Impact on equity prices of pronouncements related to nonpension postretirement benefits*

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This study examines the impact on equity prices of nine pronouncements related to the proposed accounting for nonpension postretirement benefits. Compared to a control group, the experiment firms exhibit significant negative abnormal returns around the issuance of the Exposure Draft on nonpension postretirement benefits. The negative abnormal returns are most pronounced for firms with few retirees relative to current employees, firms with high debt ratios, small firms, and firms currently reporting these benefits on the pay-as-you-go basis. These results are consistent with the contracting cost hypotheses.

1. Introduction

In February 1989, the Financial Accounting Standards Board (FASB) issued an Exposure Draft of a proposed Statement of Financial Accounting Standards (SFAS) entitled Employers’ Accounting for Postretirement Benefits Other Than Pensions. This statement would require companies to switch to accrual accounting for retiree health benefits and other nonpension post-

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retirement benefits by 1992 and would require a minimum liability to be reported on their balance sheets by 1997.

Companies that offer postretirement benefits to their employees have expressed concerns about this proposed standard because it would increase their expenses, reduce their net income (thus retained earnings and owners' equity), and increase their liabilities. Since most companies currently report nonpension postretirement benefits on the cash basis, switching to accrual accounting may have an extensive impact on their income statements and balance sheets.

The proposed standard eliminates an income-increasing accounting method (i.e., the cash basis of reporting nonpension postretirement benefits which allows for later recognition of expenses) and restricts firms' optimal contracting technology, thus firms offering such benefits are expected to experience a decrease in their stock prices. Stock prices are also expected to decline as the cash basis could have been used by such companies to reduce the probability that debt covenants will be violated on existing liabilities. On the other hand, the proposed standard can increase stock prices through reduction of political costs, with the effect being stronger for larger firms. Prices may also increase slightly for firms with income-based compensation plans as the standard reduces managers' ability to increase their compensation (Watts and Zimmerman (1986, pp. 286–287)]. The direction of the net stock price reaction to this proposed standard, therefore, is an empirical issue. However, based on previous studies documenting a negative stock price reaction to the introduction of regulation eliminating an income-increasing accounting method [e.g., Collins, Rozeff, and Dhaliwal (1981) and Lys (1984)], it is expected that the positive impact relating to reduced political costs and compensation effects will be outweighed on average by the negative effect of the optimal contracting costs and wealth transfers via debt contracts.

This study measures the market reaction to this proposed change in accounting for nonpension postretirement benefits. We show that, compared to a control group, firms offering these benefits exhibit significant negative abnormal returns around the issuance of the Exposure Draft. We also show that the negative impact of the standard on equity prices is more pronounced for the 'less mature firms' (those with few retirees compared to current employees), firms with high debt ratios, small firms, and firms currently reporting nonpension postretirement benefits on the cash basis.

This research is unique in that it uses the maturity level of the firms' labor force to capture the extent to which an accounting standard affects reported

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1 See American Banker (October 11, 1989, p. 15), Pensions and Investment Age (October 2, 1989, pp. 1–2), National Underwriter (February 20, 1989, pp. 2, 27).

2 The increase in the accrued expenses (relative to the cash payment which is currently reported as expense by most companies), however, would not be tax-deductible under current tax law so no immediate tax implications are expected.
income, retained earnings and owners' equity, and thus the wealth transfers from shareholders to bondholders. By utilizing the portfolio weighting procedure proposed by Scfeik and Thompson (1986) to account for cross-correlation and cross-sectional heteroscedasticity, this research provides a more powerful test of contracting cost hypotheses on the economic impact of this proposed accounting standard. The paper is also expected to provide a more powerful test of contracting cost hypotheses than existing research as the expected impact of this proposed standard on firms' income statements is potentially greater than the standards that have been previously investigated.3 Finally, since the weighting procedure used in this study takes into account the correlation among firm characteristics, this paper also provides an opportunity to evaluate the relative importance of these characteristics in explaining the market reaction to this proposed standard.

The paper is organized as follows. Section 2 reviews the proposed requirements of the Exposure Draft on nonpension postretirement benefits. The hypotheses are developed in section 3. The sample and data, events, and methodology are discussed in section 4. Section 5 reports the results and concluding remarks are made in section 6.

2. The Exposure Draft on nonpension postretirement benefits

The accounting standard proposed in the Exposure Draft, *Employers' Accounting for Postretirement Benefits Other Than Pensions*, relates to retiree health care and other postretirement benefits such as life insurance and tuition reimbursement. The largest of these costs to employers is postretirement health benefits due to the increase in health care costs at an above-inflation rate, the increase in the number and longevity of retirees, and the decrease in Medicare reimbursement.4

The accounting standard proposed in the Exposure Draft would significantly change the prevalent current practice of recognizing costs on a pay-as-you-go basis by requiring accrual of the nonpension postretirement benefits earned by employees by 1992. The Exposure Draft would also require a 'minimum' liability to be recorded on the balance sheet by 1997. This liability is equal to the present value of the obligation expected to be paid to retirees and active employees that are fully eligible, net of the fair value of any plan assets.

3The proposed standard on nonpension postretirement benefits has been argued to be '... the most significant accounting change since the adoption of depreciation' and the total impact of the standard on corporate profits has been estimated at between 200 billion and a trillion dollars. IBM alone, who elected to adopt this standard early, recorded a $2.3 billion charge against its first quarter of 1991 earnings (*Wall Street Journal*, December 20, 1990, pp. A3–A4 and April 15, 1991, pp. A3, A6).

4According to the *Wall Street Journal* (January 26, 1990, p. A2) the 'climbing health insurance expenses kept benefit costs rising well ahead of wages'. Health benefit costs rose 6.1 percent in 1989 compared with wage and salary increase of 4.2 percent.
The Exposure Draft incorporates some of the concepts contained in SFAS No. 87, **Employers Accounting for Pensions**, and SFAS No. 88, **Employers Accounting for Settlements and Curtailments of Defined Benefit Pension Plans and for Termination Benefits**. The FASB concludes in its proposed statement that the accrual method recognizes that nonpension postretirement benefits are a type of deferred compensation. As such, the employers’ obligation for that compensation is incurred during an employee’s working career, not at the time of retirement or after retirement.

The FASB has received many comments on the Exposure Draft in its public hearings and in writing. In the FASB Status Report (November 27, 1989) summarizing these comments, it was reported that more than 85 percent of the 467 letters indicated that the proposed accumulated postretirement benefits obligation should be recognized. However, many of those who agreed expressed concern about the reliability of measurement of the obligation because of the number of assumptions that must be made about health care cost trends, expected long-term rates of return on plan assets, and discount rates. In addition, a large majority of these letters disagreed with the Exposure Draft’s proposed attribution period ending with the date of full eligibility for plan benefits and with the effective date. Respondents overwhelmingly preferred extending the attribution of the expected nonpension postretirement benefit obligation to the expected retirement date and a later effective date, both of which would reduce the impact of the standard on financial statements.

### 3. Hypotheses on stock price impact of proposed standard

The proposed standard would require an accrued nonpension postretirement benefit expense to be shown on a firm’s income statement by 1992 and a minimum liability to be shown on its balance sheet by 1997. The standard would provide information on the accrued cost of postretirement benefits that was not required in footnote disclosures. For most firms, this standard would result in an increase in expenses and liabilities, and a decrease in net income, retained earnings, and owners’ equity. However, little information is available to quantify the impact on financial statements of this proposed standard. As noted by Swieringa (1989), estimating a firm’s net income, liabilities, and equity under the proposed standard is complex and requires many assumptions about health care cost trends, discount rates, and expected long-term rates of return on plan assets.

In a field study, Dankner et al. (1989) estimate the effect of the proposed accounting standard on twenty-five companies. They report a decrease in net income from 2 percent to over 20 percent, an increase in liabilities from 0.5 to over 2 percent, and a decrease in stockholders’ equity from 0.5 to over 3 percent. Dankner et al. (1989) note, however, that the aforementioned
estimate may be an understatement as their study is largely limited to companies with many current retirees. The impact of this proposed standard on financial statements is expected to be more pronounced for companies with relatively few current retirees compared to expected retirees in the future because they are currently paying (and reporting as expense) a fraction of nonpension retirement benefits earned by employees.

Given the uncertain effect this proposal will have on financial statements, an alternative approach to a field study is to estimate the impact of this proposed regulation on stock prices. Schwert (1981) suggests that the analysis of market data is more powerful than other methods because price movements incorporate all value relevant information as it becomes available.

Various accounting standards' impact on stock prices have been examined in previous studies. Leftwich (1981), Lys (1984), and Salatka (1989), for example, examine some accounting standards expected to increase contracting costs (Accounting Principles Board Opinions No. 16 and No. 17, SFAS No. 19, and SFAS No. 8, respectively) and find a significant negative stock price change around the Exposure Draft announcements. As with all accounting standards, however, other related announcements before and after the Exposure Draft may provide information on the proposed standard's impact and likelihood of acceptance. This study considers the announcement of the Exposure Draft on nonpension postretirement benefits as well as other related events described in the next section.

In general, the announcements related to nonpension postretirement benefits could cause a stock price drop by eliminating an efficient contracting definition of earnings (i.e., one that defers the recognition of the future postretirement costs). As Watts and Zimmerman (1986) point out, accounting practice tends to trade-off information asymmetry (reliability) against timeliness. The comments to the FASB suggest that reliability is a serious problem with this standard so that contracts based on earnings calculated in accordance with the standard will be less useful for contracting, causing stock prices to drop. Stock prices may also decrease as the standard increases the probability that debt covenants will be violated and thus increases the expected cost of a technical default [Watts and Zimmerman (1986, p. 286)].

Alternatively, announcements related to this proposed accounting change may result in stock price increases, especially for larger firms, through reduction of political costs. Prices may also increase slightly for firms with income-based compensation plans as the standard reduces managers' ability to increase their compensation [Watts and Zimmerman (1986, pp. 286–287)].

The direction of the net stock price reaction to this proposed standard, therefore, is an empirical issue. However, based on previous studies documenting a negative stock price reaction to the introduction of regulation eliminating an income increasing accounting method [e.g., Collins, Rozeff, and Dhaliwal (1981) and Lys (1984)], it is expected that the positive impact
relating to reduced political costs and compensation effects will be outweighed on average by the negative effect of the optimal contracting costs and wealth transfers via debt contracts. Thus, the first hypothesis examined in this study is:

Hypothesis 1: The stock prices of firms providing nonpension postretirement benefits are reduced following announcements that increase the probability that the cash basis of accounting for these benefits will be eliminated.

The impact of the proposed standard on nonpension postretirement benefits, of course, is not expected to be the same for all firms that provide these benefits to their employees. The proposed standard would require an accrued expense to be reported on the income statement. For firms currently using the pay-as-you-go method for reporting the nonpension postretirement benefit expense, the new accrued expense may be significantly larger than the currently reported expense (cash payment to retirees). Dankner et al. (1989) report that for their twenty-five sample firms, the accrued expense would range from two times to greater than seven times the cash payment; the effect expected to be significantly more pronounced for firms with a relatively low ratio of current to expected retirees ('less mature firms').

The higher accrued expense relative to the cash payment results in a decrease in reported income, retained earnings, and owners' equity, a wealth transfer via debt contracts away from owners, and, therefore, a decrease in stock prices. The decrease in stock prices is expected to be more pronounced for firms that have a larger difference between the accrued expense and the cash payment, such as the less mature firms. This variation is also expected under the optimal contracting hypothesis because the earnings calculated in accordance with the proposed standard will be less efficient for firms with a larger difference between the accrued expense and the cash payment.

In this study, the number of current retirees relative to active employees is used to proxy for the maturity level of a firm's labor force. As a result, the second hypothesis examined in this study is:

Hypothesis 2: The stock price reaction to announcements related to the proposed standard for nonpension postretirement benefits is positively related to the number of current retirees relative to current employees.

The proposed standard may increase contracting costs by increasing liabilities and decreasing owners' equity. The increase in debt ratios affects those firms with debt covenant restrictions. For firms close to debt covenant constraints, the proposed accounting standard may induce managers to take
costly actions to avoid restrictions on additional borrowing, to renegotiate restrictive covenants, and/or to avoid possible default. The negative impact of the proposed standard on contracting costs related to debt, therefore, is expected to be more pronounced for firms that are closer to their debt covenant restrictions. This variation is also expected because the efficiency of the debt contracts will also be affected.

A debt ratio is used in this study to proxy for the existence and tightness of debt covenant restrictions. Similar proxies have been used in prior research [e.g., Leftwich (1981) and Salatka (1989)]. In addition, Duke and Hunt (1990) find support for debt ratios as proxies for the existence and tightness of the two most prevalent types of accounting-based debt covenant restrictions in their sample (retained earnings and working capital).

Using this proxy, the debt hypothesis predicts that more highly levered firms will experience larger stock price reductions because of the potentially greater contracting costs associated with debt covenants. The negative relation between stock price reaction to the events of interest and debt ratios can also be explained by a competing hypothesis. Specifically, if the overall impact of the standard is to decrease firm value, then, other things equal, the percentage decline in equity value should be higher for more highly levered firms. In other words, levered equity is more sensitive to a given change in firm value than unlevered equity. This relation, ignored in previous studies, is mechanical and has nothing to do with the costly contracting hypotheses. Both of these explanations provide the basis for the development of the third hypothesis examined in this study:

Hypothesis 3: The stock price reaction to announcements related to the proposed standard for nonpension postretirement benefits is negatively related to the firm’s debt ratio.

Political costs, as described by Watts and Zimmerman (1978), are another form of contracting costs associated with a decrease in net income. An accounting standard that eliminates an income-increasing alternative may reduce the political costs associated with regulatory pressures and thus increase stock prices. Since larger firms are expected to have larger decreases in political costs, they will have a more positive stock price effect [Watts and Zimmerman (1986, pp. 287, 295)]. In this study, market value of common equity is used to proxy for firm size. The fourth hypothesis, therefore, is:

Hypothesis 4: The stock price reaction to announcements related to the proposed standard for nonpension postretirement benefits is positively related to the market value of the firm.
To further examine the sensitivity of the stock price reaction to the FASB proposal on nonpension postretirement benefits, this study examines the accounting methods that firms currently use in reporting these benefits. Most firms use the pay-as-you-go method but some firms use an accrual method. (Of the firms in the latter group, some have and others have not adopted all the requirements set forth in the Exposure Draft.) This partitioning of the firms allows for testing of the fifth hypothesis:

Hypothesis 5: The stock price reaction to announcements related to the proposed standard is more pronounced for firms currently using the pay-as-you-go method for reporting nonpension postretirement benefits than for firms using an accrual method.

4. Methodology

4.1. Sample selection and data

A total of 143 experiment firms are examined in this study. These firms met the following criteria: (1) postretirement benefits other than pensions are offered to employees and are indicated on the financial statement footnotes reported on the September 1989 CD-ROM version of the Disclosure data base which covers all publicly traded firms that file with the Securities and Exchange Commission, (2) daily stock returns are available on the Center for Research in Security Prices (CRSP) tapes from 1983 through 1988 and on the Dow Jones News Retrieval Service for 1989.\(^5\) The first criterion provides a sample of firms affected by the proposed standard. The second criterion assures sufficient return data over all event periods examined in this study that are related to the proposed standard, and thereby allows for testing of Hypothesis 1.

To test Hypotheses 2 through 5, additional data are obtained to measure the following four firm characteristics: (a) \textit{RETEMP}, the ratio of current retirees to active employees; (b) \textit{DEBTA}, the debt ratio; (c) \textit{MKTVAL}, the market value of the firm; and (d) \textit{ACCRUAL}, a dummy variable designating use of an accrual method of accounting for nonpension postretirement benefits.

To measure the ratio of current retirees to active employees (\textit{RETEMP}), the number of current retirees as of 1989 is obtained via telephone inquiry from the human resource or benefit offices of each firm and the number of active employees as of 1989 is obtained from the Compustat tapes. There are

\(^5\)Of the 143 experiment firms, fifteen have some daily returns missing in early 1984. These firms are included in the analysis but are excluded from calculation of portfolio returns for the respective missing days.
no public records of retiree information, therefore direct inquiries are the only means of obtaining current retiree numbers. The telephone inquiries revealed some differences in the accessibility of this information across firms, therefore only the number of retirees as of 1989 is collected as these most current records were the most accessible.

The telephone inquiries may result in some measurement errors but this should bias the results against finding a significant relation between the market reaction to the proposed accounting standard and this characteristic \((REZEMP)\). The telephone inquiry procedure also reduced the sample size which could potentially bias the results if firms were systematically excluded due to missing \(REZEMP\). To evaluate this potential bias, the 24 excluded firms were compared to the remaining firms. The means of \(DEBTA\), \(MKTVAL\), and \(ACCRUAL\) for the excluded firms are 0.68, \$2899 million, and 0.05, respectively; for the remaining firms they are 0.65, \$2923 million, and 0.08, respectively. None of the cross-subsample differences is significant at the 0.10 level.

Another issue concerning \(REZEMP\) is the inconsistency in the measurement period. \(REZEMP\) is measured in only one year, while the other firm characteristics \((DEBTA, MKTVAL, and ACCRUAL)\) are measured over the five-year period of this study. To examine the sensitivity of the results to the measurement period, we tested Hypotheses 2 through 5 with all four firm characteristics \((REZEMP, DEBTA, MKTVAL, and ACCRUAL)\) measured in 1989. The results were similar in sign and significance to those shown in table 5 and are, therefore, not reported.

The debt ratio \((DEBTA)\) is measured as the year-end ratio of book value of total liabilities over the book value of total assets. Market value \((MKTVAL)\), measured in millions of dollars, is the product of the year-end stock price and common shares outstanding. The required data for both of these variables, measured as averages over the years 1983–1988, are retrieved from Compustat. \(ACCRUAL\) is set equal to 1 if a firm consistently used an accrual method from 1983 to 1988. \(ACCRUAL\) is set equal to 0 if a firm consistently used the pay-as-you-go method. Firms that changed their reporting method during the analysis period are not included in the test of Hypotheses 2 through 5. The accounting method used by each firm is reported in the footnotes to financial statements.

After imposing these additional data requirements regarding the four firm characteristics \((REZEMP, DEBTA, MKTVAL, and ACCRUAL)\), the number of experiment firms with complete data to test Hypotheses 2 through 5 is reduced to 106.\(^6\) For these firms, descriptive statistics on these four variables

\(^6\)This number is less than the 143 used to test Hypothesis 1 because of the unavailability of the number of retirees for 24 firms, missing Compustat data for 3 firms, debt ratios greater than 1 (due to negative equity) for 7 firms, and changes in method of accounting for postretirement benefit during the test period for 3 firms.
Table 1
Descriptive statistics of and correlations between firm characteristics for the 106 experiment firms over the years 1983–1988.

### Panel A: Descriptive statistics of firm characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Std. dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RETEMP</td>
<td>0.289</td>
<td>0.168</td>
<td>0.395</td>
</tr>
<tr>
<td>DEBTA</td>
<td>0.648</td>
<td>0.640</td>
<td>0.181</td>
</tr>
<tr>
<td>MKTVAL</td>
<td>2922.500</td>
<td>1014.000</td>
<td>8247.197</td>
</tr>
<tr>
<td>ACCRUAL</td>
<td>0.085</td>
<td>0.000</td>
<td>0.280</td>
</tr>
</tbody>
</table>

### Panel B: Pearson product-moment correlations between the firm characteristics

<table>
<thead>
<tr>
<th></th>
<th>RETEMP</th>
<th>DEBTA</th>
<th>MKTVAL</th>
<th>ACCRUAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>RETEMP</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEBTA</td>
<td>-0.074</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MKTVAL</td>
<td>-0.050</td>
<td>-0.149</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>ACCRUAL</td>
<td>0.115</td>
<td>-0.133</td>
<td>0.367</td>
<td>1.000</td>
</tr>
</tbody>
</table>

are presented in panel A of table 1. The ACCRUAL variable which can take on values of 0 or 1 has a mean very close to 0, demonstrating that the majority of the experiment firms currently use the pay-as-you-go method to account for their nonpension postretirement benefits. Only nine of the experiment firms used an accrual method during the time period examined in this study.

Panel B of table 1 presents Pearson correlation coefficients between these firm characteristics. The null hypothesis of no correlation between the variable ACCRUAL and MKTVAL is rejected at the 0.01 significance level, suggesting that the pre-standard accounting procedure is related to a firm’s size which is consistent with the size hypothesis that large firms use income-decreasing alternatives [Watts and Zimmerman (1986)]. The correlation between these variables underscores the need to use a methodology that
Table 2
Industry distribution of 143 experiment firms and 100 control firms based on 1988 SIC groupings.

<table>
<thead>
<tr>
<th>Industry classification</th>
<th>SIC codes</th>
<th>Number of experiment firms</th>
<th>Number of control firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining</td>
<td>(1000–1499)</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>Construction</td>
<td>(1500–1499)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>(2000–3999)</td>
<td>68</td>
<td>36</td>
</tr>
<tr>
<td>Transportation &amp; Utilities</td>
<td>(4000–4999)</td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>Wholesale</td>
<td>(5000–5199)</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Retail</td>
<td>(5200–5999)</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Finance, Insurance &amp; Real Estate</td>
<td>(6000–6999)</td>
<td>23</td>
<td>17</td>
</tr>
<tr>
<td>Services</td>
<td>(7000–8999)</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>143</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

considers such interrelations. This methodology will be described in section 4.3.

To provide some assurance that the significant abnormal returns for the experiment group, if present, reflect security price reactions to the events related to nonpension postretirement benefits (i.e., they do not represent the confounding effect of other variables), the experiment sample is compared to a control sample. These control firms have the necessary stock return data described above, but postretirement benefits other than pensions are not mentioned in their footnotes to financial statements. Therefore, these control firms are not subject to the proposed requirements detailed in the Exposure Draft. (Recall that SFAS No. 81 requires disclosure of nonpension postretirement benefits.) A total of 316 firms contained on the September 1989 CD-ROM version of the Disclosure data base met these control sample criteria.

Two hundred and sixteen control firms have relatively small market values. To make the control and experiment samples more comparable, the control sample is restricted to the 100 firms that have market values within the same range as the experiment sample. The industry distribution of the 143 experiment and 100 control firms are fairly similar based on SIC groupings as presented in table 2. Because the experiment and control samples are similar (except for existence or lack of nonpension postretirement benefit plans), a significant difference in abnormal returns between the two groups and/or an

7To further examine the sensitivity of test results to the size differential between the experiment and control firms, Hypothesis 1 is tested using the 100 control firms and the 100 experiment firms that match these control firms on size. These results are reported in footnote 11.
absence of significant abnormal returns for the control group indicate that security price movements reflect the events considered in the study.

4.2. Event periods examined

Table 3 lists the event periods in which stock price changes related to the FASB proposal on nonpension postretirement benefits may be observed. The events have been numbered 1 through 9 and a brief description of each is also provided. These events are compiled from the Wall Street Journal Index, the Wall Street Journal, and from the records of FASB.

Multiple sources of events are used since the financial community receives news from a variety of sources [see, e.g., Thompson, Olsen, and Dietrich (1987)]. Each announcement date listed is the date of the Wall Street Journal article, except for event 3. This event, the issuance of the Technical Bulletin, was listed in the records of FASB but was not covered in the financial press; it is included in this study for completeness.

Each of these nine events may be potentially significant to investors in informing them on the proposed standard’s effect on companies and/or its likelihood of being passed. The announcements made prior to the Exposure Draft are somewhat different from those of other accounting standards as the work on nonpension postretirement benefits was an outgrowth of earlier FASB work on pension benefits.

The first three events relate to SFAS No. 81, Disclosure of Postretirement Health Care and Life Insurance Benefits, issued in November 1984 in response to concerns over the lack of disclosure in employers’ financial statements of these growing nonpension postretirement benefits. This standard was an interim measure as the FASB continued its deliberations leading to the Exposure Draft of February 1989. In SFAS No. 81, employers were required to disclose in a footnote to post-1984 financial statements a description of the nonpension postretirement benefits provided, the employee groups covered, the accounting method for those benefits, and the cost of those benefits recognized for the period. As such, these events relate to early deliberations on nonpension postretirement benefits and speculations on future accounting changes. Investors may increase their estimates of the costs and/or the probability of a forthcoming rule change. Consistent with the expectations model of Leftwich (1981), therefore, we expect a negative impact on stock prices related to these three events. The size of the overall impact, however, is unclear as SFAS No. 81 postponed requiring accrual of these benefits (recognition of expenses and liabilities) ‘pending completion of the study of the measurement and recognition issues...’ (p. 9). Investors may not significantly revise their cost or probability estimates until additional information is received.
Table 3
Events relating to Exposure Draft, *Employers' Accounting for Postretirement Benefits Other Than Pensions*.

<table>
<thead>
<tr>
<th>Event #</th>
<th>Announcement date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>July 5, 1984</td>
<td>FASB proposes a rule requiring companies to disclose in footnotes to financial statements certain descriptive information on postretirement health and life insurance benefits.</td>
</tr>
<tr>
<td>2</td>
<td>November 12, 1984</td>
<td>FASB approves a rule (SFAS No. 81) requiring companies to disclose in footnotes to financial statements certain descriptive information on postretirement health and life insurance benefits.</td>
</tr>
<tr>
<td>3</td>
<td>April 9, 1987</td>
<td>FASB issues Technical Bulletin 87-1, which provides guidance on how employees should account for a change in method of accounting for nonpension postretirement benefits.</td>
</tr>
<tr>
<td>4</td>
<td>November 17, 1987</td>
<td>Employee Benefit Research Institute reports that stock prices could be pushed down if FASB requires firms to show accrued liabilities for retirement health benefits on their balance sheets.</td>
</tr>
<tr>
<td>5</td>
<td>May 5, 1988</td>
<td>Announcement that FASB is moving closer to requiring that reserve for future retiree health benefits be charged against earnings. Study of 76 firms by consultant firm, TPF&amp;C, shows that profits could decrease 50 percent for some firms.</td>
</tr>
<tr>
<td>6</td>
<td>August 17, 1988</td>
<td>Announcement that FASB will soon propose a rule to require firms to deduct potential medical and insurance benefits for retired employees from earnings.</td>
</tr>
<tr>
<td>7</td>
<td>November 22, 1988</td>
<td>Announcement that FASB plans to issue proposed accounting rule later this year. Announcement that LTV Corp. adopted this proposed rule early and recorded $2.26 billion charge to reflect the potential cost of medical and life insurance benefits for its 118,000 current and retired employees.</td>
</tr>
<tr>
<td>8</td>
<td>February 9, 1989</td>
<td>FASB issues Exposure Draft, <em>Employers' Accounting for Postretirement Benefits Other Than Pensions</em>.</td>
</tr>
<tr>
<td>9</td>
<td>September 5, 1989</td>
<td>Announcement that Standard and Poor's will not downgrade corporate debt because of reported liabilities from nonpension postretirement benefits.</td>
</tr>
</tbody>
</table>
Events 4 through 7 relate to public announcements in the *Wall Street Journal* on the development of a proposed standard that would require an accrued expense and a liability on financial statements. The stock price impact of these events is uncertain. These announcements provide estimates of the large negative impact the proposed accounting is expected to have on some firms' financial statements. As such, these announcements may result in investors increasing their estimates of contracting costs, resulting in a decrease in stock prices. Alternatively, these announcements may alter stockholders' expectations that the proposed standard will be revised to soften the impact of accrual accounting for nonpension postretirement benefits. Investors may, therefore, revise downward their probability estimates that the accrual basis of accounting for these benefits will be adopted, resulting in an increase in stock prices.

Event 8 is the issuance of the Exposure Draft and is expected to have a more significant impact on stock prices as its announcement reduces the uncertainty about FASB's progress on this issue. This expectation would be consistent with prior research documenting a more significant stock price reaction to the Exposure Draft announcement than to prior events [see, e.g., Espahbodi and Tehranian (1989) and Ziebart and Kim (1987)].

Event 9 relates to opposition voiced by some credit-rating agencies to the FASB proposal because of the speculative nature of the assumptions that would be necessary to accrue and fund postretirement health care expenses. Standard and Poor's stated that if the proposal is adopted, it would reverse the resulting accounting changes and would not downgrade any corporate debt because of resulting increased liabilities or lower profits. Two other credit-rating agencies, Moody's Investors Service and Duff & Phelps Inc., also indicated they would 'play down' the effect of the proposed accounting rule. This last event may result in investors revising their assessment of the impact of this proposal and/or the likelihood that it will be revised. But it may also be downplayed as credit ratings are not normally used in debt contracts. Therefore, an analysis of the impact of this event on stock prices allows testing of the influence of credit-rating agencies on equity price reaction to this proposed standard.

Subsequent events relating to nonpension postretirement benefits are also interesting to analyze, but are not included in this study due to lack of readily available data in time for this study. One such event is the final statement (SFAS No. 106) issued on December 20, 1990, in which the FASB eliminates...
the recognition of the minimum liability but still requires disclosure of the underfunded and unrecognized accumulated postretirement benefit obligation (an amount larger than the proposed minimum liability). SFAS No. 106 allows this obligation to be recognized immediately (subject to certain limitations) or on a delayed basis and postpones the effective date of the standard one year.

4.3. Methodology

Hypothesis 1 in this study examines the average impact of each of the nine events on stock prices of experiment firms. It is possible that a mean effect is not observed on a particular event date, but stock returns may vary cross-sectionally on that date with the firm characteristics. Hypotheses 2 through 5, therefore, examine the effect of firm characteristics on the stock market reaction to these events. Hypothesis 1 is tested by employing a Multivariate Regression Model (MVRM) proposed by Schipper and Thompson (1983). The standard event study methodology assumes that the residuals are identically and independently distributed across firms. Because the magnitude of the unsystematic risk differs across firms, however, the variance of abnormal returns will vary across firms [Fama (1976)]. In addition, security returns for firms in the same industry are contemporaneously correlated because such firms will react similarly to any unanticipated event [Schwert (1981)]. The MVRM incorporates both the cross-sectional heteroscedasticity and the contemporaneous correlation of the residuals into the estimation process, allowing joint hypotheses to be tested utilizing the $F$-statistic defined by Rao (1973). The joint hypothesis tests are of special importance in this study since, as discussed earlier, firms are expected to be differentially affected by the pronouncements on nonpension postretirement benefit accounting.

The MVRM model conditions the return-generating process on the occurrence or nonoccurrence of an event by adding a zero–one dummy variable for each event to the market model. Each dummy variable is set equal to 1 if the corresponding event occurred and equal to 0 otherwise. Since the exact timing of the information release is unknown, a three-day event period is used corresponding to trading days $t = -1, t = 0,$ and $t = +1$ relative to the announcement date shown in table 3. The coefficient of each dummy variable measures the corresponding event's impact on stock returns. The model is a system of two portfolio return equations - an experiment firm portfolio and a control firm portfolio. The equation for each portfolio is

$$
\tilde{R}_{jt} = a_j + \beta_j \tilde{R}_{mt} + \sum_{k=1}^{\kappa} g_{jk} D_{kt} + \tilde{\epsilon}_{jt},
$$

(1)
where

\[ \hat{R}_{jt} = \text{return on portfolio } j \ (j = 1, 2) \text{ on day } t \ (t = 1, 2, \ldots, T) ; \ T \text{ is the total number of daily return observations from 1984 through 1989; returns for each portfolio are weighted based on the full estimated covariance matrix of residuals in order to increase the efficiency of parameter estimates;} \]

\[ \hat{R}_{mt} = \text{return on the Standard and Poor’s 500 Index on day } t ; \]

\[ a_j = \text{intercept coefficient for portfolio } j ; \]

\[ p_j = \text{risk coefficient for portfolio } j ; \]

\[ g_{jk} = \text{effect of event } k \text{ on portfolio } j \ (k = 1, 2, \ldots, K) ; K \text{ is the total number of events examined which is 9 in this study;} \]

\[ D_{kt} = \text{dummy variables which equal 1 during the three-day period (} t = -1, t = 0, \text{ and } t = +1 \text{ relative to the announcement date) of the } k \text{th event and 0 otherwise;} \]

\[ \hat{e}_{jt} = \text{random disturbance which is assumed to be normal and independent of the return on the market and the event announcement variable.} \]

Following Theil (1971, p. 306), the system of regressions in eq. (1) can be generalized as

\[
\begin{bmatrix}
\hat{R}_1 \\
\hat{R}_2
\end{bmatrix} = \begin{bmatrix}
\hat{X} & 0 \\
0 & \hat{X}
\end{bmatrix} \begin{bmatrix}
\beta_1 \\
\beta_2
\end{bmatrix} + \begin{bmatrix}
\hat{e}_1 \\
\hat{e}_2
\end{bmatrix},
\]

or

\[ \hat{R} = \hat{X} \beta + \hat{e}, \]

where

\[ \hat{R}_j = T \times 1 \text{ vector (the elements of the vector are } \hat{R}_{j1}, \hat{R}_{j2}, \ldots, \hat{R}_{jT} ; \]

\[ \hat{X} = T \times C \text{ matrix of independent variables which is the same for each equation in the system, } C = K + 2 = 11 \text{ (the first column of this matrix is of 1’s, the second column is of the daily returns on } \hat{R}_m, \text{ and the last nine columns are of dummy variables } D_k \text{ for each of the nine events);} \]

\[ \beta_j = C \times 1 \text{ vector of coefficients;} \]

\[ \hat{e}_j = T \times 1 \text{ vector of disturbances.} \]

Estimation of the multivariate regression model in eq. (3) assumes that the residuals are independently, identically distributed within each equation. As Smith, Bradley, and Jarrell (1986) suggest, however, this is not likely to be true. The estimation of the system in eq. (3), therefore, must be adjusted for possible time-series heteroscedasticity. [See Smith, Jarrell, and Bradley (1986, p. 477) for a detailed discussion of this situation.] To correct for time-series heteroscedasticity a procedure developed by White (1980), in which the
residuals in the variance–covariance matrix are allowed to vary across observations, is employed.

To test the effect of firm characteristics on stock market reaction to the events under consideration (i.e., to test Hypotheses 2 through 5), the portfolio weighting procedure proposed by Sefcik and Thompson (1986) is used. The procedure involves three steps. First, form a matrix $F$ having a column of 1's and $(P - 1)$ columns of firm characteristics, namely ratio of current retirees to current employees ($RETEMP$), debt ratio ($DEBTA$), market value of the firm ($MKTVAL$), and method of accounting for nonpension postretirement benefits ($ACCRUAL$). This matrix is defined as follows:

$$F = \begin{bmatrix} 1 & X_2 & \cdots & X_P \end{bmatrix},$$

where $X_p$ is an $N \times 1$ vector of the $p$th firm characteristic ($P = 5$ and $N = 106$ firms used to test Hypotheses 2 through 5).

Second, create $P = 5$ sets of portfolio weights [$W = (F'F)^{-1}F'$] and compute the portfolio returns ($R_{pt}$) for each set as follows:

$$W = \begin{bmatrix} W_1' \\ W_2' \\ \vdots \\ W_P' \end{bmatrix} = (F'F)^{-1}F',$$

$$R_{pt} = W_p'R_{tt}, \quad p = 1, 2, \ldots, P, \quad t = 1, 2, \ldots, T,$$

where

$W = P \times N$ matrix of portfolio weights ($P = 5$ and $N = 106$ firms);

$W_p = \text{pth row of portfolio weights which are influenced by the } p\text{th firm characteristic (a single column of } F);$-

$F = N \times P$ matrix defined in eq. (4);

$R_{pt} = \text{return on portfolio } p \text{ on day } t;$

$R_{tt} = N \times 1$ vector of individual firms' security returns on day $t$.

Third, run $p$ portfolio time-series regressions ($p = 1, 2, \ldots, 5$) of the form:

$$\tilde{R}_{pt} = \alpha_p + \beta_p \tilde{R}_{mt} + \sum_{k=1}^{K} g_{pk} D_{kt} + \tilde{\varepsilon}_{pt}.$$  

The event parameter estimates ($g_{pk}$) in each of the above regressions reflect the effect of one (and only one) firm characteristic on stock market reaction to the events under consideration. These estimates are the same as those in cross-sectional regressions of abnormal returns [or dummy variable coefficients in eq. (3)] on firm characteristics. However, 'unlike cross-sectional regressions, the standard errors of these estimates account fully for the
Table 4

Test of Hypothesis 1 for the nine events over the years 1984–1989.

Portfolio abnormal returns and t-statistics (in parentheses) for portfolios of 143 experiment firms and 100 control firms around each of the nine events. These estimates are the coefficients from a regression of portfolio returns (weighted based on the full estimated covariance matrix of residuals) and dummy variables corresponding to the nine events. Each dummy variable equals 1 during the three-day period (t = -1, t = 0, and t = 1 relative to each announcement) and 0 otherwise.

<table>
<thead>
<tr>
<th>Event</th>
<th>Experiment firms</th>
<th>Control firms</th>
<th>F-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 143</td>
<td>N = 100</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0.07</td>
<td>-0.14</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>(0.17)</td>
<td>(-0.65)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.16</td>
<td>-0.05</td>
<td>0.19</td>
</tr>
<tr>
<td></td>
<td>(0.37)</td>
<td>(-0.22)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.46</td>
<td>0.25</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>(1.09)</td>
<td>(1.15)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.27</td>
<td>0.06</td>
<td>0.20</td>
</tr>
<tr>
<td></td>
<td>(0.64)</td>
<td>(0.28)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0.13</td>
<td>-0.08</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td>(0.31)</td>
<td>(-0.37)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0.07</td>
<td>-0.15</td>
<td>0.43</td>
</tr>
<tr>
<td></td>
<td>(0.16)</td>
<td>(-0.70)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>-0.51</td>
<td>-0.08</td>
<td>0.70</td>
</tr>
<tr>
<td></td>
<td>(-1.19)</td>
<td>(-0.36)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>-3.02</td>
<td>0.05</td>
<td>33.63b</td>
</tr>
<tr>
<td></td>
<td>(-7.10)b</td>
<td>(0.22)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0.06</td>
<td>-0.15</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>(0.13)</td>
<td>(-0.66)</td>
<td></td>
</tr>
</tbody>
</table>

*Events are described in table 3.

bSignificant at the 0.01 level.

cross-correlation and (cross-sectional) heteroscedasticity in firm disturbances' [Sefcik and Thompson (1986, p. 324)]. In addition, the weighting procedure takes into account potential collinearities among the firm characteristics, and provides an opportunity to evaluate the relative importance of different firm characteristics in explaining the market reaction to nonpension postretirement benefit pronouncements.

5. Results

Table 4 reports the portfolio abnormal returns based on the MVRM for the three-day period (t = -1, t = 0, and t = 1 relative to the announcement day) around each of the nine events for the experiment and control groups. These estimates are the coefficients of the dummy variables in eq. (3). The results for the experiment firms are examined first. Event 8, the issuance of
the Exposure Draft, is the only significant event. For this event, the average three-day abnormal return for the 143 experiment firms is $-3.02\%$. The $t$-statistic is $-7.10$ and is significantly different from zero at 0.01 level. This abnormal return has the predicted sign and supports Hypothesis 1. The abnormal returns are not significantly different from zero for the events relating to SFAS No. 81 (events 1, 2, and 3); these events were expected to have a negative sign but the size of their impact was uncertain. The events announcing information about the progress and impact of the proposed standard (events 4 through 7) are also not associated with significant abnormal returns, however, as mentioned earlier the nature of these events made it difficult to predict their expected impact. Finally, the abnormal returns associated with the announcement that Standard and Poor's was planning to disregard the proposed standard when assigning debt ratings (event 9) are positive, but not significant.

To further examine Hypothesis 1, the three-day abnormal returns for the portfolio of control firms are also reported in table 4. The abnormal returns are not significantly different from zero for any of the nine events. The $F$-statistic reported in table 4 tests the significance of the difference between the portfolio abnormal returns of the experiment and control firms for each event. For event 8, the issuance of the Exposure Draft, the difference is significant at 0.01, based on the $F$-statistic of 33.63. This result further supports Hypothesis 1 for this event and as discussed earlier, provides some assurance that security price changes for the experiment firms are reflective of the Exposure Draft on nonpension postretirement benefits (that such changes do not represent the effect of confounding variables). The $F$-statistic is not significantly different from zero for any other event.

Table 5 presents the results for Hypotheses 2 through 5. This table reports results only for the experiment firms. Each column in table 5 reports the

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10 The significant abnormal return reported in table 4 could be driven by outliers. To examine this point, the number of negative three-day abnormal returns around event 8 relative to the full experiment sample is determined. 108 of the 143 abnormal returns around event 8 are negative. This number is significant at the 0.05 level using the binomial test, suggesting this result is not driven by outliers.

11 The results in table 4 are replicated using only the 100 experiment firms that are matched to the 100 control firms on size. The portfolio abnormal returns and $F$-statistics for the 100 experiment firms are also not significantly different from zero for events 1 through 7 and event 9. For event 8, the issuance of the Exposure Draft, the portfolio abnormal return is $-2.28\%$. The $t$-statistic of this abnormal return and the $F$-statistic testing the difference between experiment and control portfolio abnormal returns are also significant at 0.01.

The results in table 4 are also replicated using the subsample of 106 experiment firms that are used to test Hypotheses 2 through 5. These results are also similar in coefficient size and significance to those reported. In particular the portfolio abnormal return for event 8 is $-2.63\%$ and is significant at the 0.01 level. The significant results reported in table 4, therefore, are not sensitive to these changes in the experiment sample.

12 Eq. (7) is estimated for the control firms that had data available to measure RETEMP, DEBTA, and MKTVAL. None of the dummy variable coefficient estimates is significant at the 0.10 level.
Table 5
Test of Hypotheses 2 through 5 for the 106 experiment firms and the nine events over the years 1984–1989.

Coefficient estimates \( (g_{pk}) \) of event dummy variables in eq. (7) run for \( p \) portfolios \( (p = 1, 2, \ldots, 5) \):

\[
\tilde{R}_{pt} = \alpha_p + \beta_p \tilde{R}_{mt} + \sum_{k=1}^{K} g_{pk} D_{kt} + \hat{e}_{pt}
\]

\( g_{pk} \) for each portfolio \( p \) measures the effect of the corresponding characteristic on stock price reaction to event \( k \); \( t \)-statistics are in parentheses.

<table>
<thead>
<tr>
<th>Event(^b)</th>
<th>Constant term portfolio</th>
<th>RETEMP portfolio</th>
<th>DEBTA portfolio</th>
<th>MKTVAL portfolio</th>
<th>ACCRUAL portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.07</td>
<td>-0.09</td>
<td>-0.29</td>
<td>0.21</td>
<td>-0.12</td>
</tr>
<tr>
<td></td>
<td>(0.21)</td>
<td>(-0.29)</td>
<td>(-1.20)</td>
<td>(0.29)</td>
<td>(-0.49)</td>
</tr>
<tr>
<td>2</td>
<td>0.12</td>
<td>-0.06</td>
<td>-0.17</td>
<td>0.38</td>
<td>-0.04</td>
</tr>
<tr>
<td></td>
<td>(0.36)</td>
<td>(-0.24)</td>
<td>(-0.68)</td>
<td>(0.52)</td>
<td>(-0.10)</td>
</tr>
<tr>
<td>3</td>
<td>0.08</td>
<td>-0.15</td>
<td>0.04</td>
<td>0.31</td>
<td>-0.18</td>
</tr>
<tr>
<td></td>
<td>(0.24)</td>
<td>(-0.58)</td>
<td>(0.15)</td>
<td>(0.41)</td>
<td>(-0.61)</td>
</tr>
<tr>
<td>4</td>
<td>0.41</td>
<td>0.21</td>
<td>0.15</td>
<td>0.68</td>
<td>0.34</td>
</tr>
<tr>
<td></td>
<td>(1.22)</td>
<td>(0.82)</td>
<td>(0.60)</td>
<td>(0.90)</td>
<td>(1.17)</td>
</tr>
<tr>
<td>5</td>
<td>0.27</td>
<td>-0.39</td>
<td>0.03</td>
<td>0.52</td>
<td>-0.21</td>
</tr>
<tr>
<td></td>
<td>(0.82)</td>
<td>(-1.42)</td>
<td>(0.14)</td>
<td>(0.69)</td>
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<tr>
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<td>0.18</td>
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</tr>
<tr>
<td></td>
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<td>(-0.09)</td>
<td>(0.24)</td>
<td>(-0.55)</td>
</tr>
<tr>
<td>8</td>
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<td>-2.26</td>
<td>1.86</td>
<td>0.72</td>
</tr>
<tr>
<td></td>
<td>(1.31)</td>
<td>(8.87)(c)</td>
<td>(-8.78)(c)</td>
<td>(4.77)(c)</td>
<td>(2.35)(c)</td>
</tr>
<tr>
<td>9</td>
<td>0.10</td>
<td>-0.12</td>
<td>-0.16</td>
<td>-0.07</td>
<td>-0.30</td>
</tr>
<tr>
<td></td>
<td>(0.15)</td>
<td>(-0.50)</td>
<td>(-0.63)</td>
<td>(-0.09)</td>
<td>(-1.13)</td>
</tr>
</tbody>
</table>

\(^a\)RETEMP = ratio of current retirees to active employees measured in 1989.


\(^c\)MKTVAL = product of the year-end stock price and shares outstanding, averaged over 1983–1988, measured in millions.

\(^d\)ACCRUAL = 1 if firm consistently used an accrual method from 1983 to 1988, = 0 if firm consistently used the pay-as-you-go method.

\(b\)Events are described in table 3.

\(c\)Significant at the 0.01 level.
coefficients of dummy variables in one of the five portfolio regressions described by eq. (7). The dummy variable coefficients \( g_{pk} \) for each portfolio measure the effect of the corresponding firm characteristic on stock market reaction to each of the nine events.

The estimated coefficients of dummy variables reported in the second column relate to the ratio of current retirees to current employees \( (RETEMP) \). For event 8, the coefficient is positive and statistically significant at the 0.01 level as indicated by the \( t \)-statistic of 8.87. For this event, the Exposure Draft announcement, the results support Hypothesis 2 that the negative stock price impact of the proposed standard on nonpension post-retirement benefits is more pronounced for ‘less mature’ firms (stock price response is positively related to the ratio of current retirees to current employees). No other coefficient is significant in that portfolio regression; this result shows no significant cross-sectional relation between the stock returns and \( RETEMP \) on any of the other event dates.

The third column of table 5 lists the coefficients estimates for the debt portfolio \( (DEBTA) \). The coefficient for event 8 is negative and statistically significant at 0.01 as indicated by the \( t \)-statistic of \(-8.78\). This result is consistent with Hypothesis 3 for event 8, documenting that high debt-ratio stock prices decreased more in response to the proposed accounting standard. It is interesting to note that the dummy variable coefficient is not significantly different from zero for event 9 when Standard and Poor’s announced it would not downgrade debt ratings as a result of increased liabilities arising from nonpension postretirement benefits. Apparently, investors did downplay this announcement given credit ratings are not normally used in debt contracts. None of the other coefficients for the \( DEBTA \) portfolio is significantly different from zero, either.\(^{13}\)

The fourth column lists dummy variable coefficient estimates relating to the market value portfolio \( (MKTVAL) \). For event 8, this coefficient is significant at the 0.01 level based on the \( t \)-statistic of 4.77, which is consistent with Hypothesis 4 and the political cost hypothesis. By reducing net income the proposed standard reduces the political costs of large firms more than those of small firms and, as a result, the stock price reaction to the proposed standard is positively related to firm size.\(^{14}\) The coefficient estimates of the

\(^{13}\) Three additional measures of the debt ratio are used in this study: Total Long-Term Debt/Total Assets, Total Long-Term Debt/Total Common Equity, and Total Debt/Total Common Equity. The significant results in table 5 are not sensitive to these alternative debt measures. The coefficient of the dummy variable using each debt ratio is negative and significant at the 0.01 level for event 8 and all remaining results are not materially affected.

\(^{14}\) There may be an alternative explanation for this result. It is anticipated that some firms may reduce the nonpension postretirement benefits provided to their employees in order to reduce the reported expense and liability on their financial statements. These cuts could increase labor negotiation costs and these costs may be larger for small firms.
MKTLVAL portfolio are not significantly different from zero for the other events.

The last column of table 5 presents the coefficient estimates of the dummy variables in eq. (7) for the ACCRUAL portfolio. For event 8, the coefficient estimate is positive and statistically significant at the 0.01 level as indicated by the t-statistic of 2.35. As expected, for those firms using the pay-as-you-go method (ACCRUAL = 0), the abnormal portfolio return is more negative (lower) for event 8 than for those firms using an accrual method (ACCRUAL = 1). This result is consistent with Hypothesis 5 for the Exposure Draft announcement. The negative stock price impact of the Exposure Draft is more pronounced for firms with a larger difference between accrued and currently reported expense (cash payment to retirees), i.e., for firms currently using the pay-as-you-go method. Again, none of the other coefficients is significant. The results for the four portfolios show no significant cross-sectional relations between the stock returns and the firm characteristics on any event date except for the Exposure Draft announcement.

Based on the relative size of the t-statistics reported in table 5, RETEMP is the firm characteristic that has the most significant relation with stock price reaction to the Exposure Draft. This finding is consistent with the suggestions made in the field study by Dankner et al. (1989). Our study is the first to document empirical evidence of the relation between labor force maturity and the market reaction to a proposed standard. DEBTA and MKTLVAL also have a strong relation with the stock price reaction and support the contracting cost hypotheses. The firm characteristic ACCRUAL has the least pronounced relation with stock price reaction to event 8. Possibly, this result is explained by the small number of experiment firms (n = 9) that had adopted an accrual method of accounting for nonpension postretirement health benefits prior to the Exposure Draft relative to those that used the pay-as-you-go method (n = 97).

6. Conclusion

The Exposure Draft, Employers’ Accounting for Postretirement Benefits Other Than Pensions, would require a change in the manner most employers report their nonpension postretirement benefits. The proposed accrual accounting will have a significant impact on firms’ financial statements and, as a result, had drawn extensive attention from the business community and from research groups seeking to estimate the changes in reported net income, liabilities, and owners’ equity, and the effects thereof.

This study is the first to examine the impact this proposed accounting standard had on equity prices. By employing the portfolio weighting procedure proposed by Sefcik and Thompson (1986), this study provides a more powerful test of the contracting cost hypotheses and permits an evaluation of
the relative importance of different firm characteristics in explaining the market reaction to the proposed accounting standard. Of the selected nine events related to the proposed standard, the three-day abnormal return for the experiment firms measured around the Exposure Draft announcement is \(-3.02\%\) and is significantly different from zero as well as from a control portfolio's abnormal return for the same period. The abnormal returns around all other events are not significantly different from zero.

A cross-sectional analysis of the abnormal returns suggests that the negative impact of the Exposure Draft announcement on stock prices is more pronounced for firms with less mature work forces, firms with high debt ratios, small firms, and firms currently reporting these benefits on the pay-as-you-go basis. These results are consistent with the contracting cost hypotheses.

The results of this study are relevant to policy makers and parties interested in the impact this proposed standard may have on firms. It suggests that the firms most affected will be small firms with high debt ratios and relatively few current retirees. Additional analysis is warranted to examine the impact of other events (e.g., the issuance of the final statement) related to this proposed accounting standard.

References


