A Comparison Of The Financial Characteristics Of Companies Surveyed By *Accounting Trends And Techniques* (ATT) And Non-ATT Companies

Dr. Gopal V. Krishnan, Accounting, Hong Kong Polytechnic University

Abstract

Several researchers restrict their sample selection to firms included in the Accounting Trends and Techniques (ATT), an annual survey published by the American Institute of Certified Public Accountants (AICPA). This paper examines the implications of this restriction. ATT firms are much larger, have higher leverage, larger betas and lower current ratios as compared to non-ATT firms. FIFO is the dominant inventory accounting choice for non-ATT firms; ATT firms tend to prefer LIFO. Both ATT and non-ATT firms favor straight-line depreciation over accelerated methods. ATT firms are underrepresented in several industries.

Introduction

A key issue in research design is sample selection. In recent years, several researchers have restricted their samples to firms included in the *Accounting Trends & Techniques* (ATT), an annual survey published by the American Institute of Certified Public Accountants (AICPA) [e.g., El-Gazzar et al. (1986), Healy et al. (1987), Moses (1987), El-Gazzar (1993), and Langer and Lev (1993)].

This restriction raises a potential concern for the researcher. If there are systematic differences between ATT and non-ATT firms in terms of financial characteristics and/or industry membership, such a restriction limits the generalizability of the research findings. Currently, there is little empirical evidence on whether and how ATT firms differ from non-ATT firms. The purpose of this paper is to fill this void. In this study, the author compares ATT and non-ATT firms in terms of the financial characteristics that tend to be used as treatment or control variables in prior research. The characteristics studied include firm size and leverage [Watts and Zim-

merman (1986) and Christie (1990)], market beta [Zmijewski and Hagerman (1981) and Press and Weintrop (1990)], the current ratio [Duke and Hunt (1990)], inventory and depreciation accounting policies [Zmijewski and Hagerman (1981), Healy et al. (1987), and Healy and Palepu (1990)], and industry membership.

The results of an analysis of 1986 and 1991 data indicate there are statistically significant differences between ATT and non-ATT firms.

The rest of the paper is organized as follows. Section 2 describes the definitions of financial characteristics examined and sample selection process, followed by a discussion of the results in section 3. The final section contains the conclusions.

Sample selection and data

The financial and other characteristics examined are defined as follows (*Compustat*-CD ROM mnemonics in parentheses). Two measures of firm size are used: (i) log of sales (*SALE*) [Press and Weintrop (1990)], and (ii) log of total assets (*AT*) [Langer and Lev (1993)]. Five measures of leverage are used: (i) total liabilities (*LT*)/total assets (*AT*) [Zmijewski and Hagerman (1981)], (ii) total liabilities (*LT*)/net tangible assets (*AT-INTAN*) [Duke and Hunt (1990)], (iii) long-term debt (*DLTT*)/net tangible assets (*AT-INTAN*) [Duke and Hunt (1990), (iv) long-term debt (*DLTT*)/total assets (*AT*), and (v) total liabilities (*LT*)/market value of common equity (*MKVALF*). Also studied are beta (*BETA*); current ratio (*CR*); depreciation accounting method (*DPACTF*); inventory accounting method (*INVVAL*); stock exchange listing (*EXCHG*); and industry classification (*SIC*).

The sample of ATT and non-ATT firms comes from two non-consecutive years, 1986 and 1991. The initial sample of ATT firms is identified from the AICPA surveys for 1987 and 1992. The initial sample of non-ATT firms is specified as the remaining population of the *Compustat* firms. For 1991 (1986), out of 600 ATT firms, data for 22 (110) firms are not available on *Compustat* because of merger, bankruptcy, going private, or other reasons. Of the remaining sample, depreciation and inventory accounting choices are not available for 48 (50) firms. This reduces the final usable sample of ATT firms to 530 and 440, respectively, for 1991 and 1986.

A similar process identifies a final sample of 2,432 and 1,764 non-ATT firms, respectively, for 1991 and 1986. Only firms with missing data are eliminated.

Results

Univariate analysis

Table 1 presents the distributional characteristics for ATT and non-ATT firms, for the years 1991 and 1986, for (1) firm size - total assets (panel A); (2) firm size - market value of common equity (panel B); (3) leverage (panel C); (4) market beta (panel D); (5) the current ratio (panel E); and (6) inventory and depreciation accounting methods and stock exchange listing (panel F).

Table 2 reports the results of statistical tests to compare the financial characteristics of ATT and non-ATT firms. These include a two-sample *t* test, a Wilcoxon signed-rank test, and a two-sample median test.

Firm Size

For 1991, the median (mean) asset size for ATT firms is about twenty-three (more than seven) times the median (mean) of non-ATT firms (see Panel A, Table 1). Even though the magnitude of firm size has increased between 1986 and 1991, the relationship between ATT and non-ATT firms appears to be consistent for both the years. Results of statistical tests reported in Table 2 show that the null hypothesis of equality of means or medians for the two groups is rejected, for both the years, at a significance level better than 0.01. Similar conclusions are reached when firm size is based on sales.

Table 1: Financial Characteristics Of ATT Firms And Non-ATT Firms				
	1991		1986	
	ATT	Non-ATT	ATT	Non-ATT
Panel A: *Size - Total Assets*[a]				
Mean[$]	4738.73	644.96	3300.15	524.85
Median[$]	1132.76	49.46	1026.21	46.51
Skewness	8.26	11.25	5.70	10.13
Minimum[$]	0.75	0.58	7.30	0.65
Maximum[$]	184325.00	65131.50	72593.00	45800
Std. deviation[$]	16019.63	3622.88	8049.86	2722.42
No. of observations	530	2434	440	1765
Panel B: *Size - Market Value*[b]				
Mean[$]	3621.62	518.79	2569.63	363.46
Median[$]	897.61	45.88	865.51	45.82
Skewness	5.14	10.18	6.89	9.80
Minimum[$]	0.10	0.23	6.55	0.21
Maximum[$]	75605.35	46236.38	72710.76	25597.53
Std. deviation[$]	9014.90	2467.89	5707.62	1585.40
No. of observations	530	2434	440	1765
Panel C: *Leverage*[c]				
Mean[$]	0.56	0.46	0.53	0.46
Median[$]	0.56	0.47	0.54	0.47
Skewness	-0.16	0.08	-0.22	0.06
Minimum[$]	0.08	0.01	0.04	0.13
Maximum[$]	0.99	0.99	0.96	0.99
Std. deviation[$]	0.17	0.22	0.15	0.21
No. of observations	530	2434	440	1765
Panel D: *Market Beta*[d]				
Mean[$]	1.00	0.84	1.00	0.82
Median[$]	1.00	0.80	1.00	0.80
Skewness	-0.14	3.24	-0.18	-153
Minimum[$]	-0.30	-2.50	-0.80	-3.50
Maximum[$]	2.40	4.80	2.40	4.90
Std. deviation[$]	0.41	1.06	0.43	0.83
No. of observations	526	2432	417	1764
Panel E: *Current Ratio*[e]				
Mean[$]	2.12	3.02	2.21	3.27
Median[$]	1.78	2.06	1.91	2.31
Skewness	4.88	4.79	4.89	4.16
Minimum[$]	0.42	0.00	0.43	0.01
Maximum[$]	17.28	23.29	17.23	17.87
Std. deviation[$]	1.48	3.49	1.44	3.36
No. of observations	504	2434	438	1765
Panel F: *Frequency of Accounting Methods and Stock Exchange Listing*[f] (in %)				
Inventory				
FIFO	39.6	54.0	32.0	51.5
LIFO	43.2	11.4	53.2	16.7
Average	12.1	12.7	10.5	12.1
Depreciation				
Straight-line	69.2	74.7	63.2	70.4
Accelerated	4.7	4.1	5.2	4.1
Both	21.5	20.7	27.7	24.6
Stock Exchange				
NYSE	75.5	20.9	77.0	25.4
ASE	7.4	14.3	8.0	15.2
OTC	14.9	62.8	11.1	57.3
No. of observations	530	2434	440	1765

[$] In millions of dollars. [a] Total assets (*Compustat* mnemonic: AT). [b] Market value of common equity(MKVALF). [c] Total liabilities (LT)/Total assets (AT). [d] Beta is calculated over a 60 month time period. [e] Current ratio is current assets (ACT) over current liabilities (LCT). [f] Data from *Compustat* PC Plus.

Table 2: Results Of Tests Of Comparison Of ATT Firms And Non-ATT Firms

	Sample		Two-sample *t* test		Wilcoxon two-sample test		Two-sample median test	
Variable	ATT	Non-ATT	|*t*-stat|	*p* > t	|*z*-stat|	*p* > z	|*z*-stat|	*p* > z
1991								
SIZE								
Log of sales	530	2434	35.99	0.0001	27.04	0.0001	21.76	0.0001
Log of total assets	530	2434	32.85	0.0001	26.21	0.0001	21.37	0.0001
Log of total equity[a]	530	2434	28.05	0.0001	23.81	0.0001	18.50	0.0001
LEVERAGE								
LT/AT	530	2434	10.82	0.0001	9.20	0.0001	8.24	0.0001
LT/(AT-INTAN)	530	2434	7.70	0.0001	9.21	0.0001	8.10	0.0001
DLTT/(AT-INTAN)	530	2434	4.85	0.0001	8.78	0.0001	8.51	0.0001
DLTT/AT	530	2434	6.88	0.0001	9.07	0.0001	9.20	0.0001
LT/MKVALF	530	2434	1.82	0.0689	8.04	0.0001	7.38	0.0001
BETA	526	2432	5.70	0.0001	5.37	0.0001	5.70	0.0001
CURRENT RATIO	504	2434	9.31	0.0001	4.98	0.0001	5.72	0.0001
1986								
SIZE								
Log of sales	440	1765	33.92	0.0001	25.00	0.0001	20.25	0.0001
Log of total assets	440	1765	31.24	0.0001	24.15	0.0001	19.72	0.0001
Log of total equity[a]	440	1765	27.63	0.0001	22.75	0.0001	18.44	0.0001
LEVERAGE								
LT/AT	440	1765	7.59	0.0001	6.37	0.0001	6.19	0.0001
LT/(AT-INTAN)	380	1765	5.97	0.0001	6.47	0.0001	5.55	0.0001
DLTT/(AT-INTAN)	380	1765	2.62	0.0090	5.40	0.0001	5.55	0.0001
DLTT/AT	440	1765	3.17	0.0016	5.47	0.0001	5.76	0.0001
LT/MKVALF	440	1765	2.76	0.0058	7.21	0.0001	5.76	0.0001
BETA	417	1764	5.70	0.0001	5.40	0.0001	6.16	0.0001
CURRENT RATIO	438	1765	9.31	0.0001	6.52	0.0001	7.06	0.0001

Compustat mnemonics: LT = Total liabilities; AT = Total assets; INTAN = Intangible assets; DLTT = Long-term debt; MKVALF = Market value of common equity; [a]Total equity = MKVALF + DLTT + PSTK (Preferred stock).

Leverage

Panel C of Table 1 indicates a higher mean and median leverage (total liabilities/total assets) for ATT firms for both 1991 and 1986. For the non-ATT sample, both the mean and median leverage have remained constant between 1986 and 1991, while the mean and median have slightly increased for the ATT sample.

Results of statistical tests presented in Table 2 confirm the existence of a systematic difference between leverage for ATT and non-ATT firms. For 1986, the null hypothesis of equality of mean or median is rejected, for all the five measures of leverage, at a significance level better than 0.01. For 1991, the null is rejected at a significance level better than 0.01 for four out of five measures. When leverage is based on market value, the null is rejected at the 0.10 level.

Market beta

Mean and median beta values appear to be fairly stable between 1986 and 1991 for both ATT and non-ATT firms (Panel D, Table 1). The distributions are slightly skewed to the left, except during 1991 for the non-ATT firms. Betas for the non-ATT sample exhibit higher variation. For 1991 and 1986, the mean and median values are higher for the ATT sample. All three statistical tests reject the null hypothesis of equality of mean or median at a significance level better than 0.01 for both the years.

Table 3: Industry Concentrations: 1991

2-Digit SIC	Industry	Total	% ATT	% Non-ATT
1	Agricultural productions	12	17	83
10	Metal mining	42	7	93*
12	Coal	6	33	67
13	Oil and gas exploration	142	4	96*
14	Non-metallic mineral	6	33	67
15	Building construction	1	0	100*
16	Construction - not building	7	29	71
17	Construction - special trade	7	0	100*
20	Food kindred products	96	42	58
21	Tobacco	4	75**	25
22	Textile products	28	43	57
23	Apparel	37	24	76
24	Lumber and wood products	20	20	80
25	Home furnishing	25	36	64
26	Paper and allied products	48	56**	44
27	Printing and publishing	62	32	68
28	Chemicals and allied products	212	25	75
29	Petroleum refining	41	54**	46
30	Rubber and misc. plastics	44	30	70
31	Shoes	15	13	87
32	Stone, clay, glass, concrete	21	29	71
33	Primary metal	70	33	67
34	Fabricated metal products	87	26	74
35	Machinery, except electrical	277	25	75
36	Electl & electronic machinery	248	17	83
37	Transportation equipment	76	42	58
38	Instruments	216	16	84
39	Misc. manufacturing	45	11	89
40	Railroad	12	0	100*
41	Transit & passenger trans.	1	0	100*
42	Trucking	16	6	94*
44	Water transport	14	0	100*
45	Air transport	20	0	100*
46	Pipe lines	2	0	100*
47	Transportation services	6	0	100*
48	Telephone & broadcast media	48	6	94*
49	Electric, gas, sanitary services	61	7	93*
50	Wholesale - durable goods	117	10	90*
51	Wholesale non-durable goods	60	18	82
52	Retail - building mat. etc.	9	22	78
53	Retail stores	38	16	84
54	Retail - food	24	29	71
55	Retail - auto and gas	9	0	100*
56	Retail - apparel	29	14	86
57	Retail - furniture etc.	20	0	100*
58	Restaurants	45	2	98*
59	Retail - other	42	5	95*
60	Financial, banks	5	0	100*
61	Investment companies	6	33	67
62	Brokerage firms	10	0	100*
63	Insurance	14	0	100*
64	Insurance agents, brokers	21	0	100*

Current ratio

Panel E of Table 1 indicates a higher mean and median current ratio (current assets/current liabilities) for non-ATT firms for both 1991 and 1986. It is not obvious why the current ratios are higher for the non-ATT sample. The results reported in Table 2 are consistent with the finding that ATT and non-ATT firm have unequal current ratios.

Choice of accounting methods and stock exchange listing

Panel F of Table 1 reports the frequency (in percent) of inventory and depreciation accounting methods used by ATT and non-ATT firms during 1991 and 1986 and the stock exchanges where firms were listed during the same periods. LIFO appears to be the primary method of inventory pricing for ATT firms. This is consistent with the size hypothesis, although the use of LIFO as the primary method decreased by 10% between 1986 and 1991. FIFO appears to be the primary method for non-ATT firms.

Straight-line method dominates the depreciation accounting. Both ATT and non-ATT firms favor the straight-line method, but the percentage of firms selecting the straight-line method is higher for non-ATT firms.

As for stock exchange listing, more than three-fourths of ATT firms are listed on the New York Stock Exchange (NYSE), while a majority of the non-ATT firms are listed on the over-the-counter (OTC) market.

Industry membership

Table 3 presents the industry concentrations for 1991. For each industry, the total number of firms and the percentage of firms included in each group are reported.

65	Real estate	8	0	100*
67	Real estate investment trust	21	0	100*
70	Hotels	9	0	100*
72	Personnel services	6	17	83
73	Business services	197	2	98*
75	Automotive services	5	0	100*
76	Misc. repair services	4	0	100*
78	Motion pictures	18	6	94*
79	Gaming companies	30	7	93*
80	Hospital management	69	0	100*
81	Legal services	1	0	100*
82	Education services	8	0	100*
83	Social services	1	0	100*
86	Membership organizations	1	0	100*
87	Engineering services	59	5	95*
99	Non-operating establishments	3	0	100*
Total		**2964**	**18**	**82**

*Indicates that 90% or more of the companies in the industry are non-ATT firms. **Indicates that more than 50% of the companies in the industry are ATT firms.

Overall, the ATT firms account for 18% of the total number of firms examined. One asterisk (*) indicates that 90% or more of the companies in an industry are included in the non-ATT group, and two (**) indicates that 50% or more of the companies are in the ATT sample.

Table 3 reveals several strong industry concentrations in the non-ATT sample. 90% or more of the companies in thirty-seven industries are in the non-ATT group. Notable examples are metal mining, oil and gas, transportation, communications, utilities, wholesale, financial, business, and health services. On the other hand, the ATT sample includes more than 50% of the companies in the following industries: tobacco, paper and allied products, and petroleum refining industries.

Multivariate analysis

It is possible that the ATT and non-ATT firms differ only on the dimensions of size and industry membership and the remaining differences could be due to the association of the variables examined with size and industry. A logit model was fitted to see whether size, leverage, beta and current ratio are able to classify firms into ATT and non-ATT categories. These results are presented in Table 4.

For each year, ten models were fitted to include two measures of size and five measures of leverage. In all cases, the chi-square statistic representing the joint significance of the explanatory variables is significant at the 0.01 level. Size is positive and consistently significant at the 0.01 level. Leverage is significant at the 0.10 level in six out of twenty models. Beta is significant at the 0.10 level in five models and current ratio is consistently negative and significant at the 0.05 level in fifteen models. In other words, after controlling for size, leverage or beta or current ratio remains significant at the 0.05 level in eighteen out of twenty models. Overall, these results indicate that differences in characteristics other than size exist between ATT and non-ATT firms.

Conclusions

The above findings lead to the following conclusions. First, there are several financial characteristics that differentiate ATT firms from non-ATT firms. ATT firms are much larger, have higher leverage, larger betas, and lower current ratios than non-ATT firms. Second, in terms of accounting choice, ATT and non-ATT firms differ with respect to inventory accounting. Non-ATT firms prefer FIFO; LIFO is more popular with ATT firms. Third, ATT and non-ATT samples also differ in terms of industry representation. The ATT sample is under-represented in thirty-seven industries.

Suggestions for Future Research

The above findings have two implications for future research. First, given the systematic differences between ATT and non-ATT firms, restricting sample selection to ATT or non-ATT firms is likely to weaken the generalizability of findings. For example, treatment firms in Healy and Palepu (1990) are smaller than the ATT firms, and are therefore less likely to choose income-decreasing accounting methods for inventory and depreciation than are ATT firms. Healy and Palepu (1990) indicate that this size differ-

ence biases their results in favor of finding that the test firms make income-increasing accounting decisions relative to the ATT firms. Second, researchers need to take into account the characteristics of ATT *vs.* non-ATT firms as they plan and develop their research designs. Control variables and additional specification checks need to be included to make sure that findings are not sample-specific. This becomes even more important with growing usage of the ATT sample in accounting research.

The author appreciates the helpful comments of Joseph Cheung, James Godfrey, Doris Holt, Krishna Kumar, and Patricia Peat.

Endnotes

1. The sample of inventory changes in Healy et al. (1987) is selected from ATT firms. Ghicas (1990) and Defond and Jiambalvo (1991) also include ATT firms in their samples; Healy and Palepu (1990) use ATT firms as a control group.
2. Healy and Palepu (1990) indicate that ATT firms are generally larger than their treatment firms. But there is no evidence on leverage or industry differences.
3. INTAN = Intangible assets.
4. The final samples available to calculate market beta and current ratio for 1991 total

Table 4 Results Of Logit Models[1]

1991 (ATT firms=504; Non-ATT firms=2432)										
Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Intercept	-6.16[a]	-6.07[a]	-6.16[a]	-6.21[a]	-6.12[a]	-5.38[a]	-4.67[a]	-4.62[a]	-4.72[a]	-4.83[a]
Size1	0.80[a]	0.80[a]	0.80[a]	0.80[a]	0.80[a]					
Size2						0.61[a]	0.61[a]	0.61[a]	0.61[a]	0.62[a]
Leverage1	-0.04					1.17[a]				
Leverage2		-0.19					0.01			
Leverage3			-0.11					-0.15		
Leverage4				0.14					0.29	
Leverage5					-0.03					0.07[a]
Beta	-0.06	-0.06	-0.06	-0.6	-0.06	-0.07	-0.08	-0.08	-0.08	-0.08
Current ratio	0.07[b]	0.06[b]	0.07[b]	0.07[a]	0.06[b]	-0.02	-0.08[b]	-0.08[a]	-0.07[b]	-0.06[b]
-2*log L	819.2[a]	820.0[a]	819.5[a]	819.4[a]	820.0[a]	638.8[a]	626.7[a]	627.4[a]	627.4[a]	632.2[a]
Correctly classified[2]	85.2%	85.4%	85.2%	85.3%	85.4%	84.4%	84.4%	84.4%	84.3%	84.1%
1986 (ATT firms=417; Non-ATT firms=1764)										
Intercept	-6.14[a]	-6.17[a]	-6.52[a]	-6.54[a]	-6.57[a]	-5.38[a]	-5.15[a]	-5.27[a]	-5.31[a]	-5.53[a]
Size1	0.87[a]	0.87[a]	0.87[a]	0.87[a]	0.86[a]					
Size2						0.73[a]	0.73[a]	0.73[a]	0.73[a]	0.73[a]
Leverage1	-0.97[b]					-0.06				
Leverage2		-0.85[b]					-0.46			
Leverage3			-0.61					-0.82[b]		
Leverage4				-0.55					-0.69[c]	
Leverage5					-0.06					0.05
Beta	0.21[c]	0.22[c]	0.21[c]	0.20[c]	0.19	0.16	-0.17	0.18[c]	-0.17	0.16
Current ratio	0.05	0.05	0.08[b]	0.08[b]	0.08[b]	-0.07	-0.09[b]	-0.08[b]	-0.07[c]	-0.05
-2*log L	726.3[a]	727.4[a]	724.2[a]	723.0[a]	722.7[a]	596.3[a]	598.6[a]	602.0[a]	598.9[a]	597.3[a]
Correctly classified[2]	86%	86.1%	86.0%	85.9%	85.8%	84.7%	84.6%	84.9%	84.7%	84.8%

[1] Dependent variable is coded as 1 for ATT firms and 0 for non-ATT firms. Size1=log of sales; Size2=log of total assets; Leverage1=total liabilities/total assets; Leverage2=total liabilities/net tangible assets; Leverage3=long-term debt/net tangible assets; Leverage4=long-term debt/total assets; Leverage5=total liabilities/market value of common equity; Beta is calculated over a 60 month time period; Current ratio is current assets over current liabilities. [a], [b], and [c] indicate, respectively, statistical significance at the 0.01, 0.05, and 0.10 levels. [2] Prediction rates based on the proportion of non-ATT firms to the total number of firms are 83% and 81%, respectively, for 1991 and 1986

526 and 504, respectively. For 1986, the final samples for certain measures of leverage, beta, and the current ratio total 380, 417, and 438, respectively.

5. The results of several non-parametric tests such as the Savage test, the Kolmogorov-Smirnov test, and the Kuiper test were qualitatively similar to the results presented in Table 2.
6. As in Smith and Pourciau (1988), some of the assumptions behind these statistical tests may not be satisfied. For example, the *t* test assumes normality and the null hypothesis of normality is rejected at the 0.10 level except for (1991 sample of ATT firms): log of sales, log of total equity, and beta, and (1986 sample of ATT firms): total liabilities/total assets, total liabilities/net tangible assets, and beta. However, sampling distributions of the means will be approximately normal due to large sample sizes. Similarly, all the three tests assume two independent random samples. This may not be satisfied if the two samples are cross-sectionally dependent.
7. The means and medians for the other four measures of leverage for ATT firms (non-ATT sample in parentheses) are as follows:

	1991		1986	
	Mean	Median	Mean	Median
LT/(AT-INTAN)	0.62	0.60	0.57	0.56
	(0.52)	(0.49)	(0.50)	(0.48)
DLTT/(AT-INTAN)	0.23	0.19	0.21	0.19
	(0.18)	(0.10)	(0.18)	(0.12)
DLTT/AT	0.20	0.18	0.19	0.18
	(0.15)	(0.09)	(0.16)	(0.12)
LT/MKVALF	1.33	0.78	1.00	0.70
	(1.16)	(0.48)	(0.83)	(0.44)

LT=total liabilities; AT=total assets; INTAN=intangible assets; DLTT=long-term debt; and MKVALF=market value of common equity.

8. For 1991, leverage (except when based on market value of equity), beta, and current ratio were correlated with size at the 0.05 level. The absolute value of these correlations ranged from 0.07 for leverage (LT/AT) to 0.44 for current ratio. For 1986, the correlations ranged from 0.01 for leverage (DLTT/AT) to 0.46 for current ratio. DLTT/(AT-INTAN), DLTT/AT and LT/MKVALF were not correlated with size at the 0.10 level. Other measures of leverage, beta and current ratio were correlated with size at the 0.05 level.

References

1. Christie, A.A., "Aggregation of Test Statistics: An Evaluation of the Evidence on Contracting and Size Hypotheses," *Journal of Accounting and Economics*, Vol. 12, pp. 15-36, 1990.
2. Defond, M.L. and J. Jiambalvo, "Incidence and Circumstances of Accounting Errors," *The Accounting Review* Vol. 66, pp. 643-55, 1991.
3. Duke, J.C. and H.G. Hunt, "An Empirical Investigation of Debt Covenant Restrictions and Accounting-Related Debt Proxies," *Journal of Accounting and Economics* Vol. 12, pp. 45-63, 1990.
4. El-Gazzar, S.M., S. Lilien, and V. Pastena, "Accounting for Leases by Lessees," *Journal of Accounting and Economics* Vol. 8, pp. 217-37, 1986.
5. El-Gazzar, S.M., "Stock Market Effects of the Closeness to Debt-Covenant Restrictions Resulting from Capitalization of Leases," *The Accounting Review* Vol. 68, pp. 258-72, 1993.
6. Ghicas, D.C., "Determinants of Actuarial Method Changes for Pension Accounting and Funding," *The Accounting Review* Vol. 65, pp. 384-405, 1990.
7. Healy, P.M., S. Kang, and K.G. Palepu, "The Effect of Accounting Procedure Changes on CEO's Cash Salary and Bonus Compensation," *Journal of Accounting and Economics* Vol. 9, pp. 7-34, 1987.
8. Healy, P.M. and K.G. Palepu, "Effectiveness of Accounting-Based Divi-

dend Covenants, *Journal of Accounting and Economics* Vol. 12, pp. 97-123, 1990.

9. Langer, R. and B. Lev, "The FASB's Policy of Extended Adoption for New Standards: An Examination of FAS 87," *The Accounting Review* Vol. 68, pp. 515-33, 1993.
10. Moses, O.D., "Income Smoothing and Incentives: Empirical Tests Using Accounting Changes," *The Accounting Review* Vol. 57, pp. 358-77, 1987.
11. Press, E. and J.B. Weintrop, "Accounting-Based Constraints in Public and Private Debt Agreements: Their Association with Leverage and Impact on Accounting Choice," *Journal of Accounting and Economics* Vol. 12, pp. 65-95, 1990.
12. Smith, D.B. and S. Pourciau, "A Comparison of the Financial Characteristics of December and non-December Year-End Companies," *Journal of Accounting and Economics* Vol. 10, pp. 335-44, 1988.
13. Watts, R.L. and J.L. Zimmerman, *Positive Accounting Theory,* Prentice-Hall, Englewood Cliffs, NJ, 1986.
14. Zmijewski, M.E. and R.L. Hagerman, "An Income Strategy Approach to the Positive Theory of Accounting Standard Setting/Choice," *Journal of Accounting and Economics* Vol. 3, pp. 129-49, 1981.