
</table>

*, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 level, respectively, for a two-tailed test.
Note: The nonaudit fee ratio positively affects the value relevance of both BV and EPS. This implies that investors interpret that accounting information is more value relevant for firms with higher nonaudit fee ratio than lower nonaudit fee ratio. This finding supports value enhancement hypothesis.

Post SOX, the higher nonaudit fee ratio increases the value relevance of both BV and EPS.
Why do need to analyze the differences between the old and new rules? 
Because of the confounding effect due to the differences in classification
More specifically, the difference in the definition of audit fees. 
(audit related fees should be included in the nonaudit fees)

In order to know whether the difference in audit fee definition could confound the results, we should run the regressions with
(1) the 601 firms who reported both the old and new classifications
(2) once with old definition and second with new definitions. Then see if there are any differences. (we test whether different definitions produce different results)—do we need this?? If so, we should make a new table.
(3) Run a regression that separates the old and new definition (to see effect of the change of the definition)

So that the tables will be,
Table 5
Auditor's Fees of the Firms Reporting both Old and New Disclosure Formats in 2002
(601 observations)

<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>AUFEE_O</th>
<th>AUFEE_D</th>
<th>AURFEE</th>
<th>FSDI</th>
<th>OTHFEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean ($)</td>
<td>1,698,594</td>
<td>757,626</td>
<td>104,060</td>
<td>220,123</td>
<td>22,382</td>
<td>594,403</td>
</tr>
<tr>
<td>Fees per share ($)</td>
<td>0.029</td>
<td>0.018</td>
<td>0.002</td>
<td>0.003</td>
<td>0.004</td>
<td>0.012</td>
</tr>
<tr>
<td>Proportion to Sales (%)</td>
<td>7.53</td>
<td>2.56</td>
<td>1.78</td>
<td>1.49</td>
<td>0.00</td>
<td>1.68</td>
</tr>
</tbody>
</table>
TABLE 6
Value Relevance of Auditor’s Fees of Firms Reporting both Old and New Disclosure Formats in 2002
(601 observations)

\[ PRICE_{it} = \alpha_{0} + \alpha_{1}BV_{ADJ_{it}} + \alpha_{2}EPS_{ADJ_{it}} + \alpha_{3}AUFEE_{it} + \alpha_{4}NAUFEE_{it} + \epsilon_{it} \quad (1)'' \]

where variables are as defined before.

<table>
<thead>
<tr>
<th></th>
<th>BV ADJ</th>
<th>EPS ADJ</th>
<th>AUFEE</th>
<th>NAUFEE</th>
<th>Adj R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Definition</td>
<td>1.118</td>
<td>2.607</td>
<td>-101.762</td>
<td>34.735</td>
<td>0.6568</td>
</tr>
<tr>
<td>(t-statistics)</td>
<td>(22.76)**</td>
<td>(11.94)**</td>
<td>(-6.81)**</td>
<td>(2.44)**</td>
<td></td>
</tr>
<tr>
<td>New Definition</td>
<td>1.156</td>
<td>2.395</td>
<td>-134.485</td>
<td>94.378</td>
<td>0.6626</td>
</tr>
<tr>
<td>(t-statistics)</td>
<td>(23.52)**</td>
<td>(10.65)**</td>
<td>(-7.53)**</td>
<td>(4.19)**</td>
<td></td>
</tr>
</tbody>
</table>

*, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 level, respectively, for a two-tailed test.
TABLE 7
Value Relevance of Accounting Information with Nonaudit Fees Ratio of Firms reporting both Old and New Disclosure Formats in 2002

\[ \text{PRICE}_{it} = \beta_0 + \beta_1 \text{BV}_{it} + \beta_2 \text{EPS}_{it} + \beta_3 \text{RATIO}_{it} \times \text{BV}_{it} + \beta_4 \text{RATIO}_{it} \times \text{EPS}_{it} + e_{it} \]  

(2)'

where variables are as defined before

<table>
<thead>
<tr>
<th></th>
<th>BV</th>
<th>EPS</th>
<th>RATIO × BV</th>
<th>RATIO × EPS</th>
<th>Adj. R²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Old Definition</strong></td>
<td>0.930</td>
<td>1.505</td>
<td>0.364</td>
<td>2.239</td>
<td>0.6383</td>
</tr>
<tr>
<td>( t )-stat.</td>
<td>(9.18)**</td>
<td>(3.09)**</td>
<td>(2.17)**</td>
<td>(2.10)**</td>
<td></td>
</tr>
<tr>
<td><strong>New Definition</strong></td>
<td>0.918</td>
<td>1.662</td>
<td>0.482</td>
<td>1.914</td>
<td>0.6393</td>
</tr>
<tr>
<td>( t )-stat.</td>
<td>(9.52)**</td>
<td>(3.33)**</td>
<td>(2.46)**</td>
<td>(1.76)*</td>
<td></td>
</tr>
</tbody>
</table>

*, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 level,
TABLE 8
Effects of Rule Changes on the Value Relevance of Auditor’s Fees
(601 observations for the fiscal year 2002)

PRICE_{it} = \gamma_0 + \gamma_1BV\_ADJ_{it} + \gamma_2EPS\_ADJ_{it} + \gamma_3AUFEE\_O_{it} + \gamma_4AUFEE\_D_{it} + \gamma_5NAUFEE\_O_{it} + \gamma_6NAUFEE\_D_{it} + \xi_{it} \quad (3)

where:

\begin{align*}
AUFEE\_O_{it} & = \text{audit fee of firm } i \text{ in the fiscal year } t \text{ per share defined by the old reporting requirements;} \\
AUFEE\_D_{it} & = AUFEE_{it} - AUFEE\_O_{it}, \text{ difference between the audit fee reported under the old requirements} \\
& \quad \text{and the audit fee reported under the new requirements of firm } i \text{ in the fiscal year } t \text{ per share;} \\
NAUFEE\_O_{it} & = \text{nonaudit fee of firm } i \text{ in the fiscal year } t \text{ per share defined by the old reporting requirements;} \\
NAUFEE\_D_{it} & = NAUFEE_{it} - NAUFEE\_O_{it}, \text{ difference between the nonaudit fee reported under the old requirements} \\
& \quad \text{and the nonaudit fee reported under the new requirements of firm } i \text{ in the fiscal year } t \text{ per share;} \\
\xi_{it} & = \text{error term;} \text{ and }
\end{align*}

all remaining terms are as previously defined.

<table>
<thead>
<tr>
<th>Estimates</th>
<th>BV_ADJ</th>
<th>EPS_ADJ</th>
<th>AUFEE_O</th>
<th>AUFEE_D</th>
<th>NAUFEE_O</th>
<th>NAUFEE_D</th>
</tr>
</thead>
<tbody>
<tr>
<td>(t-statistics)</td>
<td>(22.88)***</td>
<td>(10.64)***</td>
<td>(-7.66)***</td>
<td>(-3.15)***</td>
<td>(3.96)***</td>
<td>(2.24)**</td>
</tr>
</tbody>
</table>

*, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 level, respectively, for a two-tailed test.
End Notes

1 Some may argue that the choice of auditors to perform nonaudit services is not entirely voluntary. However, it should be noted that firms are not required to use their auditors for nonaudit services. A firm could almost always engage another auditor or consultant to perform such services. Further, many firms have discontinued use of their auditor for nonaudit services in the wake of SOX. The fact that the firms choose their auditors for nonaudit service, in spite of the clamor about potential impairment of independence, would suggest that they expect greater benefits or less transaction costs from their auditors than from other providers.

2 The other most commonly cited reason is that the nature of many nonaudit services puts auditors in managerial roles, potentially threatening their objectivity about the transactions they audit.

3 DeAngelo (1981) shows that audit services provide economic rents, which results from the auditors’ learning over time or switching costs imposed upon the client.

4 DeAngelo (1981) defines auditor independence as a joint probability that the auditor will detect a breach in the financial report and report the discovered breach.

5 The other stream of prior studies examines accounting earnings quality. Their results are also mixed. Frankel et al. (2002) supports the economic dependency hypothesis by reporting a positive relation between provision of nonaudit services and discretionary accruals. This result implies that the provision of nonaudit services can strengthen the auditor’s economic dependency with the client, thereby increasing the auditor’s incentive to acquiesce to client pressure, including the pressure to allow earnings management. Ashbaugh et al. (2003) replicate the results of Frankel et al. (2002). However, Ashbaugh et al. (2003) document that the positive relationship disappears after controlling for firm performance. Chung and Kallapur (2003) find no association between their audit fee metrics and the absolute value of discretionary accruals measured with the modified Jones model. Larcker and Richardson (2004) find that the association between nonaudit fees and earning’s quality is sensitive to the measure of economic dependency. Other studies, examining modified audit opinions (DeFond et al. 2002), litigation (Palmrose 1999) or earnings restatement (Kinney et al. 2004), fail to find any significant effect of nonaudit services on these measures.

6 Because the new disclosure rule requires that fees paid to auditors be disclosed for the two most recent years from 2003 instead of the most recent year as required by the old disclosure rule, 2002 is the only year of which old fees and new fees are both disclosed.

7 We also examine whether the new disclosure rule is more useful than the old disclosure rule in general. In order to compare the overall usefulness of the old and new disclosure rules, we compare the following two models by using Vuong’s statistics.

Old Format

\[
\text{PRICE}_{it} = \gamma_0 + \gamma_1 \text{BV}_{ADJit} + \gamma_2 \text{EPS}_{ADJit} + \gamma_3 \text{AUFEE}_{Oit} + \gamma_4 \text{FSDI}_{it} + \gamma_5 \text{OTHFEE}_{it} + \eta_{it}
\]

New Format

\[
\text{PRICE}_{it} = \delta_0 + \delta_1 \text{BV}_{ADJit} + \delta_2 \text{EPS}_{ADJit} + \delta_3 \text{AUFEE}_{it} + \delta_4 \text{AURFEE}_{it} + \delta_5 \text{FSDI}_{it} + \delta_6 \text{TAXFEE}_{it} + \delta_7 \text{OTHFEE}_{it} + \nu_{it}
\]

The regression results show improvement in adjusted R² (from 0.5633 to 0.5721) with the new disclosure rule. However, it is not statistically significant (Vuong’s Z-statistics = -1.470, p >.10).

8 Frankel at al. (2002) use the proxy statements filed during 2/5/01-6/15/01, while Ashbaugh et al. (2003) use all proxy statements for 2000.