

Accounting choice in troubled companies*

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This paper studies accounting choice in 76 NYSE firms with persistent losses and dividend reductions (40% forced by binding covenants). We find that managers' accounting choices primarily reflect their firms' financial difficulties, rather than attempts to inflate income. Firms with and without binding covenants exhibit minor accrual differences in the ten years before the dividend reduction. In the dividend reduction and following three years, the full sample exhibits large negative accruals that likely reflect the fact that 87% of sample firms engage in contractual renegotiations – with lenders, unions, government, and/or management – that provide incentives to reduce earnings.

Key words: Financial distress; Troubled firms; Writeoffs; Losses; Accounting choice

1. Introduction

This paper investigates accounting choice in 76 financially troubled New York Stock Exchange (NYSE) firms. A number of papers study accounting choice in samples that likely contain a subset of troubled companies – see, for example, Liberty and Zimmerman (1986) and DeAngelo and DeAngelo (1991) on union negotiations, DeAngelo (1988) on proxy contests, Moyer (1990) on

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troubled banks, Healy and Palepu (1990) on firms close to violating debt constraints, Sweeney (1991) and DeFond and Jiambalvo (1994) on firms in default, Pourciau (1993) on nonroutine management changes, Jones (1991) on firms seeking government import relief, and Petroni (1992) on troubled insurance companies. The results of these studies are mixed. Liberty and Zimmerman and Healy and Palepu find no evidence of earnings management. DeAngelo, Petroni, Moyer, and Sweeney find that managers' accounting choices are systematically income-increasing in their samples. DeAngelo and DeAngelo, Pourciau, and Jones find that managers' accounting choices are income-decreasing. DeFond and Jiambalvo's results are mixed.

Our sample consists of 76 NYSE firms that reported at least three annual losses in the six-year period 1980–1985 and that reduced cash dividends. For troubled firms, i.e., those with persistent earnings problems, extant theories predict that managers' accounting choices will be systematically income-increasing. First, managers have incentives to increase reported earnings in attempts to keep their jobs and reduce intervention by the firm's board of directors and/or regulatory agencies [DeAngelo (1988), Weisbach (1988), Moyer (1990), Petroni (1992), Pourciau (1993)]. Additionally, managers of the subset of troubled firms that are close to a debt covenant violation have incentives to take income-increasing actions to avoid or defer the costs of a breach [Watts and Zimmerman (1986), Healy and Palepu (1990), Sweeney (1991), DeFond and Jiambalvo (1994)].

We selected firms whose financial problems were more than transitory¹ to minimize the chance that managers faced conflicting accounting incentives. Managers of firms whose earnings temporarily fall below the amount necessary to earn a bonus have incentives to underreport income [Healy (1985)].² In contrast, managers who expect poor earnings to persist face an immediate threat of job loss [Weisbach (1988), Gilson (1989), Gilson and Vetsuypens (1993)]. This threat, combined with the low probability of earning a profit in the near term, suggests that job preservation, and not the hope of a future bonus, is managers' main concern in troubled firms. Since every sample firm reduced dividends, managers most likely viewed their firms' earnings problems as persistent [Lintner (1956), Fama and Babiak (1968), Healy and Palepu (1988), DeAngelo, DeAngelo, and Skinner (1992)].

Our sample enables us to assess the importance of both debt covenants and financial distress in general as determinants of managers' accounting choices,

¹But not terminal, since the vast majority recovered from their financial difficulties; only three firms had filed for bankruptcy protection within two years after the dividend reduction. Our sample contains numerous large, well-known firms (such as Allis-Chalmers, Bethlehem Steel, Caterpillar, Ford, and United Airlines) that continue to operate as of this writing.

²Gilson and Vetsuypens (1993) find that troubled firms reduce reliance on accounting-based compensation schemes and that the majority do not pay bonuses.

since it consists of 29 troubled firms that initially reduced cash dividends when debt constraints were binding, and 47 troubled firms that reduced dividends without binding debt covenants. The latter firms, although clearly experiencing earnings problems, are typically a substantial distance away from a covenant-forced dividend reduction at the time managers cut dividends: the mean firm has ten and one-half years of unrestricted retained earnings available for dividends at the current payout level (median, 5.1 years). Thus, the latter firms provide a useful control sample to assess whether the accounting choices of firms with binding covenants differ from those of troubled firms without such constraints.

Our evidence indicates that managers' accounting choices primarily reflect acknowledgment of their firms' financial troubles, rather than attempts to mitigate covenant violations or to portray the firm as less troubled. For example, we find that troubled firms have persistently large negative accruals. In the dividend reduction year (year 0), mean and median accruals are -19.9% and -18.3% of pre-loss stockholders' equity – almost twice as negative as the largest corresponding figures in the ten prior years. Accruals remain reliably negative when we control for sales and cash flow performance, which is unusually poor in the dividend reduction and subsequent years. While year 0 accruals are somewhat more negative for firms with binding covenants, firms with and without binding covenants have very large negative accruals in each year 0 to 3.

In years before the dividend reduction, firms with binding covenants should have higher accruals (than control firms) because their managers have stronger incentives to inflate earnings to defer or avoid a mandatory dividend reduction.³ Since it is difficult to predict exactly when such higher accruals should occur, we provide evidence on cross-sectional accrual differences for ten years before the dividend reduction. In years -10 to -1 , only one year (year -3) shows an accrual difference that is in the predicted direction and is (marginally) significant. We also find that private debt is responsible for virtually all (25 of 29) binding covenants in our sample, although many firms have public debt as well. This finding supports the view that private debt covenants are typically set tighter than public debt covenants [Watts and Zimmerman (1986)].

We explore possible sources of the negative abnormal accruals in the dividend reduction year, and find a substantial portion is due to an abnormal inventory decline. This decline more plausibly reflects a change in managers' real economic decisions in response to financial trouble rather than earnings management. However, we also find evidence of income-decreasing accounting choices insofar as a majority of sample firms takes noncash writeoffs in the dividend reduction year that are reasonably attributable to managers' accounting discretion. For all 40 firms with such writeoffs, the median writeoff is one half beginning-of-period

³Sweeney (1991) makes an analogous prediction: managers of firms that default on their debt obligations have greater incentives to switch to more liberal accounting procedures in the five years before default than do managers of similar firms that do not default.

unrestricted retained earnings (the mean has much greater impact). For firms with binding covenants, mean and median writeoffs are sufficiently large to eliminate retained earnings available for dividends.

We investigate potential reasons why managers of troubled companies would deliberately reduce reported earnings. One possibility (on which we can provide no evidence) is that auditors force them to take noncash writeoffs. We do find, however, that 87% of sample firms engaged in contractual renegotiations – with lenders, unions, government, and/or management – that provide incentives to reduce reported earnings, and this incidence is unusually high for our sample. Managers' willingness to take writeoffs and reduce dividends can help convince lenders that managers are serious about streamlining operations. Losses and dividend reductions can help convince unions to accept wage concessions [Liberty and Zimmerman (1986), DeAngelo and DeAngelo (1991)] or the government to grant import relief [Jones (1991)]. An earnings 'bath' can help justify a management change [Moore (1973), DeAngelo (1988), Pourciau (1993)] or rationalize dividend cuts to stockholders who suspect managers of over-retaining cash [Jensen (1986)].

Although sample firms exhibit large negative accruals, sampling on the basis of losses likely selects firms whose average accruals are lower than those of troubled firms in general. Consequently, care must be exercised in generalizing our findings to troubled companies without persistent losses and dividend reductions. This selection bias is discussed in section 2, which also details sample selection procedures. Section 3 describes the accruals of the binding, control, and full samples and presents several models of abnormal accruals in the dividend reduction and subsequent years, all of which indicate accruals are reliably negative. Section 4 takes a closer look at the dividend reduction year, particularly at noncash writeoffs. Sections 5 and 6 provide evidence on several nonmutually exclusive explanations why managers of troubled firms might deliberately reduce reported income. Section 7 summarizes the paper.

2. Sample selection procedures and selection bias issues

As in DeAngelo and DeAngelo (1990), we select all nonfinancial NYSE firms on the 1986 Compustat Primary and Research Tapes with at least three years of negative net income or negative pre-tax operating income during the six-year period 1980–1985, and that are initially healthy in that they have positive income and pay cash dividends the year before the initial annual loss during 1980–1985.⁴ We also require complete per-share dividend data on Compustat

⁴We define (i) negative net income as a value less than zero for Compustat Item 18, income before extraordinary items and discontinued operations, plus Item 48, extraordinary items plus discontinued operations, and (ii) negative pre-tax operating income as a value less than zero for Compustat Item 13, operating income before depreciation, minus Item 14, depreciation expense.

for the ten years preceding the first loss during 1980–1985. This sampling procedure yields 80 NYSE firms with three or more annual losses during 1980–1985 [see DeAngelo and DeAngelo (1990) for additional descriptive data on these firms].

Our final sample consists of 76 dividend-reducing NYSE firms that reported multiple losses during 1980–1985.⁵ From the initial sample of 80 firms, we drop (i) two firms that did not reduce dividends around the time the firm began reporting losses (since the absence of a dividend reduction may indicate that managers viewed these firms' difficulties as transitory) and (ii) two firms that changed fiscal year ends around the time of the dividend reduction (because their accounting numbers are difficult to interpret). For firms with multiple dividend reductions, we focus on the initial reduction as a time when managers came to view their firms' earnings difficulties as more than temporary.

For the vast majority of our sample, the dividend reduction year on which we focus our analysis occurs early in the firm's loss period. Sixty-one (80.3%) of 76 firms announced the dividend reduction before or concurrent with announcement of their first annual loss during 1980–1985. [Of these, five announced the reduction before the first loss year, 49 announced it during that year, and seven before or with announcement of the initial loss.] Another ten firms reduced dividends after reporting one annual loss, while the remaining five firms reduced dividends after two or three annual losses. The financial troubles experienced by most sample firms, while persisting for three or more years, were not generally 'terminal', since only three firms (3.9%) had filed for bankruptcy protection within two years after the dividend reduction on which we focus here.

2.1. Selection bias issues

Because we sample for firms with reported losses, our sample is characterized by a selection bias that limits the generality of our inferences. Specifically, since earnings equal accruals plus operating cash flow, firms with net losses will tend mechanically to be firms with low accruals, independent of managers' accounting choices. [Low accrual realizations will tend to map into low earnings realizations which, in turn, increase the probability a given firm will enter our sample.] Thus, relative to troubled firms in general, our sample likely contains a larger proportion of firms with unusually low accruals. Consequently, the large negative accruals documented below likely represent a downward-biased estimate of the accruals that would characterize a broader population of troubled firms (not limited to firms with reported losses).

⁵Most sample firms experienced both net (bottom line) losses and operating losses. For example, there are only four firms without an operating loss during 1980–1985 and zero firms without a net loss during this period.

Another difficulty with our sampling algorithm is that the accruals of troubled firms are likely to be abnormally low due to (i) exogenous factors, i.e., due to firms' troubled circumstances in general, and to (ii) managers' real (as opposed to accounting) decisions undertaken in response to that trouble. For example, low accruals might indicate that managers are liquidating working capital to conserve cash in response to an unanticipated decline in the demand for their products – a decision more plausibly viewed as a real economic choice. In response to (i), we control for cash flow and sales performance in calculating abnormal accruals in an attempt to remove the effect of exogenous factors beyond managerial control. To address (ii), we analyze various accrual components in an attempt to more reliably assess whether the abnormal accruals we observe likely reflect managers' accounting choices or their real economic decisions.

Finally, because our sample period includes the early 1980s recession, managers of our firms are more likely (than during randomly selected periods) to make income-decreasing accounting decisions because they can blame the resultant adverse earnings on the general economy rather than their own policies.

2.2. Binding and control samples

Sweeney (1991) tests the hypothesis that firms that default on their debt obligations change to more liberal accounting procedures in the five years before default (more frequently than do comparable firms that do not default). We test a variant of this prediction: firms that reduce dividends in the face of binding debt covenants have differentially larger accruals in years prior to the dividend reduction (than do comparable firms that reduce dividends absent binding covenants). Of course, firms that successfully avoid a retained earnings-based covenant may do so because prior accounting choices had especially strong income-increasing effects. If so, Sweeney's and our predictions would be reversed. In either case, we expect differential accrual behavior for firms with and without binding covenants in periods prior to the violation, to the extent that covenant violations provide economically material incentives to manage earnings.

Our 76 sample firms represent two groups: (1) the *binding sample* of 29 firms that reduced dividends in the face of binding debt covenants and (2) the *control sample* of 47 firms whose year 0 dividend reductions were not forced by binding debt covenants. As in DeAngelo and DeAngelo (1990), we use annual report disclosures to classify a dividend reduction as forced by binding covenants⁶ if

⁶Although we use the term 'forced' dividend reduction, readers should note that the force comes via an income-dependent debt constraint. To the extent that income is itself partially endogenous (as we argue in this paper), a covenant-forced dividend reduction is itself somewhat discretionary to managers.

(i) end-of-period unrestricted retained earnings (*URE*) are zero, or (ii) the annual report states the firm is unable to pay dividends due to binding covenants, or (iii) *URE* plus cash dividends paid in the current year are strictly less than cash dividends paid in the immediately prior year.

The typical firm in the control sample, while clearly experiencing financial difficulties, is 'far' from a debt covenant violation in the dividend reduction year. We calculate a dividend coverage ratio as year-end unrestricted retained earnings plus any common stock dividends paid during the dividend reduction year, divided by common dividends paid during the prior year [see DeAngelo and DeAngelo (1990) and Healy and Palepu (1990) for elaboration]. As discussed in Healy and Palepu, this number can be roughly interpreted as the number of years a firm can continue to pay last year's dividend out of available retained earnings. For the 47 firms in the control sample, the average dividend coverage ratio is 10.5 years (median, 5.1 years) in the dividend reduction year.

To the extent that we have misclassified firms, the power of our tests is reduced. Misclassification is likely to be a problem for firms in the control sample that are 'close' to a covenant violation in the dividend reduction year. Nine of the 47 control firms had a dividend coverage ratio less than two in that year [Healy and Palepu's (1990) criterion for close to a violation]. Ten of the 47 control firms had dividend reductions in subsequent years that were forced by binding covenants. The union of the two groups is 14 firms, hence as many as 29.8% of the 47 control firms may have reduced year 0 dividends to avoid *future* binding covenants. In response, we re-ran all tests (i) deleting the 14 firms from the control group and (ii) deleting the 14 firms from the control group and adding them to the binding group, and the results do not change in any material way from those reported in tables 1 and 2 below.

For an ideal test of the debt covenant hypothesis, our control and binding samples would differ only in the extent to which their debt covenants are binding. In other words, we would like the control sample to contain firms whose financial difficulties and other relevant attributes (e.g., size, leverage, industry, and calendar year of the dividend reduction) are essentially the same. As it turns out, however, firms in the binding sample are smaller and somewhat more highly levered than control firms.⁷

Although the combined sample of 76 firms exhibits time clustering of dividend reductions, there is no apparent difference across the binding and control samples. Of the 76 dividend reductions in the combined sample, 36 occurred in 1982, a major recession year. The 47.4% incidence of dividend reductions in 1982 is over twice as high as the 21.1% incidence in 1981 and the 18.4%

⁷The median binding sample firm has a \$71 million year 0 market value of equity (book value, \$79 million), versus \$178 million (book value, \$232 million) for control firms (difference significant at the 0.02 level). In total assets and sales, binding sample firms are smaller, but not generally reliably so. There are no material differences in long-term debt to total assets, although the binding sample sometimes has a reliably higher total debt to total assets ratio.

incidence in 1980. The incidence of dividend reductions in our sample is large relative to that for public firms, both for 1982 and for 1980–1985.⁸

Although the combined sample exhibits industry clustering, there is again no apparent difference across the binding and control samples. Of the 76 firms in the combined sample, 31 are in eight four-digit SIC codes. There are eight firms in 3310, blast furnaces and steel works; five in 3330, smelting/refining of nonferrous metals; four in 1040, gold and silver ores; four in 3540, metal-working machinery and equipment; four in 4511, air transport; three in 1211, bituminous coal and lignite; and three in 3241, cement, hydraulic. The remaining 45 firms are in 37 different industries. Membership in a troubled industry (and economy) can help managers rationalize low earnings and dividend reductions as due to events beyond their control rather than to their own poor performance.⁹

2.3. Earnings and cash flow performance

Table 1 reports mean and median earnings and operating cash flow¹⁰ for the binding, control, and combined samples in years -10 through $+3$ relative to the dividend reduction, and significance levels for t - and Wilcoxon tests of differences across the binding and control samples. All variables (earnings, cash flow, and subsequently reported accruals) are standardized by beginning-of-period book value of stockholders' equity in each year from -10 through the year before the firm's first loss during 1980–1985. For all subsequent years, they are standardized by stockholders' equity the year before the first loss (to avoid artificially inflating the variables as stockholders' equity is decreased by losses over time). We repeat all tests deflating by sales, with virtually no differences in our inferences (the few minor differences are discussed below).

Consistent with our sampling criteria, table 1 shows a large decline in year 0 earnings for the sample of 76 firms, with mean and median earnings negative through year 3. Cash flow falls dramatically in year 0, but recovers to its pre-dividend cut level in year 3. Mean and median cash flow in years 0, 1, and 2 are about half their levels in the prior ten years, with the year 0 cash flow decline significant at the 0.027 level under a t -test and at the 0.011 level under a Wilcoxon test (not reported in table 1). Although mean and median earnings

⁸For 8,500 publicly held stocks, *Moody's Dividend Record* reports an average incidence of dividend reductions of 4.3% per year over 1980–1985, with yearly rates ranging from 2.9% in 1980 to 7.5% in 1982.

⁹DeAngelo and DeAngelo (1990, table III) report that, after earnings problems, weak product markets and a general economic downturn are the most common reasons managers cite for dividend reductions.

¹⁰Cash flow is measured as Compustat Item 110, funds from operations, minus the change in Item 2, accounts receivable, minus the change in Item 3, inventories, minus the change in Item 68, other current assets, plus the change in Item 70, accounts payable, plus the change in Item 71, taxes payable, plus the change in Item 72, other current liabilities.

are negative for the full sample in *each* year 0 to 3, mean and median cash flows are positive in each of those years. A possible explanation is that sample firms are liquidating working capital because of a decline in demand.

The earnings of binding and control firms are similar in years -10 through -2 . In year -1 , the binding sample's mean (median) earnings of -1.0% (2.5%) of stockholders' equity are reliably lower than the 9.3% (8.2%) for control firms at the 0.02 (0.01) level, but the mean difference is insignificant under the sales deflator. This difference reflects the fact that firms in the binding sample reduce dividends a bit later relative to their first loss than do control firms.¹¹ There is some indication that binding sample firms have lower earnings in year 0 as well, although this difference disappears when we deflate by sales. Beyond year 0, there is little indication of earnings differences across the samples. There is no material operating cash flow difference in almost all of the ten years before through three years after the dividend reduction.

Overall, earnings and cash flow performance are remarkably similar across the binding and control samples in years -10 to $+3$. The notable exception is year -1 (and arguably year 0) in which earnings of the binding sample are lower than those of control firms. This finding suggests that firms that reduce dividends in the face of binding covenants exhibit earlier and deeper earnings problems than do firms that reduce dividends absent such constraints. Also, sample firms with binding covenants are smaller and somewhat more highly levered than firms whose dividend reductions are voluntary. Otherwise, our binding and control samples exhibit no material differences in earnings or cash flow, industry affiliation, or in calendar year of the dividend reduction.

3. Accrual analysis: Binding, control, and combined samples

Managers of firms whose year 0 dividend reductions were forced by binding debt covenants have incentives to differentially inflate earnings in prior years in attempts to defer or avoid the mandatory reduction. A significant problem in testing this prediction is that it is difficult to know in which particular year(s) such earnings management will occur. One approach [similar to that adopted by Sweeney (1991) to study accounting procedure choice prior to default] is to examine a time-series of annual accruals that extends sufficiently far back to capture the effect of all covenant-related attempts to inflate earnings. A short-coming of this approach is that it may fail to detect earnings management because different subsets of firms manipulate income in different years. Nonetheless, this approach seems the most reasonable, at least until researchers can

¹¹The average binding sample firm reduced dividends in the first quarter after the initial loss year, whereas the average control sample firm reduced dividends in the third quarter of the first loss year.

Table 1

Earnings and cash flow for binding, control, and combined samples: NYSE firms with binding and nonbinding debt covenants that reduced dividends and reported multiple losses during 1980-1985.

Year 0 is the year of the firm's initial dividend reduction during 1980-1985. Earnings and cash flow are standardized by beginning-of-period book value of stockholders' equity in years -10 through the year before the firm's first loss during 1980-1985. For later years, they are standardized by book equity the year before the first loss (to avoid artificially inflating the variables as book equity is decreased by reported losses over time). The parametric *p*-value is the two-tailed significance level under a *t*-test for the comparison of means, while the nonparametric *p*-value is the significance level under a Wilcoxon rank sum test. Both binding and control samples have complete earnings data for years -10 through +2. For year +3, the binding and control samples are, respectively, missing one and two earnings observations. For years -10, +2, and +3, the binding sample is missing three, two, and three cash flow observations. For years -10, -9, +2, and +3, the control sample is missing twelve, two, one, and one cash flow observations. All data are from Compustat.

	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	+1	+2	+3
Earnings levels														
<i>Binding (n = 29)</i>														
Mean (%)	7.1	9.1	11.7	6.6	6.6	10.9	12.9	12.0	9.0	-1.0	-17.8	-15.6	-13.7	-2.6
Median	8.6	9.6	10.9	8.8	8.5	11.7	12.2	10.7	9.5	2.5	-9.4	-9.1	-5.3	0.5
<i>Control (n = 47)</i>														
Mean (%)	4.6	8.7	13.1	10.8	11.3	8.5	10.3	8.4	13.7	9.3	-8.8	-9.0	-8.9	-12.4
Median	7.5	9.6	13.6	11.2	11.9	8.3	10.0	11.7	11.3	8.2	-5.2	-6.0	-9.0	-4.2
<i>Combined (n = 76)</i>														
Mean (%)	6.1	8.9	12.6	9.2	9.5	9.4	11.3	9.8	11.9	5.4	-12.2	-11.6	-10.8	-9.0
Median	8.8	9.6	12.4	10.5	10.7	10.8	11.1	11.7	10.0	6.2	-6.7	-7.3	-9.0	-3.6
<i>Comparison test p-values</i>														
Parametric	0.36	0.89	0.70	0.31	0.14	0.19	0.24	0.48	0.22	0.02	0.08	0.18	0.39	0.06
Nonparametric	0.71	0.64	0.37	0.15	0.05	0.09	0.06	0.85	0.62	0.01	0.06	0.25	0.69	0.17

Cash flow levels														
<i>Binding (n = 29)</i>														
Mean (%)	12.5	15.1	24.0	20.4	17.2	22.5	20.3	14.0	13.9	14.3	6.2	7.7	13.3	19.6
Median	11.1	13.2	14.0	22.2	18.5	18.5	19.6	12.5	16.4	9.6	10.8	9.2	14.4	14.1
<i>Control (n = 47)</i>														
Mean (%)	18.9	13.9	15.9	15.6	18.9	18.1	20.5	19.2	20.5	18.6	8.5	8.8	6.9	14.6
Median	15.0	15.7	15.3	15.4	17.5	15.2	17.9	18.0	19.1	15.6	6.2	9.6	8.3	7.7
<i>Control (n = 76)</i>														
Mean (%)	16.2	14.4	19.0	17.4	18.2	19.8	20.4	17.2	18.0	17.0	7.6	8.4	9.3	16.4
Median	13.5	14.8	14.9	17.1	17.6	16.7	19.1	16.4	18.4	14.6	7.7	9.6	9.5	8.5
<i>Comparison test p-values</i>														
Parametric	0.16	0.82	0.33	0.37	0.73	0.44	0.96	0.26	0.09	0.52	0.67	0.86	0.24	0.57
Nonparametric	0.09	0.75	0.65	0.16	0.72	0.26	0.77	0.06	0.21	0.33	0.68	0.96	0.05	0.47

more precisely pinpoint the time when managers have both strong incentives and opportunities to inflate income to mitigate covenant violations.

We first present accrual levels and changes. Accruals are calculated from Compustat data as net income minus operating cash flow, as defined in Bowen, Burgstahler, and Daley (1986) – see footnote 10 for details. The advantage of this cash flow definition is that it adjusts for all major working capital items. Because our firms' cash flow deteriorates markedly in year 0, we next analyze accrual prediction errors that adjust for the contemporaneous cash flow and sales decline. This approach attempts to control for 'nondiscretionary' accruals, i.e., the portion of total accruals that is currently beyond managerial control [DeAngelo (1986)].

Managers likely alter their real, as well as their accounting decisions in response to financial distress, and such alterations can also impact the behavior of accruals. Thus we analyze not only abnormal accruals and accrual prediction errors, but also the components of accruals, e.g., working capital accruals, depreciation + deferred income taxes, and the accruals that remain after the first two components are removed. Our accrual components analysis focuses on noncash writeoffs that are not associated with any transaction (hence whose timing is more likely to reflect managers' accounting discretion).

Table 2 reports accrual levels and changes for the binding and control samples for years -10 through $+3$, and p -values for tests of differences across the samples. Over years -10 to -6 , the year -9 accrual changes are significantly different (under the parametric test only, and the sign is opposite to that predicted). Over years -5 to -1 , there is no significant difference in four years, and at most a marginally significant difference in year -3 . Since random variation could easily generate a marginally significant difference in one of five years, these data seem most consistent with the view that there is little difference in the accruals of the two samples in years before the dividend reduction.

In subsequent years, there are at most relatively minor differences in accrual levels and changes across the two samples. In terms of point estimates, mean and median accrual levels are more negative for binding firms in years 0 through 3, but the differences are not statistically significant. The strongest indication of a difference comes in year 0 when the -23.5% median accrual for the binding sample is reliably more negative (at the 0.02 level) than the -12.6% median accrual for the control sample (parametric p -value = 0.35).

Our finding of at best minor accrual differences across binding and control samples suggests that financial trouble broadly construed (rather than a covenant violation per se) is the primary determinant of these firms' accruals. This interpretation is supported by table 3, which reports year-by-year accrual levels and changes for the full sample. The table shows that, in year 0, mean and median accruals are -19.9% and -18.3% of stockholders' equity, numbers that are almost twice as negative as the largest corresponding figure in all ten prior years. Comparably large negative accruals persist for the three following years.

Table 2

Accrual levels and changes for binding and control samples: NYSE firms with binding and nonbinding debt covenants that reduced dividends and reported multiple losses during 1980-1985.

Year 0 is the year of the firm's initial dividend reduction during 1980-1985. Accrual levels and changes are standardized by beginning-of-period stockholders' book equity in years -10 through the year before the firm's first loss during 1980-1985. For later years, they are standardized by book equity the year before the first loss (to avoid artificially inflating the variables as book equity is decreased by reported losses over time). The parametric p -value is the two-tailed significance level under a t -test for the comparison of means, while the nonparametric p -value is the significance level under a Wilcoxon rank sum test. Both binding and control samples have complete accruals data for years -8 through +1. For years -10, +2, and +3, the binding sample is missing three, two, and three accrual observations. For years -10, -9, +2, and +3, the control sample is missing twelve, two, one, and one observations. All data are from Compustat.

	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	+1	+2	+3
Accrual levels														
<i>Binding (n = 29)</i>														
Mean (%)	-4.9	-6.0	-12.3	-13.8	-10.6	-11.6	-7.3	-2.0	-4.9	-15.3	-23.9	-23.4	-26.9	-22.6
Median	-3.4	-8.2	-5.0	-13.0	-4.8	-11.1	-8.9	-2.6	-5.7	-11.5	-23.5	-27.3	-19.1	-17.0
<i>Control (n = 47)</i>														
Mean (%)	-13.9	-5.1	-2.8	-4.7	-7.5	-9.6	-10.2	-10.8	-6.8	-9.3	-17.3	-17.9	-16.1	-27.0
Median	-7.3	-6.5	-2.4	-4.3	-5.7	-9.0	-8.4	-6.3	-7.6	-8.6	-12.6	-15.9	-16.3	-19.5
<i>Comparison test p-values</i>														
Parametric	0.10	0.85	0.14	0.18	0.62	0.72	0.50	0.16	0.66	0.40	0.35	0.43	0.09	0.58
Nonparametric	0.08	0.87	0.27	0.07	0.94	0.64	0.91	0.07	0.70	0.30	0.02	0.15	0.43	0.29
Accrual changes														
<i>Binding (n = 29)</i>														
Mean (%)	n.a.	-0.7	-7.5	2.3	5.9	-2.1	2.0	4.4	-3.3	-9.8	-8.6	0.6	0.2	2.5
Median	n.a.	0.5	1.2	2.0	-2.8	-4.3	2.5	5.2	-1.2	-9.3	-8.7	-8.0	4.5	-2.4
<i>Control (n = 47)</i>														
Mean (%)	n.a.	10.8	1.6	-1.5	-3.5	-2.3	-1.5	-1.9	3.6	-2.8	-8.1	-0.5	2.3	-11.0
Median	n.a.	4.6	0.3	-1.8	-1.4	-0.7	-1.7	1.1	-1.8	2.0	-7.3	-2.0	-0.6	-1.9
<i>Comparison test p-values</i>														
Parametric	n.a.	0.04	0.15	0.67	0.17	0.97	0.53	0.28	0.34	0.37	0.97	0.87	0.76	0.19
Nonparametric	n.a.	0.12	0.65	0.97	0.29	0.91	0.13	0.10	0.81	0.17	0.87	0.77	0.80	0.63

Table 3
 Accrual levels and changes for 76 NYSE firms that reduced dividends and reported multiple losses during 1980–1985.

Year 0 is the year of the firm's initial dividend reduction during 1980–1985. Accrual levels and changes are standardized by beginning-of-period stockholders' book equity in years -10 through the year before the firm's first loss during 1980–1985. For later years, they are standardized by book equity the year before the first loss (to avoid artificially inflating the variables as book equity is decreased by reported losses over time). The second panel reports accrual changes relative to the level of accruals in the immediately prior year. The third panel reports accrual changes relative to the level of accruals two years before the firm's initial loss during 1980–1985 (standardized by stockholders' equity for the year of the benchmark accrual). The parametric *p*-value is the two-tailed significance level under a *t*-test of the hypothesis that the mean is zero, while the nonparametric *p*-value is the significance level under a Wilcoxon test of the hypothesis that the median is zero. All firms have complete accruals data for years -8 through +1. For years -10, -9, +2, and +3, the sample is missing fifteen, two, three, and four accrual observations. All data are from Compustat.

	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	+1	+2	+3
<i>Accrual levels</i>														
Mean (%)	-10.0	-5.4	-6.4	-8.2	-8.7	-10.4	-9.1	-7.5	-6.1	-11.6	-19.9	-20.0	-20.1	-25.4
Median	-6.4	-7.2	-2.9	-5.0	-5.7	-10.1	-8.8	-4.7	-7.1	-8.8	-18.3	-18.9	-17.0	-17.9
<i>Significance test p-values</i>														
Parametric	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01
Nonparametric	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
<i>Accrual changes</i>														
Mean (%)	n.a.	5.9	-2.0	0.0	0.1	-2.2	-1.7	0.5	1.0	-5.5	-8.3	-0.1	1.5	-6.1
Median	n.a.	1.1	0.6	0.1	-1.7	-1.0	0.0	2.5	-1.6	-1.5	-7.5	-3.7	2.0	-1.9
<i>Significance test p-values</i>														
Parametric	n.a.	0.05	0.45	0.99	0.98	0.31	0.94	0.88	0.80	0.10	0.10	0.97	0.61	0.19
Nonparametric	n.a.	0.09	0.85	0.53	0.51	0.39	0.98	0.25	0.26	0.30	0.01	0.50	0.48	0.21
<i>Accrual changes from pre-loss level</i>														
Mean (%)											-14.8	-14.9	-15.7	-21.2
Median											-11.0	-15.0	-9.8	-13.0
<i>Significance test p-values</i>														
Parametric											0.01	0.01	0.01	0.01
Nonparametric											0.01	0.01	0.01	0.01

In year 0, the -8.3% mean accrual change is significant at the 0.10 level, while the -7.5% median change is significant at the 0.01 level. These figures probably understate the true extent to which the year 0 accrual is abnormally negative, since there is evidence that the accrual decline began in year -1 . Hence we next estimate the normal accrual in year 0 as its level two years before the firm's initial loss.¹² The abnormal accrual equals the year 0 accrual minus its estimated normal value, all deflated by stockholders' equity in the year of the normal accrual. This procedure is also a sensible check on accrual changes, given Dechow's (1992) finding that accruals exhibit mean reversion in her sample. Under this procedure, the year 0 mean abnormal accrual is -14.8% and the median is -11.0% , both significant at the 0.01 level.

For years 1, 2, and 3, table 3 reports respective mean abnormal accruals of -14.9% , -15.7% , and -21.2% , and median values of -15.0% , -9.8% , and -13.0% , with all values different from zero at the 0.01 level. The fact that we observe persistently large negative accruals suggests that such accruals are related to sample firms' ongoing difficulties, and are not simply characteristic of a single year in which they reduce dividends or have binding covenants. Inferences drawn under this procedure provide an important check on those drawn from year-to-year accrual changes, since accrual changes underestimate abnormal accruals for firms whose immediately prior period accruals have fallen to an abnormally low level.

Since the typical sample firm had a material cash flow decline in year 0 (table 1), the negative abnormal accruals reported in table 3 might primarily reflect an exogenous decline in real economic performance. To control for such a decline, we analyze accrual levels in years 0 through 3 relative to those predicted by models that link the normal accrual level to the contemporaneous level of cash flow or sales, which are taken as proxy measures of exogenous performance.¹³ We emphasize results using sales as the measure of exogenous performance since selection bias issues (see section 2) suggest that cash flow is a less-than-perfect measure of exogenous performance for our sample.¹⁴

Table 4 reports accrual prediction errors for years 0–3 from regression models that relate accruals to cash flow or sales. For each firm, we estimate coefficients

¹²The initial loss year and the dividend reduction year are the same for 49 sample firms. Five firms reduced dividends before the initial loss year, while 22 reduced them after that year.

¹³Neither sales nor cash flow is likely to be totally exogenous. For example, sales reflect managerial decisions to accelerate or delay revenue recognition, while cash flow reflects managerial decisions to increase or decrease working capital. Nonetheless, sales and cash flow would seem to be among the most exogenous of possible proxies for real economic performance.

¹⁴We are concerned that, by sampling for low earnings firms, we have chosen firms whose accruals and cash flows are both unusually low. If so, cash flow is not a good indicator of exogenous performance, and the cash flow model could mechanically generate negative accrual prediction errors. This logic suggests that results under the sales model probably better measure abnormal accruals.

Table 4

Accrual prediction errors for year of initial dividend reduction (year 0) and for the three subsequent years for 76 NYSE firms that reduced dividends and reported multiple losses during 1980-1985.

For each firm, we first estimate a time-series regression of accruals (standardized by stockholders' book equity) on a constant and, depending on the model specification, either contemporaneous standardized cash flow or sales. These regressions employ the ten years (or nine or eight years, depending on availability) of accrual and cash flow or sales data for the years immediately prior to year 0 (i.e., years -1, -2, etc.). The estimated coefficients are then used to generate accrual prediction errors for years 0 through 3 based on the actual standardized accruals and cash flow or sales for each particular year. The *t*-statistic is to assess the hypothesis that the mean accrual prediction error for a given year equals zero where the test statistic employs the cross-sectional dispersion in prediction errors for that year. The Wilcoxon *p*-value is for a nonparametric test of the hypothesis that the cross-sectional distribution of prediction errors in a given year is centered about zero. All data are drawn from Compustat.

	Year 0		Year 1		Year 2		Year 3	
	Cash flow	Sales	Cash flow	Sales	Cash flow	Sales	Cash flow	Sales
Mean accrual prediction error	-0.191	-0.084	-0.189	-0.100	-0.187	-0.104	-0.185	-0.155
Median accrual prediction error	-0.155	-0.087	-0.159	-0.042	-0.175	-0.082	-0.127	-0.102
Percent of sample with negative values	89.5%	68.4%	89.5%	61.8%	84.9%	64.4%	83.3%	79.2%
<i>t</i> -statistic	-7.96	-2.24	-8.14	-3.00	-8.11	-3.14	-6.50	-3.65
Wilcoxon <i>p</i> -value	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Number of observations	76	76	76	76	73	73	72	72

from a time-series regression of accruals standardized by stockholders' equity on a constant and contemporaneous standardized cash flow or sales. The regressions use the ten years (or nine or eight years, depending on availability) of accrual and sales or cash flow data for years immediately before year 0. The firm-specific coefficients generate accrual prediction errors based on actual accruals and cash flow or sales for years 0–3.

The table 4 accrual prediction errors indicate that sample firms have abnormally negative accruals in years 0 through 3 after controlling for exogenous poor performance.¹⁵ For example, under the sales model, the year 0 mean accrual prediction error is -0.084 , the corresponding median is -0.087 , and 68.4% of the observations are negative. The year 0 mean and median prediction errors are significantly negative at conventional levels (t -statistic = -2.24 and Wilcoxon p -value < 0.01). Similar findings characterize years 1 through 3. Additionally, we find no evidence of materially higher accrual prediction errors for the binding sample relative to the nonbinding sample in years 0 through 2 and only a hint of such a difference in year 3 (details not reported in the table).

In sum, the prediction error analysis reinforces our earlier accrual findings: after controlling for sales or cash flows, the full sample exhibits statistically significant negative accrual prediction errors for years 0–3, and there are no notable differences across firms with and without binding covenants.

There are two (not mutually exclusive) interpretations for the finding that the combined sample of 76 troubled companies has negative abnormal accruals during the period they experience earnings problems. The first is that these accruals reflect managers' 'real' (versus accounting) responses to financial trouble. Our section 4 analysis suggests that a portion of these accruals is indeed attributable to real decisions. The second is that the negative accruals reflect managers' accounting choices. We explore this possibility in sections 5 and 6, and provide evidence that 87% of sample firms engage in contractual renegotiations – with lenders, unions, the government, and/or management – that provide incentives to reduce reported income. Overall, our analysis indicates that sample firms' negative accruals reflect both real and accounting decisions.

¹⁵Because of concern over possible dependence in prediction errors, we also ran these tests employing an error components analysis of pooled time-series and cross-sectional regression specifications. In these regressions, the dependent variable is standardized accruals and the independent variables are a constant, standardized sales (or cash flow, depending on the model), and a dummy variable that takes a value of one in years beginning with the dividend reduction year and zero otherwise. Both sales and cash flow models yield coefficients on the dummy variable that are negative and substantially more significant than those in table 4 – i.e., both indicate unusually negative accruals (after controlling for sales or cash flow performance) beginning with the dividend reduction year.

4. Accounting choice in troubled companies: A closer look

In an earlier draft, we sought to identify the source of sample firms' negative abnormal accruals by partitioning year 0 accruals into working capital and nonworking capital components. We found that the negative accruals are driven by two factors. The first is a large abnormal inventory decline that is significant under all statistical tests. This inventory decline probably largely reflects managers' real responses to troubled firms' economic circumstances rather than attempts to influence reported earnings.¹⁶ The second factor is the abnormal accrual that remains after we *exclude* all changes in working capital, depreciation, and deferred taxes, which is significant under three of four tests.

The latter finding suggests that the negative abnormal accruals in the dividend reduction year also reflect managers' accounting choices. Specifically, they incorporate noncash writeoffs whose timing and/or magnitude are typically seen as discretionary.¹⁷ To assess whether our sample's year 0 writeoffs are plausibly viewed as discretionary, we inspect annual reports for all 76 sample firms after initially identifying writeoffs from Compustat Items 17 (special items) and 48 (extraordinary items plus discontinued operations).¹⁸ Following Elliott and Shaw (1988), we exclude as nondiscretionary all amounts from actual transactions. This approach is conservative since, e.g., it treats pension terminations and debt/equity swaps as not accounting-motivated, although prior studies argue otherwise [see Hand (1989), Hand, Hughes, and Sefcik (1990), Healy and Palepu (1990)].

Table 5 indicates that 40 (52.6%) of our 76 sample firms had noncash writeoffs (that did not result from a transaction) in the dividend reduction year. The timing of writedowns of productive assets (ten firms), investments (four firms), and restructuring costs (two firms) seems likely discretionary, since these charges are not related to a particular economic event.¹⁹ Provisions for losses on

¹⁶Inventory reductions are likely economic responses to financial trouble, e.g., a decline in demand for the firm's products. The average sample firm had a 6.5% sales decline in year 0 (median decline, 12.5%). Such a decline should be met with an initial exogenous build-up and subsequent endogenous reduction as managers adjust inventory for the new level of demand and to conserve cash.

¹⁷See Strong and Meyer (1987), Elliott and Shaw (1988), 'Accountants Debate Tightening Rules for 'Big Bath' Writeoffs by Companies', *The Wall Street Journal*, February 11, 1986, 'Big Bath? Or a Little One?', *Forbes*, October 6, 1986, 'The Half a Hit Gambit', *Forbes*, December 31, 1984, and 'Rumplestilzchen Accounting', *Forbes*, February 24, 1986. The Financial Accounting Standards Board is currently considering tightening the accounting rules for impairment of long-lived assets because of the degree of managerial discretion they permit.

¹⁸The year 0 mean values of Item 17 and Item 48 are -2.3% and -2.1% of pre-loss stockholders' equity, and both medians are zero.

¹⁹Judgment is required to classify a given noncash writeoff as discretionary and, when in doubt, we took a conservative approach. [For example, we did not consider as discretionary Asarco's \$51.1 million writeoff in the 1982 third quarter of its entire investment in Revere Copper and Brass, which

Table 5

Nature of 40 discretionary noncash writeoffs in the year of initial dividend reduction for 76 NYSE firms that reduced dividends in response to financial difficulties during 1980–1985.

Discretionary noncash writeoffs are defined as those that do not result from an actual transaction, and are identified by inspection of annual report disclosures. Firms with more than one type of writeoff are classified based on the writeoff of the largest dollar magnitude, if disclosed, and otherwise on our judgment of the predominant type of writeoff.

Nature of discretionary writeoff	# of cases	% of writeoffs
Provision for losses on plant, mine, or store closings	19	47.5%
Writedown of productive assets	10	25.0%
Provision for losses on operations to be sold	5	12.5%
Writedown of investment	4	10.0%
Provision for restructuring costs (various)	2	5.0%
Total writeoffs	40	100.0%

operations to be sold (five firms) require the expectation of an ultimate sale, but their timing seems largely discretionary since they can be reversed in future periods if a sale does not occur. The timing of the 19 provisions for losses on plant, mine, or store closings seems less clearly discretionary, since these earnings charges are linked to a visible event.

Closer inspection reveals that the timing of these earnings charges bears no necessary relation to the actual plant or store closing, and is therefore likely discretionary. Specifically, closings generate earnings charges when management announces they are *permanent*, which can occur well before or after the actual closing. For example, less than a month before its December 1982 year end, Hanna Mining announced a \$35 million charge for the permanent closure of a facility that had been idle since January 1981. In contrast, three days before its December 1982 year end, Bethlehem Steel announced a \$1 billion charge for plant closings that were anticipated by the end of the next fiscal year. In both cases, managers plausibly could defer the earnings charges into the next fiscal year by delaying announcement that the closure was expected to be permanent.

had filed for Chapter 11. Asarco announced a plan to sell its stake to an investment banker on the last day of the 1982 fiscal year, so we considered this a transaction.] We also examined the full set of Compustat reported special items (Item 17) and extraordinary items and discontinued operations (Item 48). The means and medians are dampened relative to those for unusual items classified here as discretionary (probably because the full set includes unusual items from transactions that occur at a gain). There are no significant differences across the binding and control samples for the full set of Compustat-reported unusual items.

Table 6

Magnitude and timing of 40 discretionary noncash writeoffs in the year of initial dividend reduction for 76 NYSE firms that reduced dividends in response to financial difficulties during 1980–1985.

Discretionary noncash writeoffs are defined as those that do not result from an actual transaction, and are identified via inspection of annual report disclosures.

(A) Magnitude of discretionary noncash writeoffs			
	Mean	Median	Range of values
Writeoff (\$ millions)	−82.7	−24.4	−1,050.0 to −0.7
Earnings (\$ millions)	−109.5	−28.8	−1,469.6 to +83.8
Writeoff as % of the absolute value of earnings	−172.5%	−74.4%	−2,800.0% to −14.7%
Writeoff as % of pre-loss stockholders' equity	−16.6%	−9.9%	−66.3% to −0.8%

(B) Timing of discretionary noncash writeoffs		
Quarter	# of writeoffs	% of total writeoffs
First	0	0.0%
Second	2	5.0%
Third	5	12.5%
Fourth	33	82.5%
Total	40	100.0%

Table 6 reveals that the year 0 noncash writeoffs are large, both in absolute terms and relative to earnings and to pre-loss stockholders' equity.²⁰ The average writeoff is −\$82.7 million (median, −\$24.4 million), with a range of −\$1.05 billion to −\$0.7 million. The average writeoff comprises −172.5% (median, −74.4%) of the year 0 absolute value of earnings, and is −16.6% (median, −9.9%) of pre-loss stockholders' equity.

For the 29 sample firms with binding debt covenants, the mean and median writeoff is sufficient to *eliminate* retained earnings available for dividends at the beginning of year 0. For these 29 firms, the median noncash writeoff totals −134.1% of beginning-of-period *URE* (mean, −414.7%). For all 40 firms that took writeoffs in year 0, the median writeoff is −54.5% of beginning-of-period *URE* (mean, −215.1%), which is a material fraction of earnings available for dividends. Writeoffs taken by firms whose covenants are already binding have

²⁰Special items (Item 17) are reported gross of tax, while extraordinary items plus discontinued operations (Item 48) are reported net of tax. To make the figures comparable, we added tax amounts to Item 48 amounts, so that all writeoff data in table 6 are pre-tax [as in Elliott and Shaw (1988)].

no impact on the firm's current ability to pay dividends but, since debt covenants are typically based on cumulative earnings, writeoffs dig a deeper 'hole' out of which the firm must climb before it can resume dividend payments.²¹

Panel B of table 6 indicates that 82.5% of the noncash writeoffs are taken in the fourth fiscal quarter. [When writeoffs occur in multiple quarters, we assign all to the quarter with the largest dollar writeoff.] This incidence of fourth-quarter writeoffs is somewhat larger than the 62.9% reported by Elliott and Shaw (1988). Fourth-quarter writeoffs seem more likely to be discretionary since managers can better estimate annual earnings at that time (hence the adjustment needed to reach a given earnings target). They may also indicate the involvement of independent auditors in the financial reporting process.

5. Monitoring explanations for income-decreasing accounting choices

5.1. *Monitoring by independent auditors*

If managers of troubled firms do deliberately decrease reported income, what circumstances provide the economic incentives to do so? One possibility is that these managers are forced to take earnings charges by auditors for whom a dividend reduction signals increased audit risk, and who respond with the threat of a qualified opinion. Of the 76 firms, 65 received clean audit opinions in the dividend reduction year, and only two (Republic Airlines and Western Union) received going-concern qualifications. It is, of course, possible that most firms received clean opinions because they complied with auditor-mandated writeoffs. On the other hand, auditors of large, well-established firms like Ford and Caterpillar unlikely perceive sufficiently great audit risk to force discretionary writeoffs before the firm generates a track record of losses.²² While both arguments have merit, we cannot resolve the issue because we cannot observe the extent of auditor involvement in noncash writeoffs.

5.2. *Monitoring by lenders*

Another plausible explanation for noncash writeoffs is that troubled firms are subject to careful monitoring by private lenders. Once lenders are alerted to the prospect of financial difficulty because, e.g., a given client reports losses and/or reduces dividends, they perceive greater benefits from monitoring management

²¹Noncash writeoffs were taken by 22 (46.8%) of the 47 firms that reduced dividends even though covenants were not binding. For these firms, writeoffs tighten covenants when financial troubles clearly put pressure on the dividend.

²²Kellogg (1984, pp. 196–197) reports that federal courts view the writeoffs we analyze (e.g., revisions of realizable values) as subjective, and are less likely to hold auditors liable for failing to force these writeoffs.

and will therefore more readily 'see through' accounting ploys designed to paint a rosier-than-warranted financial picture. Managers who attempt to evade their covenants or who otherwise reveal a failure to face up to the firm's difficulties lose credibility with lenders, thereby endangering important financing sources at a critical time. In this view, managers of troubled firms have incentives to take discretionary writeoffs that signal to lenders their willingness to acknowledge and deal with the firm's problems.

Close monitoring by lenders seems virtually certain for the 29 firms with binding covenants. For the remaining 47 firms, the *WSJ Index* and annual reports indicate that 15 held negotiations with lenders by the end of the year after the dividend reduction. Thus, for 44 (57.9%) of the 76 sample firms, we find evidence that lenders were aware of the firm's financial problems, and hence had enhanced incentives to more closely monitor its reported financial performance.

We also find that private loan agreements are responsible for virtually all binding covenants in our sample. Table 7 reveals that about half the firms (44.8% with forced and 61.7% with voluntary dividend reductions) had public debt. However, it also indicates that public debt was the source of the covenant

Table 7

Public versus private debt: Source of binding debt covenants for 76 NYSE firms that experienced protracted financial distress during 1980–1985.

These debt classifications are based on information in company annual reports, *Moody's* manuals, and the *Wall Street Journal* for the year of the firm's initial dividend reduction. The figures in panel B refer to the source of binding covenants for the 29 firms whose initial dividend reductions were subject to binding constraints.

	Number of firms (% of subsample)	
	Covenants binding	Covenants not binding
(A) <i>Type of long-term debt</i>		
Public and private debt	13 (44.8%)	29 (61.7%)
Private debt only	15 (51.7%)	16 (34.0%)
No long-term debt	1 (3.5%) ^a	2 (4.3%)
Total	29 (100.0%)	47 (100.0%)
(B) <i>Source of binding debt constraint</i>		
Public debt	2 (6.9%)	n/a
Private debt	25 (86.2%)	n/a
Cannot determine	2 (6.9%)	n/a
Total	29 (100.0%)	n/a

^aAlthough this firm had no long-term debt outstanding, it was forced by creditors to reduce its dividend because it had guaranteed the debt issued by a former subsidiary it had just sold to subsidiary management.

violation for only two of the 29 firms with forced dividend reductions.²³ The finding that private debt agreements are responsible for almost all forced dividend cuts in our sample suggests that private lenders play a monitoring/leadership role in troubled firms because, e.g., their financial expertise makes them relatively low-cost (efficient) monitors of managers. [For evidence of private lenders' expertise, see Leftwich (1983) and El-Gazzar and Pastena (1990).]

Our lender monitoring argument is consistent with agency theory insofar as it recognizes that accounting numbers help govern the relations between lenders and corporate borrowers. It differs from some variants of agency theory in its view that the scope of managerial discretion in troubled firms is deliberately limited by lenders seeking to protect their own interests. This argument suggests that, given firms in real economic difficulty, accounting-based debt constraints are strong enough that managers' attempts to avoid them are unlikely to succeed systematically.²⁴

6. 'Excuse' explanations for our findings

In this section, we consider a number of contractual renegotiations and/or stakeholder conflicts – manager–stockholder conflicts over the desirability of cash retention, management changes, union negotiations, and lobbying for government assistance – in which noncash writeoffs accompanied by a dividend reduction can help managers convince outside parties to make concessions that will help the firm effect a quicker recovery from its financial difficulties. The timing of the dividend reduction announcement relative to the writeoff quarter suggests that managers take noncash writeoffs to justify *ex post* a prior shift in dividend policy. Of the 40 firms with noncash writeoffs, 32 took the writeoffs in quarters that *followed* the dividend reduction announcement. This timing pattern runs counter to the tendency [documented, e.g., by Lintner (1956) and Fama and Babiak (1968)] for dividend policy adjustments to lag earnings changes.

²³We also examined the ten firms that had subsequent dividend reductions forced by binding covenants, and found no case in which public debt was the source of the binding constraint.

²⁴This view may also explain the difference between our findings and those in Frost and Bernard (1989). We find a material number of covenant-forced dividend cuts for firms with persistent losses, whereas Frost and Bernard find no evidence of economic consequences to technical covenant violations caused by SEC-mandated writeoffs. If sophisticated lenders can distinguish real financial deterioration from technical violations due to accounting standard changes, material economic consequences should follow the former, but not the latter covenant violations.

6.1. *Manager–stockholder conflicts over cash retention*

One possibility is that managers (and perhaps lenders) believe a dividend cut is prudent given the likely persistence of earnings problems, yet are unable to convince outside stockholders who suspect managers of expropriating ‘free cash flow’ [Jensen (1986)]. Reporting lower earnings can help justify a payout reduction to outside stockholders. To ascertain how often management explained the dividend reduction as necessitated by low earnings, we inspect management’s letter to stockholders in the year 0 annual report. In 16 cases, managers explicitly link dividend reductions to poor earnings. In another six cases, managers implicitly make this connection by stating that future dividends will be increased when profitability warrants it. Thus, in 22 cases, there is some indication that managers use poor earnings to rationalize the dividend reduction.

The dividend reduction, however, is typically not the central focus of the stockholder letter. Instead, managers overwhelmingly focus on the general financial difficulties the firm faces, and especially on factors beyond managers’ control that generated or exacerbated those difficulties. The time and industry clustering exhibited by our sample facilitates this behavior – managers can more readily rationalize losses and dividend reductions when the economy is in a general recession and entire industries are experiencing financial trouble.

6.2. *Management changes*

Managers’ tendency to link poor performance to economy- or industry-wide factors is perhaps not surprising, given that sample firms (and troubled firms in general) exhibit a high incidence of managerial turnover. To assess turnover in our firms, we inspected the *WSJ Index* for the year of and the year after the dividend reduction and the annual report for the dividend reduction year. We find evidence of changes in the Chairman, Chief Executive Officer, and/or President positions at 35 of the 76 (46.1%) sample firms. This high turnover rate is consistent with Gilson’s (1989) evidence of relatively high managerial turnover at firms experiencing financial trouble.²⁵

In Gilson’s (1989) study, managerial departures were most often forced by the board (with pressure from lenders a close second). Thus the writeoffs we observe might be in part attributable to monitoring of management’s policies by the board, which forces management to acknowledge the firm’s problems. Such

²⁵Our numbers translate to an annual turnover rate of about 23%. For financially troubled firms, Gilson reports turnover rates for Chairmen, CEOs, and Presidents of (i) 52% per year when firms are in default, bankrupt, or restructuring debt and (ii) 19% per year in years of trouble, but without public evidence of creditor negotiations. For firms that are not experiencing financial difficulties, turnover rates for these positions are about 11.5% per year, according to Warner, Watts, and Wruck (1988).

acknowledgment can help accomplish a restructuring by, e.g., encouraging employees to cooperate in streamlining operations. Alternatively, these writeoffs might represent an earnings 'bath' taken by new managers [Moore (1973), DeAngelo (1988), Pourciau (1993)]. However, only 17 of the 35 management changes in our sample occurred before the fiscal year end of the dividend reduction year (another four occurred within the next three months). Writeoffs taken by the other 14 firms cannot be explained as post-management change earnings 'baths'.

The high managerial turnover in our sample suggests that writeoffs in the dividend reduction year are implausibly viewed as managers' attempts to increase future bonuses. Rational managers would not likely assign much importance to next year's bonus, given the likelihood of job loss (especially since being caught attempting to manipulate bonuses would further threaten their tenure). Consistent with this view, Gilson and Vetsuypens (1993) report that firms in default typically reduce reliance on accounting-based compensation plans and the majority do not pay a bonus [see also DeAngelo and DeAngelo (1991)]. Thus, managers of troubled firms more likely take earnings charges to acknowledge the severity of the firm's problems – i.e., to convince the board and lenders that managers recognize these problems and intend to deal with them head-on.

6.3. Union negotiations

Open acknowledgment of the seriousness of the firm's troubles can improve the firm's bargaining position with organized labor. For example, losses and dividend reductions help managers portray the firm as seriously troubled, hence to extract concessions from unionized workers who otherwise would doubt the extent and likely persistence of the firm's difficulties [Liberty and Zimmerman (1986), DeAngelo and DeAngelo (1991)].²⁶ Managers of troubled firms have incentives to pursue these concessions to the extent they believe that obtaining them strengthens their chances of retaining their own jobs in an economic downturn.

For 29 (38.2%) sample firms, we find reports of union negotiations or strikes in the *WSJ Index* for the year of or after the dividend reduction, and/or in the firm's annual report for the dividend reduction year.²⁷ These reports reveal that

²⁶Reported earnings are likely to have a greater influence on the rank and file than on the union leadership who are in a better position to detect earnings management. In some scenarios (e.g., the recession circumstances we study), union leaders may truly believe that the firm is sufficiently troubled that concessions are in order. If so, income-decreasing accounting choices and dividend reductions likely help union leaders convince the rank and file to support a concessionary labor agreement they have negotiated with management.

²⁷As reported in table 8 below, the 38.2% incidence of union negotiations is unusually high for our sample, relative to their incidence three and six years prior (negotiations are typically held every three years).

requests for labor 'givebacks' are sometimes explicitly connected to wage freezes or rollbacks for management and dividend cuts for stockholders. Liberty and Zimmerman (1986) find no evidence of income-decreasing accounting choices during labor negotiations. One possible explanation for the difference between our findings and theirs is that managers can improve their bargaining position through income-decreasing accounting choices only when there is confirmatory evidence of serious financial trouble and of sacrifices by other stakeholders. Otherwise workers will attribute low earnings to managers' attempts to extract union concessions (while preserving their own and stockholders' cash payouts).

Another factor that may help explain the difference between our findings and those of Liberty and Zimmerman is that they study routine union negotiations that occur every three years, whereas our sample is limited to negotiations that occurred during a major economic recession. Managers' ability to deliberately understate reported income during routine negotiations is limited by the union's ability to learn about the extent of managerial discretion over time. In contrast, a severe recession can lead to requests for union 'givebacks' because of demonstrably serious general economic conditions. Writeoffs and restructuring charges may thus be more readily justified to the rank and file who are already suffering the consequences of large-scale layoffs and plant closings.

6.4. *Government lobbying*

Losses and dividend reductions can also be used to support managers' case for government aid, e.g., import relief [as in Jones (1991)] or other concessions, such as a government bailout or antitrust relief. We find evidence of this motivation in 11 cases, based on inspection of the *WSJ Index* and annual reports. In most cases, managers used their firm's financial troubles to argue for steel or automobile import relief, but there are also attempts to obtain antitrust clearance for an airline merger and to protest deregulation of interstate trucking. Our general impression is that managers did not simply manipulate accounting choices and dividend policy to create a case for government aid – rather, they used losses and dividend reductions to buttress other evidence of financial trouble.

6.5. *Overall assessment*

Table 8 summarizes the frequency with which sample firms held negotiations with labor unions, lenders, had a management change, or engaged in government lobbying for economic relief in the year of or after the dividend reduction (years 0 and 1). For comparison purposes, we investigate the frequency with which sample firms had these events both three and six years before the dividend reduction (where 'three years prior' includes events for years -3 and -2 and

Table 8

Lender and union negotiations, management changes, and political lobbying around dividend reductions and in prior years for 76 NYSE firms that had multiple losses and reduced dividends during 1980–1985.

Category 1 contains the 29 firms whose debt covenants were binding in the dividend reduction year, plus the 15 firms with nonbinding covenants that held negotiations with lenders according to the *Wall Street Journal* (WSJ). Category 2 contains firms for which the WSJ reveals discussions with unions and/or strikes. Category 3 contains firms for which the WSJ mentions changes in Chairman, CEO, and/or President positions. Category 4 contains firms for which the WSJ discusses attempts to influence government agencies (e.g., to constrain imports because of threats posed to domestic firms' survival). Here the dividend reduction year includes events reported in years 0 and 1, 'three years prior' includes events for years -3 and -2, and 'six years prior' includes events for years -6 and -5.

Sample category	Number of cases (% of sample) and <i>p</i> -value for chi-square comparison test between incidence in specified year and incidence in dividend reduction year		
	Dividend reduction year	Three years prior	Six years prior
1. Negotiations with lenders	44 (57.9%)	3 (3.9%) <i>p</i> < 0.01	1 (1.3%) <i>p</i> < 0.01
2. Negotiations with labor unions	29 (38.2%)	19 (25.0%) <i>p</i> = 0.01	21 (27.6%) <i>p</i> = 0.04
3. Management changes	35 (46.1%)	20 (26.3%) <i>p</i> < 0.01	16 (21.1%) <i>p</i> < 0.01
4. Political lobbying efforts	11 (14.5%)	8 (10.5%) <i>p</i> = 0.26	6 (7.9%) <i>p</i> = 0.03
5. Firms with at least one of the above events	66 (86.8%)	34 (44.7%) <i>p</i> < 0.01	35 (46.0%) <i>p</i> < 0.01

'six years prior' includes events for years -6 and -5). We chose three and six years prior as the benchmark for 'normal' negotiation activity for our sample firms because union negotiations typically occur at three-year intervals.

Table 8 indicates an unusually high incidence of lender and union negotiations, management changes, and political lobbying by our sample firms around the time they reduced dividends. The year 0 incidence ranges from 14.5% for political lobbying to 57.9% for negotiations with lenders. Overall, a total of 66 sample firms (about 87%) engaged in renegotiations (of explicit or implicit contracts) that engender managerial incentives to reduce reported earnings. The 87% incidence compares to a 44.7% incidence of at least one type of contractual renegotiation three years prior and a 46.0% incidence six years prior. All renegotiation categories in the table exhibit a reliably higher incidence around the dividend reduction under chi-square tests, except for political lobbying (relative to its incidence three years, but not six years prior).

Interestingly, lender renegotiations occur about 15 to 45 times more often when dividends are reduced than in 'normal' periods. This finding provides additional support for the lender monitoring argument. Union negotiations are also more prevalent, perhaps because some union negotiations are accelerated due to sample firm's demonstrable financial difficulties [this is the case for the steel industry, as detailed in DeAngelo and DeAngelo (1991)]. Management changes occur around dividend reductions about twice as often as they do in 'normal' times, and the normal incidence of management turnover in our sample (10.6% to 13.2% per year) is close to the 11.5% reported in Warner, Watts, and Wruck (1988). Overall, the unusual incidence of contractual renegotiations around dividend reductions provides additional support for our interpretation that the negative accruals of troubled firms in part reflect managers' accounting discretion.

The table 8 data reveal that the average firm with at least one event – lender or union negotiations, a management change, political lobbying – has 1.8 such events. This finding points out the difficulty of attributing the negative accruals of troubled firms to any *one* event, e.g., a management change, without controlling for the propensity of troubled firms to engage in multiple contractual renegotiations. Our findings suggest two caveats for studies of accounting choice in samples that contain firms with earnings problems. First, our firms' large negative accruals are accompanied by deterioration in operating cash flow, so that controlling for exogenous poor performance is potentially important in assessing the extent to which troubled firms' accruals reflect accounting choices. Second, our firms renegotiated a variety of explicit and implicit contracts, making it difficult to attribute evidence of earnings management to any *one* contractual renegotiation (versus the overall process).

7. Summary

This paper finds that the accounting choices made by managers of 76 troubled firms primarily reflect recognition of their firms' financial difficulties, rather than systematic attempts to inflate earnings to avoid debt covenant violations or to otherwise portray the firm as less troubled. We study earnings, cash flow, accruals, and noncash writeoffs in 76 NYSE firms with persistent losses during 1980–1985 that reduced cash dividends, about 40% of which had binding debt covenants at the time. In years before the dividend reduction, firms with binding covenants are predicted to have higher accruals than firms without binding covenants, since managers of the former firms have stronger incentives to increase earnings to mitigate covenant violations. In the ten years before the dividend cut, we find only minor accrual differences across the two samples, although the power of our tests is low because of an inability to predict the exact timing of any such earnings management.

We observe large negative accruals in the dividend reduction and subsequent three years, both for the full sample and for firms with and without binding covenants. Unlike earnings, mean and median operating cash flows remain positive throughout this period, although their level is about half what it was in the ten prior years. After controlling for sample firms' cash flow and sales performance, we continue to observe large negative accruals in the dividend reduction and subsequent years. A substantial portion of the negative accruals in the dividend reduction year is due to an abnormal inventory decline, which is more plausibly viewed as the result of managers' 'real' choices rather than as earnings management. This interpretation is reinforced by the fact that sample firms' large negative accruals persist for several years following the dividend reduction, suggesting that it is financial trouble per se, and not dividend reductions or covenant violations, that underlies the negative accruals.

While the data suggest that the negative accruals of firms with persistent losses and dividend reductions are due in part to managers' real economic decisions, we also find evidence of income-decreasing accounting choices. Specifically, in the dividend reduction year 40 of the 76 firms take noncash writeoffs whose timing is reasonably viewed as discretionary to managers. These writeoffs are substantial: the median writeoff is approximately one half of beginning-of-period unrestricted retained earnings, and the mean has even greater impact. Strikingly, both the mean and median writeoffs for firms with binding debt covenants are sufficiently large by themselves to eliminate unrestricted retained earnings available for dividend payments. While our findings on noncash writeoffs suggest that managers of troubled firms deliberately reduce reported earnings, it is a priori unclear what economic incentives they have to do so.

Closer inspection indicates that 87% of sample firms renegotiate contracts with lenders or labor unions, have management changes, and/or lobby for government assistance, all of which plausibly motivate managers to reduce reported earnings. We also find that private debt restrictions are responsible for almost all forced dividend reductions in our sample, even though most firms had public debt as well. This finding suggests that noncash writeoffs provide lenders with a credible signal that managers recognize and intend to deal with the firm's financial problems. Reduced earnings and dividends can also help managers convince parties other than lenders (e.g., unionized labor or government authorities) that the firm is truly troubled and deserves wage concessions and/or government assistance. Overall, sample firms' large and persistently negative accruals apparently reflect (i) their generally troubled circumstances which lead to changes in 'real' decisions such as inventory adjustments that reduce accruals, and (ii) earnings management associated with the variety of contractual renegotiations engendered by financial trouble.

A final caveat is in order: although our analysis indicates that sample firms exhibit large negative accruals during their financial difficulties, one must be cautious about extrapolating this finding to the full population of troubled

companies. The reason is that we sampled for firms with reported losses. It seems reasonable to expect that unusually low accrual realizations will tend to map into low earnings realizations, which makes it more likely that a given firm with low accruals will enter our sample. This selection bias implies that our sample firms' negative accruals represent a downward-biased estimate of the accruals that would characterize a broader population of troubled firms (not limited to companies with persistent earnings problems that reduce cash dividends to stockholders).

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