

Additional Evidence on the Determinants of Accounting Policy Choice: The Case of Positive Early Adopters of SFAS 96

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This paper studies early adopters of SFAS 96 on accounting for income taxes. This study incorporates proxies for the implementation costs of accounting standards. A group of 201 firms for which early adoption had a positive effect on income is compared to a control group of 1,889 firms not choosing early adoption of this accounting standard. Univariate and multivariate tests indicate that early adopters are more likely to have earnings declines, are more highly leveraged, and have larger deferred tax liabilities than non-adopters. In addition, variables proxying for costs of adopting this complex accounting standard strongly distinguish adopters from non-adopters. The results also indicate that there is a highly significant association between the firm's auditor and the likelihood of early adoption.

INTRODUCTION

This paper develops and tests hypotheses about the characteristics of firms choosing early adoption of SFAS 96, "Accounting for Income Taxes." SFAS 96, a controversial accounting standard, drew criticism from firms and auditors almost immediately. In response to this criticism, the FASB twice postponed the implementation date and finally amended the standard (with SFAS 109). Some firms found SFAS 96 attractive, however, and elected to adopt it at the earliest possible date. This sample of early adopters allows an interesting reexamination and extension of the positive theory of accounting choice.

Watts and Zimmerman (1978) developed the first formal model of firms' accounting method choice. In the model managers make tradeoffs between the costs and benefits of the reported financial results, but also consider the cost of implementing an accounting method. Numerous studies have investigated firms' choices among alternative accounting methods. (See Ball and Foster, 1982; Watts and Zimmerman, 1986 and 1990; and Christie, 1990 for reviews.) The most consistent results have been found for variables proxying for firm size, debt covenants, and management compensation contracts. Recent work in the area of accounting policy choice (e.g., Skinner, 1993) indicates that firms' investment opportunities also may affect their choice of accounting techniques, but that the significant variables from earlier studies are still important. Langer and Lev (1993) also find that a traditional variable (effect on earnings) is associated most consistently with accounting policy choice. To date, little attention has focused on another important aspect of the Watts-Zimmerman model: the information production costs of implementing an accounting standard.

The complexities and costs of implementing SFAS 96 were arguably greater than those of most earlier mandated accounting policies.¹ For example, firms were required not only to schedule timing differences and adjust deferred taxes for changes in U.S. federal tax rates, but also for changes in state and foreign tax rates, a complexity likely to be important for firms with operations in many tax jurisdictions. The complexity of SFAS 96 allows a different test of the Watts-Zimmerman hypothesis incorporating some variables proxying for costs of adopting a new standard. That is, previous studies have focused on the costs and benefits of accounting alternatives from the point of view of reported numbers, e.g., the effect of accounting choices on monitoring management and debt contracts. Little attention has been paid to the costs of implementing new accounting standards.

Watts and Zimmerman (1978) regard the information costs of accounting standards as mainly consisting of bookkeeping costs and accountants' salaries which are not likely to be of great importance relative to other considerations. Subsequent studies of accounting policy choice have ignored these costs, as they are likely to be negligible for most accounting choice decisions. The complexity of SFAS 96 provides an opportunity to focus on the costs of implementing early adoption as well as on the effects of adoption on reported results.

Another issue has been discussed in the context of early adoption of mandated accounting policies. Trombley (1989) suggests that a firm's independent auditor has an impact on the likelihood of early adoption of a mandated accounting standard on accounting for software costs (SFAS 86). The strong public position taken by one audit firm on SFAS 96 provides additional evidence on this issue.

A group of 201 firms for which early adoption had a positive effect on income is compared to a control group of 1,889 firms not adopting early. Univariate and multivariate tests indicate that early adopters are more likely to have earnings declines, are more leveraged, and have larger deferred tax liabilities than non-adopters. In addition, variables proxying for complexity and cost of adoption strongly distinguish adopters from non-adopters. The results also indicate that there is a highly significant association between the firm's auditor and the likelihood of early adoption.

PROVISIONS OF SFAS 96 AND PREVIOUS RESEARCH

PROVISIONS OF SFAS 96

SFAS 96 changed the treatment of income taxes for financial reporting from that of the previous standard, Accounting Principles Board Opinion No. 11 (APB 11), in numerous respects. Probably the most significant change was the requirement that a liability approach to deferred taxes be used. Deferred taxes on temporary (timing) differences between taxable income and financial statement income were to be measured based upon the tax rates scheduled to be in effect when these differences were expected to reverse. If there were a change in tax rates, previously recorded deferred tax balances were to be adjusted accordingly. This provision, in conjunction with the Tax Reform Act of 1986 which reduced federal corporate tax rates, meant that previously recorded deferred tax balances would be reduced, with a corresponding effect on stockholders' equity (and perhaps

¹ An important exception to this generalization is SFAS 87 on accounting for pensions, also a complicated accounting standard (e.g., Langer and Lev, 1993; Senteney and Strawser, 1988).

on net income, depending on the method of adoption elected). Because most firms had deferred tax liabilities, adoption of SFAS 96 would reduce these liabilities with a corresponding increase in equity. For the minority of companies with net deferred tax assets, adoption would result in a reduction of assets and owners' equity. In addition, in contrast to APB 11, there was differential treatment of deferred tax assets and liabilities, with deferred tax liabilities recognized in their entirety, but deferred tax assets recognized only if there were certainty of realization.

The provisions of the statement were such that income could be affected by factors other than adjustment of deferred tax balances. For example, Lowe's Companies' January 31, 1988 tax footnote noted that adoption of SFAS 96 had increased net income by \$1.1 million, in addition to reducing deferred tax liabilities, because the statement required that the tax benefit resulting from employee stock ownership plan dividends be treated as a reduction of tax expense rather than as a direct credit to retained earnings. Provisions such as this meant that current period earnings could be affected by early adoption over and above the adjustment of previously recorded deferred tax amounts.

Another provision of SFAS 96 allowed a choice between methods of adoption. A firm could elect the *cumulative effect* treatment in which the entire change in previously-recorded deferred tax balances due to the 1986 reduction in tax rates was included as a (non-operating) component of income in the year of adoption. Alternatively, *retroactive* treatment could be elected, with the adjustment of deferred tax balances reflected directly in retained earnings and not affecting net income. This provision allowed firms to select a method of adoption suiting their preferences for reported income. For example, firms with deferred tax liabilities that wanted to increase (not increase) net income could elect cumulative effect (retroactive) adoption.

In addition, SFAS 96 was complex. Numerous articles in the financial press noted this complexity, sometimes using hyperbolic terms such as "accounting nightmare," "regulation overload," or "exponential" increase in record-keeping requirements (e.g., Altany, 1988; Weinstein, 1988; Parks, 1988). Firms contemplating early adoption also were concerned with the complexity of the statement. Many non-adopters discussed this in the income tax footnote of their annual reports. Typical was Synalloy's 1989 annual report that stated:

The company has not completed all of the complex analyses required to estimate the impact of the new statement, and it has not decided whether it will implement the statement early or restate any periods. (p. 17)

Because of this complexity many companies elected to defer adoption. For example, the 1989 annual report of Union Texas Petroleum stated that the firm did not intend to adopt SFAS 96 until the latest possible date:

Statement No. 96 is complex. The impact on the company is dependent upon many factors at the time of adoption such as current tax rates, year-end oil prices, and foreign exchange rates ... Management does not plan to adopt the statement until the required effective date. (p. 27)

PREVIOUS STUDIES OF SFAS 96

To date there have been three empirical studies that examine early adoption of SFAS 96. Two of these studies focus on firms' expressed motivations for adopting or not adopting this standard as revealed in their comment letters to the FASB or in response to questionnaires. The third study examines the choice of transition method, but does not contrast adopters and non-adopters.

Rayburn and Stone (1990) examine the comment letters submitted to the FASB during the exposure draft period. They conclude that many companies that were critical of the statement nonetheless elected early adoption and that the effects on financial statements were not as large as had been predicted in the financial press. They also note that many of the comment letters (27 percent) mention the difficulty of implementing this complex standard. Rayburn and Stone report that early adopters are larger, more capital-intensive, and more profitable than non-adopters, although no significance tests are presented. Their analysis of subsets of early adopters indicates that the decision on when to adopt SFAS 96 was not a simple one and may have involved consideration of costs of adoption as well as the effect of adoption on the financial statements.

Cassidy *et al.* (1993) report results of a study of 75 firms that elected early adoption of SFAS 96. The two most important findings are that early-adopting firms have lower income growth than non-adopters and perceive less difficulty in gathering the data necessary to implement SFAS 96.

Gujarathi and Hoskin (1992) provide a descriptive study of early adopters that suggests that firms with a positive cumulative effect chose the cumulative effect method while firms for which this effect would have been negative chose to apply SFAS 96 retroactively. Because the study involves only early adopters, it does not provide evidence on differences between early adopters and firms not electing early adoption.

HYPOTHESES

Beginning with Watts and Zimmerman (1978), economic consequences theories have predicted accounting choice based upon the firm's contracting environment. Policy decisions have been seen as influenced by a desire to reduce reported income in cases where political costs are important or to increase reported income in cases where management compensation is tied to income or when changes in reported income could relax constraints imposed by debt agreements. In addition to weighing these effects in determining accounting policy, managers also are assumed to consider the information production costs of accounting standards. Because most of the standards previously studied are not particularly complex, however, most studies of accounting policy choice have not considered the information-production costs of implementation of an accounting standard. One purpose of this paper is to develop and test proxies for the costs of implementation as well as to assess how well the agency-theoretic variables used in previous studies explain early adoption of SFAS 96. Based upon previous studies of accounting method choice and the details of SFAS 96, several hypotheses about early adoption are developed. Some of these hypotheses relate to the agency theoretic costs/benefits investigated in prior literature and some to the implementation costs specific to adoption of SFAS 96.

Analyzing adoption of SFAS 96 is more complicated than analysis of most previously-studied accounting standards because it cannot be assumed that the effect on income

is unidirectional. For example, while LIFO almost invariably decreases reported income in the period of adoption the effect of SFAS 96 is more varied. About 70 percent of early adopters of SFAS 96 report that the effect of adoption on current period income is positive, while it is zero, negative, or described as "not significant" for the remaining firms. Thus, a simple model predicting early adoption is unlikely to be successful. For example, consider a firm whose current period income (prior to the effect of possible adoption of SFAS 96) is lower than last period's income and whose management is averse to reporting earnings declines. If the effect of SFAS 96 on income is positive, early adoption may be selected as a means of reversing the earnings decline. If adoption of SFAS 96 would not have a positive effect on income, however, there would be no incentive to elect early adoption. Therefore, in an explanatory model of early adoption there should be a positive association between earnings decline for positive adopters and no association for nonpositive adopters. It is therefore appropriate to analyze the adoption decision for positive and nonpositive adopters separately. This paper will focus on firms for which early adoption had a positive effect on reported income in the year of adoption.

FIRM SIZE

Firm size generally has been included in accounting choice studies as a proxy for political costs, with the expectation that larger firms are more (less) likely to adopt income-decreasing (increasing) accounting alternatives than smaller firms (Watts and Zimmerman, 1978). This hypothesis has received mixed support. For example, Bowen, Noreen, and Lacey (1981) report that with the exception of firms in the oil industry, larger firms tend to select income-increasing methods of accounting for interest costs. In addition, as Trombley (1989) reports, a size effect may exist even for firms in a size range in which political costs are unlikely to be important. A possible reason why firm size could be related to accounting method choice is that the cost of adopting a new standard could be less (relative to firm size) for larger firms (Senteney and Strawser, 1988; Sami and Welsh, 1992). Similarly, Lev and Langer (1993) suggest that in the case of SFAS 87 on pension accounting, larger firms may have in-house expertise that enables them to adopt the new accounting requirement more quickly. For example, there is probably a large fixed cost to adopting SFAS 96 (e.g., Berton, 1988 and 1989). This fixed cost is likely to be lower, *ceteris paribus*, for large firms that employ accounting personnel able to understand and implement new accounting procedures. Therefore, while we control for firm size, which has been found to be important in many previous studies of accounting choice (although not always in the predicted direction), we have no unambiguous prediction of the direction of the association between size and the adoption of SFAS 96 for all adopters: political costs may make it less likely for larger firms to adopt this (on average) income-increasing method, while, on the other hand, larger firms could have relatively lower information production costs and hence may be more likely than smaller firms to elect early adoption. Therefore, a clear directional hypothesis for the size variable is not possible in the case of adopters for whom the effect on income was positive; relative costs of adoption would decrease with size but political costs would increase with size, leading to no clear prediction of the total effect. Despite the lack of theory to predict the effect of size on early adoption, it is useful to include this variable, if only as a control

variable, due to its importance in many prior studies. The effect of firm size, measured as the natural logarithm of total assets, on early adoption is stated as:

H₁: There is no relationship between firm size and the decision to elect early adoption of SFAS 96.

No sign prediction is made because the direction of association will depend on the relative importance of adoption costs and political costs.

INDUSTRY EFFECTS

The complexity and potential effect on reported results of SFAS 96 could have a differential impact on firms operating in different industries. Some parts of the statement affect regulated firms (such as utilities) but not nonregulated firms. As discussed by Rayburn and Stone (1990), under APB 11 regulated utilities do not have to consider deferred taxes related to temporary differences that might be reversed through subsequent rate changes. Under SFAS 96 these firms are required to provide for deferred taxes on these differences that might cause early adoption to be more complex for these firms.

The income tax footnotes of many regulated utilities not electing early adoption also note that SFAS 96 would require deferred tax provisions on items for which deferred tax calculations and scheduling had not been required previously. For example, the 1987 annual report of Commonwealth Edison (a non-early-adopter) states:

When the new standard is adopted, significant adjustments to balances of accumulated deferred income tax will have to be made to record additional deferred income tax liabilities related to the equity component of allowance for funds used during construction, which was previously recorded on an after-tax basis, the proportion of borrowed funds of allowance for funds used during construction, which was previously recorded net of tax, and other temporary differences not previously deferred.

For many utilities, even though income would not be affected by adoption, significant information-production costs might be incurred. This is suggested by the tax footnote of Orange and Rockland Utilities, a non-early-adopter:

SFAS No. 96 also provides that regulated enterprises recognize an offsetting asset representing future rate recoveries for the additional deferred tax liability. SFAS No. 96 will result in a significant increase in the amount of deferred tax liabilities and assets reported on the Consolidated Balance Sheet. However, the revised accounting standard is not expected to have a material impact on the Company's results of operations.

In addition, as suggested by Rosen, Faber, and Tutnauer (1988), the extent to which regulators consider reported income statement and balance sheet numbers in setting rates or property taxes might affect the decision on early adoption. The interaction of SFAS 96, the Tax Reform Act of 1986, and the regulatory process could reduce the likelihood that regulated utilities would elect early adoption. This leads to the following hypothesis:

- H₂: Regulated utilities are less likely than other firms to elect early adoption of SFAS 96.

POTENTIAL INCOME STATEMENT/BALANCE SHEET EFFECT

One of the most significant effects of SFAS 96 is the reduction in deferred tax balances provided in prior years when tax rates were higher than those enacted in 1986. This could have two effects on financial statements in the year of adoption: first, if the firm elected cumulative effect treatment, there could be a large one-time effect on net income (although not on operating income); second, regardless of the method of adoption, the deferred tax balance sheet account (a liability for most firms) would be reduced. Therefore, to the extent that management values the non-operating cumulative effect component of income, a large credit balance in deferred taxes should be associated with early adoption. Similarly, to the extent that management believes that deferred tax liabilities are viewed as similar to other liabilities by at least some parties, there could have been an incentive to reduce the balance of deferred tax liabilities. This leads to the following hypothesis:

- H₃: Firms with large deferred tax liabilities are more likely to elect early adoption.

DECREASED PRE-ADOPTION EARNINGS

Several studies have suggested that management has an interest in the level of reported earnings even absent a formal income-based compensation plan. As Trombley (1989) notes, managers may wish to avoid reporting income below that of the prior year. That is, there may be an implicit contract in which managerial performance is evaluated in part by reported income with decreases in income having a negative effect on the perception of managerial performance. As in Trombley, this concept is captured with an indicator variable having a value of one if earnings computed on the basis of APB 11 in the current period are less than the previous year's income:²

- H₄: Early adopters are more likely than non-adopters to have a decline in (pre-adoption) income.

An earnings decrease is expected to be associated positively with early adoption.

LEVERAGE

Many prior studies have found leverage to be related positively to the adoption of income-increasing accounting methods because increased reported income may reduce the constraining effects of debt covenants. (For a review of these studies and discussions of the limitations of this variable, see Duke and Hunt, 1990; Press and Weintrop, 1990; and Begley, 1990.) If debt covenant constraints are a factor in the decision to adopt SFAS 96, there should be a positive association between early adoption and leverage for positive

² This variable is computed as follows. For non-early-adopters of SFAS 96, *pre-adoption (APB 11) income* is simply reported income. For early adopters, *pre-adoption income* is computed as reported income adjusted to remove the effect of adoption on reported income. The effect of adoption includes both the cumulative effect (if any) on prior year's income shown on the income statement (as a component of current year income) and any other effect on current year's earnings disclosed in the tax or accounting policy footnotes to the annual report in the year of adoption of SFAS 96.

effect adopters who potentially could reduce these constraints (e.g., by increasing income) by electing early adoption. This leverage hypothesis is stated as:

H₅: There is a positive relationship between early adoption of SFAS 96 and leverage.

FOREIGN SUBSIDIARIES

SFAS 96 requires detailed scheduling of reversals of temporary differences between accounting and taxable income, including estimates of the future tax rates expected to be in effect at the time of reversal. This scheduling becomes more complex with greater numbers of taxing jurisdictions in which firms operate. Firms with operations in many foreign countries could expect implementation of the new standard to be particularly difficult (Berton, 1988; Altany, 1988; Parks, 1988) because of the necessity to record and adjust deferred tax balances for changes in foreign tax rates. Another complexity could result because SFAS 96 requires firms to schedule the deferred tax consequences of inter-company transactions between subsidiaries in different taxing jurisdictions (Coopers and Lybrand, 1988; Ernst and Whinney, 1988). The Accounting Standards Executive Committee (ACSEC) and a task force on tax accounting of the AICPA note this problem in a January 5, 1987 comment letter to FASB on the exposure draft of the statement:

ACSEC and the task force are concerned that scheduling of reversals [of temporary differences] would be required for numerous tax jurisdictions, especially for multinational corporations. That would require detail[ed] records that are not currently maintained. There is concern that increased costs due to increased record keeping will not be justified by increased benefits.

Therefore, the costs of implementation should be higher the greater the number of foreign subsidiaries a firm includes in its consolidated financial statements. To the extent that these additional implementation problems are not offset by a greater degree of accounting sophistication among multinational firms, the likelihood of early adoption of SFAS 96 should be related inversely to the number of foreign subsidiaries.³ This suggests the following hypothesis:

H₆: Firms with more foreign subsidiaries are less likely to elect early adoption of SFAS 96.

Because this variable is intended to proxy for the costs of adoption of SFAS 96, the number of foreign subsidiaries is expected to be related negatively to the likelihood of early adoption.

³ Even some large multinational firms note that foreign operations could increase the complexity of adopting SFAS 96. See, for example, Letter of Comment No. 218, November 11, 1986, from the Aluminum Company of America.

AUDITOR EFFECTS

There are two possible ways in which the auditor can affect early adoption decisions. First, Trombley (1989) notes that when management does not have a strong preference for or against an accounting standard, the auditor's view may be an important factor in the firm's choice. He finds a significant association between the auditor's expressed viewpoint on SFAS 86 (accounting for software costs) and early adoption. Trombley interprets this as suggesting that auditors' views on accounting standards are an important determinant of their clients' adoption decisions. Williams *et al.* (1990) suggest that the causality of the relation is in the opposite direction. In either case, auditor identity is a variable that should be considered in studies of accounting policy choice.

In order to assess the viewpoints of individual auditors, we examine the comment letters of Big Eight (now Big Six) auditors to the FASB on SFAS 96. The Big Eight firms generally favored the liability approach of SFAS 96, but were critical in varying degrees of certain aspects of the statement, especially the differential treatment of deferred tax assets and liabilities. One firm, Price Waterhouse, was far more critical of the exposure draft than the others. In addition to expressing this criticism in a comment letter, Price Waterhouse felt strongly enough about the issue to publicly critique SFAS 96 in a *Wall Street Journal* editorial written by its chairman (Conner, 1987). Thus, clients of Price Waterhouse are predicted to be less likely to elect early adoption.

H₇: Early adopters are less likely to be Price Waterhouse clients than to be clients of all other auditors.

Audit firms also could influence the adoption decision if auditors differ in their ability to assist firms in implementing complex accounting standards; in particular, it is possible that large accounting firms may develop the expertise needed to implement new standards more quickly. Thus, it is possible that the costs of adopting SFAS 96 may be less for clients of Big Eight auditors. This effect may be offset, however, by the fact that all of the Big Eight accounting firms were critical of at least some parts of SFAS 96. While there is no clear theory related to other Big Eight auditors, Trombley's (1989) results on an earlier accounting standard suggest it is worthwhile to explore whether audit firm type is related to accounting policy choice in the context of SFAS 96. Thus, for Big Eight firms other than Price Waterhouse, no prediction is made about the effect of auditor identity on early adoption.

H₈: Early adopters are equally likely to be clients of Big Eight auditors (other than Price Waterhouse) as to be clients of non-Big Eight auditors.

These auditor variables are intended to proxy for auditor position on SFAS 96 and for costs of adoption. No directional effect is predicted for H₈ while H₇ predicts a negative Price Waterhouse effect on early adoption.

EMPIRICAL RESULTS

SAMPLE SELECTION AND DATA COLLECTION

Firms electing early adoption of SFAS 96 are identified by searches of several data sources. These include the National Automated Accounting Research Service (NAARS), the Compustat footnote file, and annual reports contained in the Q-Data file, the disclosure file, and Moody's manuals.⁴ A firm is classified as an early adopter if it began applying SFAS 96 for a fiscal year ending on or before June 30, 1988. After early adopters are identified, their financial statements are examined to determine if adoption had a positive effect on reported income.⁵

After identification of firms electing early adoption, a sample of control firms is identified consisting of all Compustat firms that had not elected early adoption and that had fiscal years ending between December 31, 1987 and June 30, 1988.⁶ The research design uses all non-early adopters as control firms in order to avoid possible choice-based sample bias that may result from a sample in which there is a greatly higher proportion of treatment (adopting) firms than in the entire population (e.g., Zmijewski, 1984).

For all sample firms, the Compustat industrial and research files are used to obtain information for most of the variables used. The exceptions are:

- The number of foreign subsidiaries which are obtained from Moody's or Standard & Poor's manuals;
- The effect on reported financial results of firms electing early adoption, which is obtained from footnote disclosures in annual reports or Forms 10K;
- The specific identity of non-Big Eight auditors, used in an additional test, is obtained from annual reports or Forms 10K.⁶

The resulting sample consists of 201 firms for which early adoption of SFAS 96 had a positive effect on current year income and 1889 control firms which had not adopted the new standard as of June 30, 1988.

⁴ Multiple searches of these databases are necessary, including reading all tax footnotes, because conventional search strategies fail to identify all early adopters. For example, the auditor's opinion often did not mention the change in accounting principle. Usually this was because of a small effect on net income, although in two cases the effect was greater than 5 percent of net income and caused what would have been a decline in income over the previous year to become an increase in income. For a description of some of the problems and strategies in searching NAARS for early adopters of SFAS 96, see Clark and Lorenson (1989).

⁵ For approximately 30 percent of the early adopters, the effect of adoption on current-year income is zero, negative, or described as "not significant." These firms are excluded from the analysis. Approximately two-thirds of these excluded firms did not provide information sufficient to determine the effect of adoption on income. A large proportion (approximately half) of these excluded firms had net operating loss carryforwards, which could be shown, under the provisions of SFAS 96, as a component of operating income (via a direct reduction of income tax expense) rather than as an extraordinary item on the income statement.

⁶ Excluded from the group of control firms are foreign firms and nontaxable entities listed on Compustat. Also excluded from the analysis are firms for which the Moody's or Standard & Poor's manuals did not list subsidiaries.

Table 1—Descriptive Statistics and Univariate Tests of Association Between Explanatory Variables and Early Adoption of SFAS No. 96

Hypothesis	Variable†	Group Means		test-statistic ^b	p-value ^b
		Positive Adopters ^a	Non-adopters ^a		
1	SIZE	2055	1704	.75	.46
2	UTILITY	3.5%	10.8%	-10.72	.01
3	PYDEFTAX	.047	.036	3.26	.01
4	EPSDECLINE	44.3%	33.7%	9.03	.01
5	LEVERAGE	.24	.21	1.91	.03
6	FORSUBS	.9	3.3	-2.89	.01
7	PW	6.0%	12.3	-7.02	.01
8	OTHER8	81.1%	80.6%	.03	.87

^aN = 201 for adopters and 1,889 for non-adopters

^bTest statistics are t-statistics for mean differences between the two groups for continuous variables and chi-square statistics for dichotomous variables; p-values are one-tailed for variables with a predicted sign and two-tailed for variables for which there is no predicted sign

†Definitions of variables:

- SIZE = total assets in millions of \$
- UTILITY = Indicator variable with a value of 1 if firm was a regulated utility
- PYDEFTAX = Prior year deferred tax balance/prior year total assets
- EPSDECLINE = Indicator variable with a value of 1 if income computed per APB 11 would have been less than prior year income
- LEVERAGE = Long-term debt/total assets
- FORSUBS = Number of foreign subsidiaries
- PW = Indicator variable with a value of 1 if firm audited by Price Waterhouse
- OTHER8 = Indicator variable with a value of 1 if firm audited by a Big Eight auditor other than Price Waterhouse

UNIVARIATE TESTS OF HYPOTHESES

Table 1 presents mean values and test statistics for differences between early positive adopters and non-adopters for the variables of interest. The difference between the two groups is significantly different from zero in the hypothesized direction at better than the .01 level for prior year deferred tax balance (PYDEFTAX), decreased earnings (EPSDECLINE), foreign subsidiaries (FORSUBS), Price Waterhouse (PW), and UTILITY. Long-term debt to assets (LEVERAGE) are significant at the .03 level. SIZE is not significantly different from zero at any conventional level. The indicator variable for a Big Eight auditor other than Price Waterhouse (OTHER8), for which no directional effect is hypothesized is not significantly different between the two groups in the univariate tests.

MULTIVARIATE TESTS

Because of possible interactions between the explanatory variables, a multivariate test is more appropriate than the univariate tests discussed above. Because the dependent variable (early adoption or not early adoption) is dichotomous, a logistic regression rather than ordinary least squares is used.⁷ Table 2 presents the results of the LOGIT regression. The log-likelihood ratio, significant at the .0001 level, indicates a good overall fit for the

⁷ As is common in accounting choice studies, the results are essentially the same when ordinary least squares regression is used [e.g., Hagerman and Zmijewski (1979)]. Based on studies of this issue by Noreen (1988), Stone and Rasp (1991), and Maddala (1991), LOGIT regression is probably more appropriate than ordinary least squares because the sample size is large.

Table 2—Logit Model of the Relation Between Explanatory Variables and Early Adoption of SFAS 96 (n = 2,090)

$$\text{Adoption} = b_0 + b_1 \text{ SIZE} + b_2 \text{ UTILITY} + b_3 \text{ PYDEFTAX} + b_4 \text{ EPSDECLINE} + b_5 \text{ LEVERAGE} + b_6 \text{ FORSUBS} + b_7 \text{ PW} + b_8 \text{ OTHER8}$$

Hypothesis	Variable ^a	Expected Sign	Coefficient	t-statistic	p-value ^b
	Intercept	none	-2.19	-7.45	.01
1	SIZE	none	.07	1.61	.11
2	UTILITY	-	-2.00	-4.86	.01
3	PYDEFTAX	+	6.97	4.77	.01
4	EPSDECLINE	+	.41	2.62	.01
5	LEVERAGE	+	.48	1.64	.05
6	FORSUBS	-	-.48	-5.08	.01
7	PW	-	-1.28	-3.37	.01
8	OTHER8	none	-.56	-2.32	.02

-2 Log likelihood = 1,321 (Chi-square = 1.06; p < .0001)

^aAdoption is an indicator variable with a value of 1 if the firm elected early adoption. Explanatory variable definitions are as in Table 1 except for SIZE and FORSUBS which are expressed in natural logarithmic and square root form in the LOGIT regression

^bp-values are one-tailed for variables with a predicted sign and two-tailed where there is no predicted sign

model. Results for the individual explanatory variables are generally consistent with the univariate results. PW, FORSUBS, UTILITY, EPSDECLINE, and PYDEFTAX are significant in the hypothesized direction at the .01 level. LEVERAGE is significant in the predicted direction at the .05 level. These significance levels are similar to the univariate tests. The auditor variable for which no directional prediction is made, OTHER8, is significant and negative at the .02 level in the LOGIT regression, indicating that firms with Big Eight auditors other than Price Waterhouse were less likely than non-Big Eight clients to elect early adoption of SFAS 96. This is the only major difference between the univariate and multivariate tests. SIZE, the other variable for which no sign prediction is made, is positive but not significant.

Table 3 presents the correlation matrix among the explanatory variables. Aside from the strong negative correlation between PW and OTHER8 (which occurs simply due to the definition of these variables), none of the correlations exceed 0.32, and most are considerably smaller. This suggests that collinearity is not a problem in interpreting the results of the logistic regression. Computation of variance inflation factors (VIF) supports the conclusion that collinearity is not a problem; no value of VIF exceeds 2.5, which is far below the value of 10, which is conventionally considered to suggest a collinearity problem.

SUMMARY AND CONCLUSIONS

This study investigates the decision of firms to elect early adoption of SFAS 96 when early adoption would increase current year earnings. The results represent both replication and extension of previous work on firms' early adoption of mandated accounting standards. Similar to some previous studies, a downward earnings trend is strongly associated with the income-increasing adoption of SFAS 96. Support also is found for leverage

Table 3—Correlation Among Explanatory Variables (n = 2,090)

VARIABLE ^a	SIZE	UTILITY	PYDEFTAX	EPSDECLINE	LEVERAGE	FORSUBS	PW	OTHER8
SIZE	1.00							
UTILITY	.22	1.00						
PYDEFTAX	.28	.32	1.00					
EPSDECLINE	-.02	.04	-.04	1.00				
LEVERAGE	.11	.17	.08	.09	1.00			
FORSUBS	.30	-.16	.01	-.11	-.10	1.00		
PW	.08	-.01	-.01	.01	-.01	.05	1.00	
OTHER8	.06	.04	.06	-.01	.02	.02	-.74	1.00

^aVariable definitions are as in Table 1

as a determinant of early adoption. In addition, a variable proxying for the ability to affect earnings (prior year deferred tax balance) is strongly related to the likelihood of early adoption.

The major additions to our knowledge of the factors affecting early adoption of mandated accounting standards come from the results for the auditor identity variables and the proxies for the complexity of the new standard. Both regulated utilities and firms with complex foreign operations are significantly less likely to elect early adoption, suggesting that the complexity of the statement (costs of adoption) is an important consideration for many firms and, consistent with many of the comment letters submitted to the FASB, acted as a deterrent to early adoption. These results provide evidence on the effect of implementation (information-production) costs on the adoption of accounting standards.

Finally, the results are consistent with the only previous study that examines the effect of auditor viewpoint on accounting policy choice: the position of the auditor on the accounting standard is strongly related to the client's decision on whether to elect early adoption. The strongly negative view of SFAS 96 held by one audit firm (Price Waterhouse) made it significantly less likely that their clients would elect early adoption relative to the clients of other firms. In addition, the results indicate that clients of all large audit firms are much less likely to elect early adoption than are clients of smaller accounting firms. These results show that auditor identity can have a strong impact on client choice of accounting methods and therefore should be included as a potentially important explanatory variable in studies of accounting policy choice.

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