THE EARLY ADOPTION OF ACCOUNTING STANDARDS AS AN EARNINGS MANAGEMENT TOOL

DISSERTATION

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Pamela Ann Smith, B.S., M.B.A., CPA
Denton, Texas
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Many corporate managers elect to adopt a new Statement of Financial Accounting Standard (SFAS) early instead of waiting until the mandatory adoption date. This study tests for evidence that managers use early adoption as an earnings management tool in a manner consistent with one or more positive accounting theories.

This study explores earnings management in a manner not previously pursued in the accounting literature. Early adoption is modeled as a choice rather than as a classification. This is done by aligning the information set in the year of the decision rather than in the year of the action. The choice is made in the first year of a two-year window; the first year is early adoption, and the second is mandatory adoption. The information available in the choice year is first-year information (base year) and the difference between the first-year and anticipated second-year is differenced information.

The motivation for early adoption is based on three positive theory incentives for earnings management: contracting cost, political risk, and smoothing.

Contracting cost is operationalized as the risk of violating debt covenants with a high debt-to-asset ratio. Political risk is operationalized as the risk of inviting regulation, taxation, and political interference for the firms in the top of a *Fortune* listing. Smoothing is operationalized as the desire to reduce variability of earnings as seen through a naive measure of unexpected earnings. By including all positive theory characteristics simultaneously, the presence of competing positive accounting theories is controlled for as a motive in making the choice.

Through the use of logistic regression, four SFASs are tested for behavior consistent with earnings management. The findings suggest that the adoption decision for each standard has a distinct motivation for early adoption and a unique combination of information relevant to that decision. No one positive theory motivation is pervasive for all standards, and base year and differenced information are relevant at different times.

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CHAPTER 1

INTRODUCTION

New accounting standards proposed by the Financial Accounting Standards Board (FASB) are met with resistance and controversy because a new standard limits the available alternatives or forces a change in current policy. Corporate resistance and controversy regarding a new standard are evidenced in the general business press and in the FASB's Background Discussions of the motivation for each standard mandated.

For example, Statement of Financial Accounting Standards No. 8 (SFAS 8) (Accounting for the Translation of Foreign Currency Transactions and Foreign Currency Financial Statements) was opposed because it would increase the volatility in quarterly and annual income.[1]

Statement of Financial Accounting Standards No. 34 (SFAS 34) (Capitalization of Interest Costs) addressed capitalization of interest. Until SFAS 34, relatively little had been resolved concerning the issue of capitalized interest.[2] Rising interest rates in the early 1970s renewed attention to the subject of interest capitalization,

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[1] *Business Week*. 48, 14, February 1977. and *Financial Executive*. 28-31, June 1978.

[2] SFAS 34, Background Information.

and SFAS 34 eliminated the firm's discretionary power regarding capitalization.

Statement of Accounting Standards No. 52 (SFAS 52), (Foreign Currency Translation), was in response to the intense criticisms of SFAS 8.[3] Reporting under SFAS 8 resulted in large fluctuations in income. During the late 1970s currency realignments and major revisions of the international monetary systems intensified SFAS 8 fluctuations. SFAS 52 permitted gains and losses to flow through equity rather than through income; however, it eliminated some of the discretion allowed under SFAS 8.

Statement of Financial Accounting Standards No. 87 (SFAS 87) (Employer's Accounting for Pensions) was believed to adversely affect many corporations. Financial analysts and corporate managers believed SFAS 87 would have a negative impact on earnings, pension funding, and borrowing capacity.[4]

Despite the controversy and resistance, standards are mandated by the FASB. Sometimes an early adoption period is permitted during which the firm may voluntarily adopt the standard. Given this general opposition to new standards, it seems counter-intuitive that many firms choose early adoption instead of waiting until the change is mandatory.

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[3] SFAS 52, Background Information.

[4] *Institutional Investor*. 131-142, April 1986 and FASB *Preliminary Views*, November 1982.

One possible explanation for this behavior is that corporate managers use the choice of early adoption as an earnings management tool before the standard becomes mandatory.

Research Question

This study tests for evidence consistent with earnings management as the motivation for a firm's early adoption of a Statement of Financial Accounting Standard (SFAS). Early adoption may be an earnings management tool because (1) other means of earnings management have been fully exploited, (2) the early adoption window coincides with the need for an earnings management tool, or (3) early adoption attracts less attention than other earnings management mechanisms.

Motivation for early adoption is viewed according to one of three positive theories: contracting theory, political cost theory, and income smoothing. Each positive theory motivation has a specific earnings management objective. According to contracting theory, managers have incentive to increase earnings in order to avoid violation of debt covenants. According to political visibility, managers have the incentive to decrease earnings because if the firm becomes too large or too visible, it is susceptible to unwanted regulation and taxation. According to smoothing theory, managers wish to reduce the variability of earnings and produce stability in the earnings process.

Significance of the Study

Positive theory is often used to explain earnings management via discretionary accounting choices. Examples include the selection of accounting policies and discretionary accruals, as in Hand (1989); Jones (1991); and McNichols and Wilson (1988). Early adoption of a SFAS is also a discretionary accounting choice.

Early adoption studies have found systematic differences between the firms who early adopt and those that do not (Ayres 1986 [SFAS 52]; Grove and Bazley 1992 [SFAS 87]; Gujarathi and Hoskin 1992 [SFAS 96]; Norton 1989 [SFAS 87]; Salatka 1989 [SFAS 8]; Stone and Ingram 1988 [SFAS 87]). Until recently, these differences have not been specifically attributed to earnings management (Ayres 1986; Grove and Bazley 1992; Gujarathi and Hoskin 1992; Stone and Ingram 1988). Most early adoption studies have been descriptive in the characteristics of those firms that early adopted. No study has developed a model of choice that is linked to an earnings management theory. This study is an attempt to make that link.

By combining positive theory motivations and early adoption actions, this study interacts the positive theory characteristics of the firm with the effect of early adoption. The positive theory characteristics of the firm and the effect of early adoption are not tested as two separate variables but as a single combined variable. This

study also addresses what information set influences the policy decision. In doing so, a distinction is made between how characteristics of the firm influence the choice rather than how information classifies the chooser.

This study extends the earnings management literature by combining positive theory measures with the effect of early adoption. All positive theory characteristics (contracting, political cost, and smoothing) are tested simultaneously. Including measures of all three positive theory characteristics provides control for the presence of each in the early adoption decision. This study extends the early adoption literature by analyzing more than one standard and develops a choice model rather than a classification model.

Methodology, Assumptions, and Limitations

The dependent variable in this study is binary. Therefore, limited dependent variable analysis such as logitistic regression should be used to estimate the probability of early adoption. A simple estimation model is used to estimate unexpected earnings. The author acknowledges that there are limitations to both of these models and the variables used. Therefore, this study is necessarily a joint test of the methodology employed and of whether managers are actively managing their earnings. Conclusions stemming from this research should be tempered

by the limitations in these models and in the surrogates and assumptions used.

Implicit in this study is that the effect of early adoption on earnings is known to the decision-maker and that the marginal cost of early adoption is immaterial. The effect of early adoption is assumed to be transitory to the early year and has no long-range ramifications. Therefore, at the margin, early adoption is a preferred tool for earnings management because, once presented as an option, it is costless.

Sophisticated techniques to measure each positive theory motivation are not developed. Simple surrogates for each construct are used so that the research question at hand can be pursued. Refinement of variables and measures is left to future research.

CHAPTER 2

LITERATURE REVIEW

This chapter reviews the positive theories of accounting choice that influence earnings management. From these studies, the variable used to test each theory will be developed. This chapter also reviews previous studies of early adoption, and, from these studies, the models of early adoption choice will be developed.

Earnings Management

There is widespread belief that under certain conditions managers will manipulate accounting practices to attain a desired objective (Baber, Fairfield, and Haggard 1991; Boynton, Dobbins, and Plesko 1991; Hand 1989; Jones 1989; McNichols and Wilson 1988; Perry and Williams 1992). This body of research refers to accounting manipulations as earnings management or income smoothing. Both focus primarily on managing the income statement.

Earnings management is the broader term. It implies reporting earnings at some level desired by management. Contracting and political visibility (or cost) theories provide incentive under this definition. The first is associated with income increasing, and the second with

income decreasing behavior. Income smoothing has a narrower objective: to decrease the variability of earnings around some predetermined norm or trend.

Schipper (1989) stated that earnings management is successful only if the effect of earnings management is blocked or disguised from the reader of the financial statements. However, studies have found that earnings management persists even when the effects of such management can be undone (Grove and Bazely 1992; Hand 1989). This study assumes that, even though the effect of early adoption is disclosed and, therefore, can be undone, it is still used as an earnings management tool.

For any type of earnings management to exist, three conditions must be present: ability, control, and motivation. Ability and control are evident in the discretion that exists over the timing and amount of certain accruals, estimations, and changes in policies. Motivation is the setting in which the researcher tells the story of earnings management. Motivation for earnings management is primarily attributed to three camps of positive theory: contracting theory, political visibility, and income smoothing.

Contracting Theory

Beginning with Gordon (1964), researchers have tested and found that management's communication to the contracting

parties via financial information is influenced by the contracting process. In contracting theory, it is assumed that the manager maximizes his own wealth or utility. Manager utility is a function, not only of job security, personal growth, and income, but also of the level and growth of the corporation (Gordon 1964). Consistent with utility maximization, there are two main contracting arrangements that influence managers' behavior: the bonus contract, which is directly linked to managers' income and the debt contract, which is linked to firm performance and then to the managers' job security.

Because of the difficulty in capturing the constraints of the bonus contract, overall research findings using the bonus plan hypothesis are mixed and tenuous (Bowen, Noreen, and Lacy 1981; Hagerman and Zmijewski 1979; Watts and Zimmerman 1978). Using a more refined measure, Healy, Kang, and Palpepu (1987) found that compensation-based earnings measures are not adjusted for subsequent accounting policy changes. Industry and economy-wide changes were found to have more effect on the compensation arrangement than on the accounting policy changes.

Because of the weak link between accounting policy changes and compensation arrangements and the lack of strong measure of the compensation arrangement, the bonus plan hypothesis is not used as an incentive under contracting theory for this study.

Debt contracts provide a stronger link to earnings management. To reduce the probability of violating debt covenants, firms with high debt levels have incentive to increase earnings. The literature supports the contention that debt levels are significant in discretionary accounting choices (Christie 1990; Holthausen and Leftwich 1983; Watts and Zimmerman 1986).

However, not until Press and Weintrop's 1990 study had the level of debt been tested as a surrogate for closeness to the debt constraints. Press and Weintrop explicitly tested the relationship between debt levels and contracting constraints and found that, the higher the debt level of the firm, the more likely it is to have tighter accounting-based constraints, and, therefore, to be more motivated to increase earnings.

Daley and Vigeland (1983) found that the presence of debt was significant in the capitalization of research and development (R & D) costs. The authors found that, prior to implementation of SFAS 2 (Accounting for Research and Development Costs), capitalizers were, in general, more heavily levered. Similar conclusions were reached by Baber, Fairfield, and Haggard (1991). They found that R & D spending is significantly less for the highly levered firm when the ability to report positive or increasing income is jeopardized.

Smith (1993) called for a clearer link in the

relationship between debt levels and opportunism by the manager through the way debt levels are operationalized. This study attempts to make such a link to managerial opportunism by defining the firm's debt relative to the industry. The firm's debt level relative to its peers provides a gauge for closeness to debt constraints. Such relative measures have been used for dividend restrictions (Healy and Palepu 1990) and lease capitalization (El-Gazzar 1993). The industry median is used in this study as a relative reference point. The deviation from the industry median helps relate each firm to its peers.

When a firm's debt-to-asset ratio is above the industry median, contracting theory indicates that the firm will undertake income-increasing behavior. When the firm is highly leveraged relative to its peers, the risk of violating debt covenants increases. Covenant violations have negative ramifications on the manager. When a firm's debt-to-asset ratio is below the industry median, contracting theory indicates that there is no incentive to increase income. When the firm is not highly leveraged relative to its peers, there are no contracting risks or negative ramifications to the manager.

Political Visibility

Beginning in 1978 with Watts and Zimmerman, firm size has been associated with political cost theory (referred to in this study as political visibility). Political visibility theory maintains that the largest firms are the most politically sensitive. The largest firms are the most visible and, therefore, are more likely to come under the scrutiny of the government. Increased scrutiny could lead to higher taxes and the possibility of increased regulation.

The appropriate definition of what is "large" and the appropriate surrogate to capture firm size has been widely debated. Internal measures of size (i.e., financial statement measures) have been found to be significant in single policy choices, but they do have limitations. Watts and Zimmerman (1986) summarized ten studies of single accounting policy choice in which an internal measure of size was used. Eight out of the ten studies supported the theory that the size increases the probability of decreasing current period earnings (i.e., Deakin 1979; Dhaliwal 1980; Dhaliwal, Salamon, and Smith 1982). Christie (1990) aggregated the results of accounting choice studies and found size to be one of the six variables to be consistently significant in predicting behavior.

A limitation of the internal measures of size is that it may be capturing something other than political exposure and that it may be subject to manipulation (Watts and

Zimmerman 1990). Since the internal measure of size seems to explain everything, in the sense that it is always significant, does it really explain anything?

External measures of size are subject to less manipulation. One such external measure of size is industry concentration. The logic behind the industry concentration is that, the more concentrated the industry, the more likely the industry is to come under governmental scrutiny for monopolistic tendencies. Industry concentration is measured by some ratio of firms that are the top firms relative to all firms in the industry. In a highly concentrated industry, relatively few firms control the make-up of that industry. Therefore, the largest firms in a highly concentrated industry have the most risk of political scrutiny. Managers of these firms have incentive to use income-decreasing strategies to lessen political exposure.

Hagerman and Zmijewski (1979) and Zmijewski and Hagerman (1981) used an industry-concentration ratio as an external measure of political risk. Industry concentration was measured as the ratio of the revenue of the top eight firms in a four-digit SIC code to the total revenue in that industry. The results are weakly consistent with political visibility.

What is needed is a measure of political exposure that can accurately and discriminately capture the attribute of interest. Unfortunately, such a measure has yet to be

identified. To avoid the problems attributed to the internal measures of size, this study uses an external measure: the firm's *Fortune* ranking. This measure is defined in chapter 4.

Income Smoothing

Unlike the first two theories, income smoothing does not predict income-increasing or income-decreasing behavior. Income smoothing contends that managers manipulate earnings to portray stability in the earnings process to the users of the financial statements (Beidleman 1973; Suh 1990; and Trueman and Titman 1988). A priori, the directional effect of smoothing on income cannot be predicted because stability is the focus.

Smoothing predicts income-increasing or income-decreasing behavior, depending upon whether earnings are above or below expectations. When earnings are higher than expected, management will want to lower earnings to avoid building unrealistic expectations and to create reserves for the future. When earnings are lower than expected, management will want to increase earnings to meet expectations and to maintain confidence.

Income smoothing via discretionary accounting choice is evident throughout the accounting literature. Hand (1989) found evidence of smoothing behavior for firms that participated in debt/equity swaps. The swaps were used to

smooth unexpected and transitory declines in earnings per share. Ma (1988) also found evidence of smoothing in the United States banking industry via the loan-loss reserves. McNichols and Wilson (1988) found evidence of smoothing via the discretionary portion of the bad debt provision. When earnings were unusually high or low, the discretionary component of the provision for bad debts was used to minimize the variability.

Questions based on income smoothing must develop what the market has expected (a benchmark) and compare that to what is reported in order to determine the component of new or unexpected information. The expectation of earnings can be estimated via an expectation model or analysts' forecast. Prior studies have found that naive expectation models work sufficiently well and that analysts' forecasts are only slightly better than the naive models (Abarbanell and Bernard 1991; Bernard and Thomas 1989; Bernard and Thomas 1990). Rather than using analysts' forecasts, this study uses a naive expectation model of prior year earnings as the benchmark.

The Big Bath

Another hypothesis in the earnings management literature is the "Big Bath" hypothesis. The Big Bath occurs when the firm's performance is already below expectations, and there is more bad news. This creates an

opportunity to purge the financial statements so that future years will look better. Healy (1985) found that when earnings were extremely low, management chose not to increase income but to "take the bath."

McNichols and Wilson (1988) found evidence consistent with Healy (1985) in their analysis of the discretionary accrual portion of the bad debt provision. They found income-decreasing accruals when earnings were unusually low. The authors asserted that managers accrue all losses into the current year in anticipation of showing a more favorable outcome in the future.

In terms of variability of earnings, smoothing leads to lower variability and Big Bath to higher variability. If reduction of variability is tested and evidence of increased variability is found, future studies should consider more direct tests of Big Bath.

Early Adoption Studies

Early adoption studies to date have focused on the adoption of a single standard. The studies have found systematic differences in the characteristics of the firms that early adopt versus those who do not (Ayres 1986 [SFAS 52]; Grove and Bazley 1992 [SFAS 87]; Gujarathi and Hoskin 1992 [SFAS 96]; Norton 1989 [SFAS 87]; Salatka 1989 [SFAS 8]; Stone and Ingram 1988 [SFAS 87]). In general, these early adoption studies have found that, when a standard is

income increasing, early adopters tend to be closer to leverage constraints, to be larger, and to have a greater change in pre-adoption earnings.

These studies measured the firm's characteristics in the year the firm actually adopted, not in the year in which the choice was made. Data collected in these studies were for the early year for early adopters and for the late year for late adopters. Because of this measurement time frame, the issue is one of classification of firms on observed characteristics in the year of adoption, rather than on characteristics at the time of the choice and the information set used in the choice. Therefore, findings in these classification studies are endogenous to the question. Endogenity biases the results in a logistic regression (Train 1986).

This study differs by aligning all firm data in the year the choice is made to eliminate the endogenity issue (see chapter 4--Data Relevant to the Choice Decision). This study directly tests for the information set used in the choice. After this study was essentially complete, Langer and Lev (1993) became the first accounting study published to align firms in the year of choice. However, that study does not test for earnings management or for the information set used in the choice.

SFAS 87-Employers' Accounting for Pensions

Grove and Bazely (1992) explicitly addressed the issue of early adoption as an earnings management tool. They looked at the adoption of SFAS 87 from the perspective that blocked communication is a necessary component for the success of earnings management. The authors believe that the adoption of SFAS 87 was a perfect opportunity to test for blocked communication because of the latitude left to managers as to when and how to adopt.

Grove and Bazely (1992) compared early adopter information in the early year to late adopter information in the late year. They found that the impact of adoption on early adopters was more positive and more material to net income and changes in net income than it was for late adopters. This evidence is consistent with earnings management, but fails to explicitly address the issue of choice.

To determine if the early adopters were trying to block the effect on earnings, Grove and Bazely (1992) looked at the trend of the change in earnings with a 10% materiality threshold. They found that the impact on the early adopters exceeded the threshold, thus requiring disclosure. The authors concluded that earnings management was not achieved because the impact could be undone by the financial statement user. However, the authors offered no alternative explanation as to why the managers engaged in early

adoption. An alternative explanation may be that earnings management takes place without the requirement of blockage.

Senteney and Strawser (1990), Norton (1989), and Stone and Ingram (1988) also explored the systematic differences between those firms that early adopted and those that did not early adopt SFAS 87. The general conclusion was that early adopters had overfunded pension plans, the service cost component was small relative to the interest and amortization component, and finally, that the adoption increased after-tax income, reduced pension expense, and had a minimal--if any--impact on the balance sheet. These studies also gave indications that early adoption of SFAS 87 was used to increase earnings.

Langer and Lev (1993) explored early adoption of SFAS 87 to determine the implementation costs to the firm. Of the eight motives for early adoption, only increasing earnings was consistent in discriminating between early and late adopters. The authors suspect earnings management behavior, but have not directly tested for it. Langer and Lev compared firm characteristics between early and late adopters in the early year and observe the same differences as the previous researchers. Although Langer and Lev aligned the firm data in the early (choice) year, they did not test for the information set used in the choice.

SFAS 52-Foreign Currency Translation

Ayres (1986) looked at the characteristics of the firms that early adopted versus those that late adopted SFAS 52. Each set of characteristics was measured in the adoption year. Therefore, this study is one of classification rather than choice. In general, she found that the early adopters had higher debt, were smaller, and had a larger percentage of shareholders who were directors and officers. It was assumed that SFAS 52 would yield a higher and less volatile income than under SFAS 8; hence, the standard was more attractive from an earnings management perspective. For firms that early adopted, pre-adoption earnings decreased in the year before adoption, supporting that early adoption of SFAS 52 was used as an earnings management tool.

SFAS 8-Accounting for the Translation of Foreign Currency Transactions and Foreign Currency Financial Statements

Salatka (1989) studied the stock market reaction on early and late adopters of SFAS 8 at the time the exposure draft was released. This reaction says nothing specifically about earnings management. However, it did provide evidence that the market believed that early adoption of SFAS 8 dampened the financial statement effects of translation adjustment, and it was, on average, an income-decreasing method. Saltaka found support that early adopters were systematically larger than late adopters.

Contribution of This Study to the Literature

This study combines positive theory motivations for earnings management (political visibility, contracting, and smoothing), with early adoptions actions in a manner not previously pursued. The positive theory motivation is evaluated in conjunction with the effect of adoption on net income to strengthen any conclusions that earnings management was the motivator of the observed behavior. This study evaluates three positive theories simultaneously as possible motivations for early adoption actions. Including measures of all three positive theories controls for the possibility of each in the early adoption decision.

The early adoption literature is extended by modeling the choice rather than classifying the chooser. The choice to early adopt is modeled on information either available or anticipated in the year the choice was made rather than when the action was taken. Combining these two bodies of research is a step toward answering the <u>why</u> question rather than the <u>who</u> question.

CHAPTER 3

DEVELOPMENT OF THE HYPOTHESES

This chapter develops the hypotheses to test if earnings management motivations, in conjunction with the effect of adoption on net income, are significant in the decision to early adopt or not.[5] If the early adoption decision is motivated by earnings management, the positive theory measure and the effect of adoption must both be considered.

Unexpected earnings may also play a major role in any earnings management decision. Therefore, if earnings are being managed, the firm's unexpected earnings are relevant in the adoption decision. In this instance, the early adoption decision is motivated by earnings management, and the effect of early adoption is evaluated in conjunction with unexpected earnings. Therefore, the positive theory measure, the effect of adoption, and unexpected earnings must all be considered as part of the decision.

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[5]The effect of adoption is always the effect of early adoption on net income, although, for the sake of brevity, it may be referred to as simply the effect of adoption.

Hypothesis 1: Contracting Theory, an Income-Increasing Hypothesis

Hypothesis 1a

According to contracting theory, when the firm is highly levered, more income is desirable. The desire to early adopt depends on the level of debt and the effect of adoption on net income. Contracting theory dictates early adoption behavior only when the firm's debt level is high. When the firm's debt is low, there is no theory supporting how the firm will act. For this study, it is assumed that when the firm's debt level is low, the effects of debt are consistent with the effects when the firm's debt is high. If more debt makes more income desirable, then it is assumed that less debt makes more income relatively less desirable.

When a firm's debt level is high and the effect of adoption is positive, the likelihood of early adoption increases. The firm is highly levered and will want an increase in income to avoid violating debt covenants.

When a firm's debt level is high and the effect of adoption is negative, the likelihood of early adoption decreases. In this case, the firm is highly levered and does not want to early adopt because the effect of adoption will lower earnings.

The contracting theory hypothesis is as follows:

H_{1a}: High levels of debt and positive (negative) effect of early adoption will increase (decrease) the likelihood of early adoption.

Hypothesis 1b

Unexpected earnings are another key component in earnings management. Including unexpected earnings in the decision to early adopt simulates the information set available to the manager when the early adoption decision was made. Including unexpected earnings in the adoption decision is incremental to the relative desirability of early adoption discussed in the previous section.

When debt levels are high and unexpected earnings and the effect of adoption are positive, early adoption is relatively less desirable. Early adoption is relatively less desirable because positive unexpected earnings have provided the increase in earnings desired under contracting theory. Therefore, earnings management via early adoption is not as desirable.

When debt levels are high and unexpected earnings are positive, but the effect of adoption is negative, early adoption is relatively more desirable. Early adoption is relatively more desirable because positive unexpected earnings have provided the increase in earnings desired under contracting theory and earnings can absorb any negative impact of early adoption.

When debt levels are high and unexpected earnings are negative, but the effect of adoption is positive, early adoption is relatively more desirable. Early adoption is more desirable because earnings have unexpectedly declined

and the positive effect of adoption will provide the increase in earnings desired under contracting theory.

When debt levels are high and unexpected earnings and the effect of adoption are negative, early adoption is relatively less desirable. Early adoption is less desirable because early adoption would decrease earnings even further and an increase in earnings is desired under contracting theory.

The three-way interaction hypothesis for contracting theory is as follows:

H_{1b} : High levels of debt, along with positive (negative) unexpected earnings and a positive (negative) effect of early adoption will decrease the likelihood of early adoption.

H_{1c} : High levels of debt, along with positive (negative) unexpected earnings and a negative (positive) effect of early adoption will increase the likelihood of early adoption.

Hypothesis 2: Political Cost Theory, an Income-Increasing Hypothesis

Hypothesis 2a

According to political visibility, the larger the firm the less desirable it is to increase income. When the effect of adoption is positive, the desirability of early adoption decreases because the firm does not want to increase earnings. When the effect of adoption is negative,

then the desirability of early adoption increases because the firm wants to decrease earnings.

The political visibility hypothesis is as follows:

H_{2a}: The larger the firm the less likely it will early adopt if the effect of adoption is income increasing.

Hypothesis 2b

The larger the firm, when unexpected earnings are positive and the effect of adoption is positive, the desire to early adopt decreases because the firm does not want to increase income any further. When unexpected earnings are positive and the effect of adoption is negative, the desire to early adopt increases because the firm wants to decrease earnings.

The larger the firm, when unexpected earnings are negative and the effect of adoption is positive, the desire to early adopt increases (is less undesirable) because the firm has negative unexpected earnings to offset the positive effect of adoption. When unexpected earnings are negative and the effect of adoption is negative, the desirability of early adoption decreases (is less desirable) because the firm has already experienced a decrease in earnings through the unexpected decline in earnings.

The three-way interaction political visibility hypothesis is as follows:

H_{2b} : The larger the firm, along with positive (negative) unexpected earnings, a positive (negative) effect of early adoption will decrease the likelihood of early adoption.

H_{2c} : The larger the firm, along with positive (negative) unexpected earnings and a negative (positive) effect of early adoption will increase the likelihood of early adoption.

Hypothesis 3: Income Smoothing, an Income Stabilizing Hypothesis

Hypothesis 3

When unexpected earnings are positive and the effect of adoption is positive, the desire to early adopt decreases because the firm wants to offset positive unexpected earnings with an income-decreasing strategy. When unexpected earnings are positive and the effect of adoption is negative, the desire to early adopt increases because early adoption offsets the positive unexpected earnings.

When unexpected earnings are negative and the effect of adoption is positive, the desire to early adopt increases because the effect of adoption is the opposite of unexpected earnings. When unexpected earnings are negative and the effect of adoption is negative, the desire to early adopt decreases because the effect of adoption does not offset the unexpected earnings.

The hypothesis for smoothing theory is as follows:

H_3 : When unexpected earnings are positive (negative) and the effect of adoption is negative (positive) the likelihood of early adoption increases.

Explanation of Tables

This study hypothesizes that the early adoption decision is motivated by earnings management. Both the positive theory measure and the effect of adoption are considered and operationalized as a two-way interaction. When unexpected earnings are added to the choice decision, the positive theory measure, unexpected earnings, and the effect of adoption are operationalized as a three-way interaction. To move in to the interpretation of whether the hypotheses are supported, this section puts the hypotheses in terms of interactions and predicted signs of the coefficients.

The combination of earnings management motivations and the effect of early adoption is paramount in the early adoption decision. That is, the adoption decision is not made based upon one factor in isolation. The predicted signs of the coefficients for the interaction terms are based upon the relationship dictated by positive theory, the variables selected to operationalize the theory, the effect of early adoption, and unexpected earnings.

The signs of the constant and the coefficients for the theory and choice variables on a stand-alone basis (the main effects) are not predictable by theory. The signs on the

coefficients for the main effects are a function of the sample mix. The main effects are included in the model for control purposes only, with no hypotheses.

Table 1 lists the possible outcomes for the two-way interactions. (See appendix for all tables.) Each positive theory measure is interacted with the effect of adoption in the body of the table. The columns present the effect of adoption; in the first column, it is positive, and in the second, it is negative. Each the positive theory measure is shown vertically down the table.

The desire to early adopt is based on the positive theory motivating earnings management. The sign of the two-way interaction term, without considering its coefficient, is simply the sign of the effect of adoption times the positive theory measure. The interaction, together with the desirability of adoption, dictates the expected sign of the coefficient for the two-way interaction. Simply stated, the signs are developed as follows:

$$\text{Sign of coefficient} = \frac{\text{sign of desirability}}{\text{sign of interaction}}$$

If the positive theory asserts that adoption is desirable and the interaction is positive, the sign of the coefficient will be positive. If the positive theory asserts that adoption is desirable and the interaction is negative, the sign of the coefficient will be negative. In both cases, there will be an overall positive effect.

If the positive theory asserts that adoption is not

desirable and the interaction is positive, the sign of the coefficient will be negative. If the positive theory asserts that adoption is not desirable and the interaction is negative, the sign of the coefficient will be positive. In both cases, there will be an overall negative effect.

Table 2 lists the possible outcomes for the three-way interactions. The columns present unexpected earnings: in the first column, positive; and the second, negative. Vertically down the table are the possible outcomes from the two-way interactions discussed above. The two-way interactions are either positive or negative.

The desirability of adoption for the three-way interaction, considering unexpected earnings, is incremental to the desirability of adoption for the two-way interaction. The sign of the three-way interaction, without considering its coefficient, is simply the sign of the two-way interaction times unexpected earnings. The expected sign of the coefficient of the three-way interaction is determined by the desirability of early adoption and the sign of the three-way interaction.

When the three-way interaction is positive and adoption is more desirable or less undesirable because of unexpected earnings (i.e., desire has increased incrementally), then the sign of the coefficient will be positive. When the three-way interaction is positive and adoption is less desirable or more undesirable because of unexpected earnings

(i.e., desire has decreased incrementally), then the sign of the coefficient will be negative.

When the three-way interaction is negative and adoption is more desirable or less undesirable because of unexpected earnings, then the sign of the coefficient will be negative. When the three-way interaction is negative and adoption is less desirable or more undesirable because of unexpected earnings, then the sign of the coefficient will be positive.

CHAPTER 4

RESEARCH METHODOLOGY

Standard Selection

This study examines four Statements of Financial Accounting Standards (SFAS) to test the hypotheses developed in the previous chapter. The standards are the following: SFAS 8--Accounting for the Translation of Foreign Currency Transactions and Foreign Currency Financial Statements; SFAS 34--Capitalization of Interest Costs; SFAS 52--Foreign Currency Translation; and SFAS 87--Employer's Accounting for Pensions. The criterion for selection of the standards is that the standards are not industry specific, that it contains potentially income increasing or decreasing provisions, and that there was at least a one-year early adoption window.

Through SFAS 107, fifteen standards meet the above criteria. Of these, eleven either affected disclosures only (i.e., SFAS 2, SFAS 5, SFAS 14), had no early adopters (i.e., SFAS 13, SFAS 16, SFAS 43), or became mandatory too late to be considered in this study (i.e., SFAS 96). This left four SFASs to be studied.

Table 3 presents the standards selected, the date the standard was issued, the date the standard became effective,

and the length of the early adoption window. SFAS 8 and 34 each have a one-year early adoption window. For SFAS 8, the early adoption year was 1975, and the mandatory adoption year was 1976. For SFAS 34, the early adoption year was 1979, and the mandatory year was 1980. SFAS 52 had a two-year early adoption window. Early adoption could have occurred during 1981 or 1982, with mandatory adoption in 1983. Both early adoption years are included in this study and are tested relative to the mandatory year. SFAS 87 also had a two-year early adoption window; however, because its issue date was so late in 1981, only 18 out of 284 firms early adopted in this year. Because so few firms early adopted in 1981, they were dropped from this study. Early adopters for SFAS 87 are those who adopted in 1986, and mandatory adopters are those who adopted in 1987.

Sample Selection

Early and late adopters for this study are those identified by the AICPA in *Accounting Trends and Techniques*. This publication includes 600 publicly traded firms, 80% on the New York Stock Exchange, 8% on the American Exchange, and the remainder, over-the-counter. These firms are typically the largest in the industry, and the industry mix is intended to be representative of the market as a whole.

The identification of accounting standards, both early and late, is based on financial statements disclosures. A

firm may have failed to disclose that adoption occurred if the effect of adoption was immaterial. Such firms are excluded from this study by default. A firm may have disclosed both that adoption occurred and that the effect was immaterial without disclosing the actual effect on net income. These firms are included in the study with zero as the effect of adoption.

Table 4 summarizes the early and late adopters by standard. Firms were eliminated if they were not on the Compustat tapes, if their annual report was not available at the libraries of the University of North Texas or the University of Texas at Dallas, or if they were identified as an outlier for any variable. The inclusion of observations deleted because of outliers had no significant effect on the parameter estimates being tested, but their removal did improve the overall efficiency of the models.

Data Relevant to the Choice Decision

To explore why firms choose to early adopt, the researcher must determine <u>what</u> information is used before he or she can conclude <u>how</u> that information influenced the chooser's decision. <u>What</u> information centers on two components: (1) what information is relevant to the chooser's decision concerning the characteristics of the firm and (2) whether, from that relevant set of information, it is the first-year or the second-year information that is

relevant to the chooser.

With respect to the first component, the theories motivating this research suggest that the information about the firm that is relevant in the choice includes firm size, debt level, and unexpected earnings. With respect to the second component, the adoption decision is made in the first year of a two-year window when the first year is early adoption and the second year is mandatory adoption.

By adopting in the first year, the choice is made and action is taken; in the second year, there is no choice and no action. By not adopting in the first year, the choice is made and no action is taken. In the second year, there is no choice, but action is taken. In each case the choice is made in the first year. This study is interested in modeling the choice and, therefore, is interested in data available or anticipated in the first year.

This study models the choice in the first year in terms of three alternative information sets: (1) the first-year information only (base year); (2) the difference in the first-year and anticipated second-year information (differenced information); or (3) the first-year information and the difference between the first-year and anticipated second-year information.

Second-year information is not available at the time the choice is made; therefore, the chooser must anticipate the second-year information. The chooser's expectations of

the second-year information are not observable. This study uses actual data from the second-year as a surrogate for the chooser's expectations of the second-year, because it is believed that the chooser is in a position to accurately anticipate the second-year data.

Since the issue here is to model the choice, it is expected that, when the chooser anticipates the second-year information, it is not the level of the second-year information that is relevant to the decision per se, but, rather the difference. The chooser recognizes that the current year firm characteristics are not alterable and, therefore, like sunk cost, are unchangeable and irrelevant. The only relevant issue in the decision is the relative difference between this year and the next. Therefore, when second-year information comes into play in the choice model, it does so in difference form: the difference between the current year and the next.

Adoption Effect Assumed to Be Constant

The above discussion assumes that the effect of adoption on the net income of the firm is constant between the first and second year and that the choice lies only in which year to recognize the effect. This assumption has merit in that the factors influencing the effect of adoption on a single firm will remain constant from one year to the next. Discounting the effect of adoption is unnecessary

because it is an accounting, not a monetary value.

A plausible alternative would be to estimate the effect of adoption on the firm in the year that the firm did not adopt. Such an estimation is subject to estimation errors and numerous assumptions. Langer and Lev (1993) estimated the effect of adoption of SFAS 87 on late adopters had they early adopted. They found their estimation model to have a correlation coefficient of .95 with the actual effect, and they also found that using the estimated effect of adoption did not improve the results in the exploration of the adoption motive. Estimation of an unobserved variable always exists as an issue. This study uses the actual effect of adoption and assumes that the effect would have occurred in either the early or late year.

Variable Definition

Table 5 presents variable definitions for this study. For each variable, the construct the variable represents, the variable definition, and the acronym used to represent the variable is presented.

Contracting constraints are represented by the firm's debt-to-asset ratio relative to the industry median. Debt-to-assets is a positive function of the debt-to-equity ratio, but, because it excludes the problems associated with zero or negative equity, it behaves better mathematically than the debt-to-equity or equity-to-total assets. Debt is

measured as long-term debt (Compustat #9) plus current maturities (Compustat #44). Total assets are measured as Compustat #6. The contracting variable is referred to as DBT in this study.

In this study, a firm's *Fortune* ranking represents its political visibility. The *Fortune* ranking is independently prepared and widely recognized. It is converted into an index so that the measure is continuous rather than discrete. Cheng, Hopwood, and McKeown (1992) support the uniform conversion of a ranking into a zero-to-one index to improve econometric results when dealing with potentially nonlinear variables. The use of a zero-to-one index should capture the gradations of political sensitivity as a function of size without requiring the specification of the underlying function as linear.

Fortune magazine produces an annual listing of the *Fortune 500;* the top 500 industrial firms and the *Fortune 50;* and the top retail, insurance, financial, and banking firms. The index is calculated by taking the rank of the sample firm from the total firms on the list, then dividing by one plus the number of firms on the list. In this study, the index measure is referred to as FINDX.

Smoothing is represented by the firm's unexpected earnings. Unexpected earnings are the firm's current year earnings, excluding the effect of adoption, less the benchmark of prior year earnings. Both current year

earnings and the benchmark are scaled by the prior year's total assets. The benchmark used in this study is prior year earnings. Analysts' forecasts also provide a possible benchmark; however, there is no way of knowing whether the analysts' forecasts include the anticipated effect of adoption. Therefore, this study uses a naive model of prior year earnings as the benchmark. Unexpected earnings are referred to as UE in this study.

The effect of adoption is the effect on current year earnings as disclosed in the financial statements of the firm. The effect of adoption is scaled by prior year total assets. Table 6 summarizes by hypothesis the theory being tested, the variable used to test the theory, and the anticipated sign on the coefficient for this variable.

Data Collection

The footnotes to the annual report and/or 10-k were examined to determine the effect of adoption on net income after taxes. If the disclosure was pre-tax, the effective tax rate for the firm was determined, and the effect of adoption was calculated net of tax. All other financial statement data were obtained from the Compustat tapes. Compustat's industry classification wa used to determine the firm's industry. To reduce the risk of heteroskedasticity and improve comparability, all financial statement data were scaled by lagged assets.

Logistic Regression Model

The research question dictates that some form of limited dependent variable regression should be used and logit (logistic regression) is chosen. The decision whether or not to early adopt requires a model with a binary dependent variable. When the outcome is dichotomous, the required assumption for regular regression, a normal distribution function can no longer be assumed. A logistic distribution function accommodates a dichotomous dependent variable, and the logistic regression produces unbiased, efficient coefficients with meaningful interpretation.

In exploring the research questions, a logistic regression model is developed on a standard by standard basis as follows. First, the logistic regression includes a constant; all variables for the first year to determine which choice year firm characteristics are relevant to the choice (the base year model). The second model is estimated using only the differenced terms plus EA and a constant to determine which differenced terms are relevant to the choice (differenced model).

Then the base year and the differenced terms are combined in one model to determine which terms were relevant to the choice (base year model plus differenced terms). Each model has an overall *p*-value representing the significance of the terms over and above a model with the constant term alone. Additionally, the relative

contribution between models is measured by the increase in the log-likelihood of the model.

In the concluding model, irrelevant terms are identified and dropped from the model. Irrelevant terms are those that, when added to the model, fail to significantly contribute to the log-likelihood.

The base year logistic regression model is as follows:

$$A/NA_j = a_j + b_{1j}(DBT) + b_{2j}(DBT_j*EA_j) + b_{3j}(DBT_j*EA_j*UE_j) + b_{4j}(DBT_j*UE_j) + b_{5j}(FINDX_j) + b_{6j}(FINDX_j*EA_j) + b_{7j}(FINDX_j*EA_j*UE_j) + b_{8j}(FINDX_j*UE_j) + b_{9j}(EA_j) + b_{10j}(UE_j) + b_{11j}(EA_j*UE_j) + e_j$$

Where;

A/NA_j = firm j's decision to adopt early = 1
firm j's decision not to adopt early = 0,

EA_j = the effect of early adoption on firm j as disclosed in the financial statements$_{t(d)}$ / total assets$_{t(d)-1}$, where ($_{t(d)}$ = year of disclosure),

$FINDX_j$ = (500 - *Fortune* ranking) / 501 for those firms on 500,
(50 - *Fortune* ranking) / 51 for those firms on 50,

DBT_j = $DEBT_j$ - $INDMED_j$,

$$DEBT_j = \frac{\text{debt (Compustat \#9 + \#44)}}{\text{total assets}_{t-1}},$$

$INDMED_j$ = debt-to-asset median for the four digit SIC industry of firm j,

UE_j = (CE_j /total assets$_{t-1}$) - (CE_{j-1} /total assets$_{t-1}$),

CE_j = current year earnings, excluding EA_j,

a_j, b_{1j}, b_{2j}, b_{3j}, b_{4j}, b_{5j}, b_{6j}, b_{7j}, b_{8j}, b_{9j}, b_{10j}, b_{11j}, e_j = logit parameter estimates and error term.

The main effects and secondary two-way interaction presented in the model are included for control purposes only and are not being tested. The sign or significance of these main effects would be a condition of the population mix, and not theory. The beta coefficient on the second and third term test hypotheses 1a and 1b regarding contract theory. The beta coefficient on the sixth and seventh term test hypotheses 2a and 2b regarding political visibility theory. The beta coefficient on the eleventh term tests hypothesis 3 regarding smoothing theory.

The base year plus the differenced model is as follows:

$$
\begin{aligned}
A/NA_j = {} & a_j + b_{1j}(DBT) + b_{2j}(DBT_j*EA_j) + b_{3j}(DBT_j*EA_j*UE_j) \\
& + b_{4j}(DBT_j*UE_j) + b_{5j}(FINDX_j) + b_{6j}(FINDX_j*EA_j) \\
& + b_{7j}(FINDX_j*EA_j*UE_j) + b_{8j}(FINDX_j*UE_j) \\
& + b_{9j}(EA_j) + b_{10j}(UE_j) + b_{11j}(EA_j*UE_j) \\
& + b_{12j}(DDBT_j) + b_{13j}(DDBT_j*EA_j) \\
& + b_{14j}(DDBT_j*EA_j*DUE_j) + b_{15j}(DDBT_j*DUE_j) \\
& + b_{16j}(DFINDX_j) + b_{17j}(DFINDX_j*EA_j) \\
& + b_{18j}(DFINDX_j*EA_j*DUE_j) + b_{19j}(DFINDX_j*DUE_j) \\
& + b_{20j}(DUE_j) + b_{21j}(EA_j*DUE_j) + e_j
\end{aligned}
$$

Where,

$DDBT_j$ = DBT (early year) - DBT (late year), for $firm_j$,

DUE_j = UE (early year) - UE (late year), for $firm_j$,

$DFINDX_j$ = FINDX (early year) - FINDX (late year), for $firm_j$,

The logistic regression is estimated using *SYSTAT LOGIT* software program (Steinberg and Colla 1991). This program generates the analysis of the strength of the model and the significance of the parameter estimates. The overall strength of the model is tested by changes in the log-likelihood. A *G*-test, tests the incremental power of parameters added to the model. The *G*-value is two times the change in the log-likelihood and is distributed *Chi-square*, with degrees of freedom equal to the number of parameters added.

CHAPTER 5

RESULTS

This chapter presents the results of the logistic regressions. Each standard is presented independently. The earnings management incentives of political visibility, contracting, and smoothing are hypothesized to motivate early adoption. Firm data is aligned in the choice (base) year. Both base year and differenced year information are tested to determine what information is relevant to the choice decision.

The individual logistic regressions show that, for each standard, the adoption decision has a distinct motivation for early adoption and a unique combination of information in that decision. Therefore, there exists no support to justify combining the standards for analysis.

This chapter proceeds as follows: First, the descriptive statistics of the data are presented, and transformations are explained. Then the results for each standard are discussed. In table 7, the means of each variable for early and late adopters are presented. The results of the logistic models are presented in tables 8 through 11. The first half of the tables present information concerning the overall model: the parameters,

the p-value of the overall model, the log-likelihood, and the incremental p-value between models. The second half of the tables present information concerning the hypothesized interactions: the hypothesis being tested, the predicted sign, the actual sign of the coefficient, and the p-value of the coefficient.

In tables 8 through 11, the first model is the base year logistic model, which includes information from the base year only. The second model uses the differenced terms alone to determine whether the difference between early- and late-year information influenced the adoption choice. The third model is the base model plus the differenced terms. This model is used to determine if both base year and the differenced information are relevant to the adoption choice.

The concluding model (model four) includes terms identified through the first three models as significant and consistent with one or more of the hypotheses. The terms in the concluding model are tested for their contribution to the log-likelihood. The objective is to increase the log-likelihood while retaining significance in the individual coefficients. Model four is the most parsimonious of all the models; it includes only those terms that significantly contribute to the model's overall explanatory power.

Two p-values are presented for each model. These are the p-values for the overall strength of the model and the p-values for the incremental contribution to the log-

likelihood from one model to the next. The model's overall p-value measure is similar to an *F*-statistic in regression. It tests that the parameter estimates are simultaneously not zero. That is, the model is significant relative to a model with a constant term alone, and at least one of the parameters are different from zero.

The relative contribution of the parameters from one model to the next is measured by the increase in the log-likelihood through a G-test. The G-test is: G = 2 * (LL1 - LL2) and is distributed chi-square, with degrees of freedom equal to the number of parameters added (i.e., LL1 is the log-likelihood of model 1, and LL2 is the log-likelihood of model 2).

The third model is the basis for comparing log-likelihoods because it includes both base year and differenced terms. If, in the third model, the log-likelihood increases significantly (decreases in absolute value) and the coefficient of the added terms are significant, then the information added is relevant to the decision.

Data Descriptives

The *Fortune* index (FINDX) and debt measure (DBT) are normally distributed without any transformations. Unexpected earnings (UE) and the effect of adoption (EA) are transformed by multiplying them by 100. This transformation

is necessary because the raw data are very small, which makes the parameter estimate very large. A large parameter estimate causes computational problems in logistic regression because the regression coefficient is taken exponentially to the e-power.

There are no correlations among the variables greater than 28% for SFAS 87; 18% for SFAS 52; 16% for SFAS 34; and 18% for SFAS 8. After the transformation and deletion of outliers, all variables fall within the normal range for skewness and kurtosis. The Wilk-Shapiro normality statistic also falls within an acceptable range. It is concluded that the remaining observations are normally distributed.

There appears to be no concentration of industry in the sample. Membership in an industry is determined by the 4-digit SIC code obtained from Compustat. SFAS 87 spans 141 industries, with no more than 11 firms in any one industry; SFAS 52 spans 117 industries, with no more than 6 firms in an industry; SFAS 34 spans 40 industries, with no more than 3 firms in an industry; and SFAS 8 spans 71 industries, with no more than 4 firms in any one industry.

The means for early and late adopters are compared in table 7. The mean characteristics only describe early and late adopters; no conclusions can be made based upon the mean values as to why these firms early adopted. Throughout this chapter, discussion of the mean values functions only as an aid in the interpretation of the regression results,

not as a basis for conclusions.

SFAS 87 - Employers' Accounting for Pensions

Means

The mean for FINDX is 63.79 for early adopters and 53.60 for late adopters (table 7). (All standards except SFAS 52 have larger firms early adopting.) This supports the contention that larger firms have a tendency to be the first to adopt an accounting standard, either because larger firms have the resources to implement an accounting standard, or they have a policy always to early adopt.

The mean difference in FINDX is .17 for early adopters and .92 for late adopters. This indicates that there was a relatively smaller change in the *Fortune* standing of early adopters than of late adopters. The change in the *Fortune* standing increased more for late adopters, indicating more growth.

The mean DBT is slightly higher for early adopters than for late adopters (.02 versus .01). A positive mean DBT indicates that the firm (early or late adopter) has more debt relative to the industry; negative mean DBT indicates that the firm has less debt relative to the industry. Both early and late adopters have slightly more debt than the industry median. This indicates that, in general, adopters of SFAS 87 were not highly levered in the base year.

The change in debt is greater for early adopters than

for late adopters. The change is positive, indicating that the early adopting firm's debt level relative to the industry decreases in the second year. The mean values indicate that the firm will have less debt relative to its peers in the second year. Therefore, in the early year, the firm had relatively more debt. This appears to be consistent with contracting theory, because the firm is choosing to early adopt an income-increasing standard in the first, more highly levered year. For late adopters, relatively little change occurs in the debt level from one year to the next.

The mean UE is negative for both early (-.66) and late adopters (-.82), indicating an unexpected decline in earnings. No discernable difference exists between early and late adopting firms. The mean difference in unexpected earnings is essentially the same for early and late adopters (-1.54 and -1.73). In general, only minor differences exist in the mean values of unexpected earnings between early and late adopters.

EA is positive for both early and late adopters, but greater for early adopters than for late adopters (.31 versus .23). This indicates early adopters had a greater positive earnings boost.

Models

The first half of table 8 presents the statistics for the overall models and the second half presents the signs

and significance of the coefficients for the models for SFAS 87. The significance of the coefficients is stated in terms of one-tailed p-values. In this study, a one-tailed p-value of 10% is considered significant.

In the base year model (model 1), none of the coefficients are both of the predicted sign and significant at the one-tail 10% level. Therefore, when the information is restricted to the early year, the hypothesized motivations for earnings management fail to explain the choice decision. The overall p-value of the model is .07, indicating that there is some explanatory power over the constant term alone, but this study's interactions do not capture this explanatory power.

The increase in the log-likelihood from model 1 to model 3 is not significant, with a p-value of .65. Therefore, a high probability exists that all of the differenced coefficients are simultaneously zero. As will be seen, it is probable that only one of the differenced coefficients, at most, is different from zero.

The differenced model tests whether the difference in the firm characteristics in the early year and the late year are relevant to the choice. The purely differenced model (model 2) has a log-likelihood of -133.9. The overall p-value is .36, again indicating little explanatory power in the difference terms.

The two-way political visibility term in the second

model is significant, with a one-tailed p-value of .03. When the information set is restricted to differenced information, the difference in size appears to be the main motivator for early adoption. No other differenced terms approach conventional levels of significance.

The contribution of the third model over the second model is marginally significant, with a p-value of .16. This means that base year information marginally contributed to the model of differenced terms alone. As will be seen, the probability exists that only two of the base year coefficients, at most, are different from zero.

The log-likelihood for the third model is -126.74, and the overall p-value is .20. The first row of the third model presents the signs and one-tailed p-values of the base year terms, and the second row of the third model presents the signs and one-tailed p-values of the differenced terms.

With respect to the political visibility terms, the coefficient for the two-way differenced interaction term is negative, as predicted, and is significant at the one-tailed 10% level. The sign on this coefficient suggests that, the greater the expected increase in firm visibility (as measured by the change in the *Fortune* index), the less likely it becomes that the firm will adopt an income-increasing standard in the later, more visible year. This result indicates that holding constant this year's size--an expected increase in relative size between this year and

next year--increases the probability of early adoption. The remaining base year and differenced terms in model 3 are not statistically significant in the choice decision.

The concluding model has a log-likelihood of -129.33 and an overall p-value of .01, indicating that the terms in this model have strong explanatory power. The incremental p-value of model 3 over model 4 is .98. The insignificant difference in log-likelihood between model 4 and 3 indicates that the 14 parameters in model 3 that are excluded from model 4 add nothing to the explanatory power or the efficiency of the model. It is concluded that model 4 is the most parsimonious model.

The concluding model includes the base year and the differenced two-way visibility terms in addition to the base year smoothing interaction. Political visibility appears to be the pervasive influence in the decision to early adopt SFAS 87, and both base year and differenced information are relevant. The political visibility base year term has a one-tail p-value of .04 and the differenced term has a one-tailed p-value of .09. The base year smoothing term is positive, opposite to what was hypothesized. The smoothing term was kept because of the loss in the log-likelihood for model 4 if it were dropped. This term indicates that perhaps the firm is intensifying rather than minimizing unexpected earnings. Such a finding would be consistent with the Big Bath hypothesis. The interpretation that a

positive smoothing coefficient indicates Big Bath behavior requires testing in later research.

SFAS 34 - Capitalization of Interest Costs

Means

The mean FINDX (shown in table 7) for early adopters is higher than for late adopters. This is consistent with the notion that larger firms have a greater tendency to early adopt. The mean difference in the FINDX is .84 for early adopters and .31 for late adopters. The change in FINDX indicates that early adopters are becoming larger relative to late adopters. This observation is the opposite of that noted in SFAS 87, where the size of early adopters was relatively more stable than growing. It appears that, for this standard, early adopters were larger and were growing faster than late adopters.

Mean DBT is 4.79 for early adopters and .24 for late adopters, indicating that the early adopters have more debt relative to the industry and that late adopters have less. The mean differences in DBT are dramatic between early and late adopters, with -4.61 for early adopters and .52 for late adopters. The mean difference indicates that the relative debt level for early adopters was increasing in the second year. In general, early adopters appear to be highly levered in the base year, with an increase in debt anticipated in the second year. On average, debt levels are

low and relatively stable for late adopters.

Mean UE is positive for early (.22) adopters and late (.59) adopters, indicating early adopters had a smaller unexpected increase in earnings. The mean difference in UE is positive for early (1.27) and late (1.48) adopters, indicating that unexpected earnings are greater in the earlier year. That is, the firm did not anticipate larger unexpected earnings in the second year. The effect of adoption is essentially the same for early and late adopters, with means of .23 and .24, respectively.

Models

The overall p-value of the base year model is .01 (table 9). None of the coefficients are of the predicted sign and significant at the one-tail 10% level. Therefore, when the information is restricted to the early year, the hypothesized motivations for earnings management fail to explain the early adoption decision.

The two-way contracting interaction is significant, with a one-tailed p-value of .09, but the sign is negative, opposite to what was hypothesized. This coefficient seems to indicate that given base year information, high debt levels deter early adoption if the effect of adoption was positive. This notion is opposite to that dictated by contracting theory. This finding holds true in models 2 and 4. The deferral of adoption to the second year could be

because the firm anticipated an increase in debt levels in the second year, as indicated in the mean values in table 7.

The increase in the log-likelihood from model 1 to model 3 has a p-value of .01. Therefore, a high probability exists that the differenced coefficients are not zero. As will be seen in the concluding model, at least four of the differenced coefficients are different from zero.

The overall p-value of the differenced model (model 2) is .40. The two-way differenced terms are consistent with political visibility and contracting motivations. The smoothing interaction is not significant in the pure differenced form.

The log-likelihood of the third model is -13.49. Adding the base year terms to the differenced model significantly improves the log-likelihood by a p-value of .00% (from model 2 to model 3). From model 1 to model 3, the p-value is .01. This improvement indicates that the added information contains much explanatory power and a high probability exists that at least one coefficient is statistically different from zero. The improvement indicates that both the base year and the differenced information are significant in the choice.

In the third model, with respect to political visibility, the base year terms are not significant, indicating that the base year size is irrelevant to the choice. The differenced visibility terms are positive and

significant, indicating that anticipated growth of the firm is a deterrent to early adopt in the current year. These observations are counter to political visibility motivations.

All contracting measures in the third model are significant; however, untangling their meaning is done precariously. In the base year, considering only debt level and the effect of adoption, high debt seem to deter adoption. Considering the difference in the first-year and second-year debt levels, the anticipated increase in debt encourages early adoption. Both observations are counter to contracting theory.

When unexpected earnings are added to the contracting measure, the base year term is positive, and the differenced term is negative. That is, in the base year, high debt encourages adoption and, for the differenced terms, the anticipated increase in second-year debt levels deters early adoption. Only the three-way differenced term is consistent with contracting theory.

In model 3 both the base year and the differenced smoothing terms are significant (p-values of .05 and .02, respectively). A positive sign on the base year information indicates that positive unexpected earnings and the positive effect of adoption encourage early adoption. This behavior is not consistent with smoothing; it indicates intensifying variation rather than minimizing it. However, the

differenced term is negative, which is consistent with smoothing, indicating the desire to minimize variation.

Overall, the results for this standard are mixed as to the support of the proposed hypothesis. The terms switch signs from model to model and, overall, perform very poorly throughout the models. The instability may be in part due to the small size of this sample (see table 4).

The concluding model consists of the base year and differenced two-way interaction for political visibility. The overall p-value for this model is .00. As displayed in the previous models, the base year has a sign consistent with the hypothesis, and the differenced year is of the wrong sign. Both are statistically significant. The researcher has no alternate interpretation for when the signs on this term are other than negative.

This model also includes both the base year and differenced two-way and three-way interaction for contracting. The differenced two-way interaction is the only coefficient with a sign that is consistent with the hypothesis. The base year coefficients are statistically significant, but the signs are opposite to that dictated by theory. The researcher has no alternative hypothesis to explain this observation.

The base year smoothing interaction is positive, and the differenced smoothing interaction is negative; both are statistically significant. Smoothing seems to occur when

the information is presented in differenced form. That is, a consideration of this year versus next year indicates smoothing behavior. However, when looking at base year information only, the behavior is more consistent with the Big Bath.

SFAS 8-Accounting for the Translation of Foreign Currency Transactions and Foreign Currency Financial Statements

Means

The mean FINDX is 70.51 for early adopters and 67.82 for late adopters. This is consistent with the notion that larger firms have a tendency to be the early adopters. The mean difference in FINDX for early adopters is -.11 and .04 for late adopters. This indicates a decline in the *Fortune* standing of early adopters and relatively little change for late adopters.

The mean DBT is higher for early adopters (.36) than for late adopters (.12), indicating that early adopters are farther above the industry debt levels. The mean difference for early adopters is .71, indicating a relative decrease in debt level in the second year. The mean difference for late adopters is -1.32, indicating a relative increase in debt level in the second year.

The mean UE is negative for both early adopters and late adopters, (-1.87 for early adopters and -1.18 for late

adopters), but is more negative for early adopters. The mean difference in unexpected earnings is again negative and is essentially the same for both early and late adopters (-2.79 and -2.56, respectively).

The effect of adoption is positive for both early adopters and late adopters, but is more positive for early adopters (.16 versus .03), indicating that early adopters had a greater earnings boost.

Models

The overall p-value of model 1 is .01 (table 10). In this base year model, all of the interactions for the hypothesized motivations for earnings management are significant, but two of the interactions have signs inconsistent with the hypothesis. The political visibility interactions are significant with the two-way and three-way interaction p-value of .03. The two-way contracting interactions are significant, with a one-tailed p-value of .01. Both the three-way contracting and the smoothing interactions are significant, but not of the predicted sign.

The overall p-value of the differenced model (model 2) is .31. None of the coefficients for the differenced model are significant at the 10% level. Therefore, when the information is restricted to the differenced information, the hypothesized motivations for earnings management fail to explain the adoption choice. The increase in the log-

likelihood from model 2 to model 3 is significant, with a p-value of .01, indicating the high probability that one or more of the base year terms is statistically different from zero.

Adding the differenced terms to the base year model (model 1 to model 3) fails to significantly increase the log-likelihood (p-value = .38), indicating that differenced terms add little to the model. The base year information appears to be the most relevant in the choice. The overall log-likelihood of the base year model is -44.63.

The overall p-value of the concluding model is .01. The differenced terms and the three-way contracting interaction are excluded from the concluding model because their signs were not as predicted, and dropping them did not substantially change the log-likelihood (p = .19). The smoothing variable is retained, even though it is of the wrong sign, because the effect on the log-likelihood, if it is dropped, is significant. The concluding model is consistent with political visibility and contracting incentives, but fails to support smoothing.

SFAS 52 - Foreign Currency Translation

SFAS 52 had a two-year early adoption window, 1981 and 1982. This research aligns the choice in the earlier year, 1981. The choice for both early years is assessed relative to the mandatory year without consideration of the choice

between the two early years. Although this does not perfectly mimic the chooser's decision, it does answer the question of what influenced the choice between adopting early and adopting late, at the earliest decision year. Table 11 presents the models for 1981 and 1982 as compared to 1983.

Means

The mean FINDX is smaller for early adopters (53.73 and 56.65) than the mean for late adopters (57.23) (table 7). This is opposite to what was observed with SFAS 87, 34, and 8, indicating that smaller firms early adopted this standard; This observation is consistent with Ayres (1986), who interpreted that smaller firms were early adopting SFAS 52, a pervasively income-increasing standard, because these firms had no risk of political visibility. If this interpretation was correct, then the coefficient for visibility should be strongly negative if large firms were choosing to late adopt the income-increasing standard. This research does not support Ayres interpretation, because the political visibility terms are not negative and significant. The mean differences for SFAS 52 are minimal for all variables.

The mean DBT is negative for early adopters (-1.86 and -2.12) and positive for late adopters (2.46), another major difference from SFAS 87, 34, and 8. The negative mean DBT

for early adopters indicates that the early adopting firms have less debt relative to the industry. A positive mean DBT for late adopters indicates that late adopters have more debt relative to the industry.

The mean UE is negative for early and late adopters. However, UE is most negative for the earliest adopters in 1981 (-.87), less for the later early adopters (-.62), and least for the late adopters (-.46). This observation is consistent with the notion that early adopters had an unexpected decline in earnings and may have used the positive effect of adoption to smooth the decline. EA is positive and largest for the earliest adopters in 1981 (.62), smaller for the later early adopters in 1982 (.18), and smallest for late adopters in 1983 (.01). This observation may suggest that the early adopters were largely motivated by the available earnings boost.

Models

The overall p-value of the base model is .00 (table 11). The only earnings management theory supported in this model is smoothing, in the two-way interaction of UE and EA. The one-tailed p-value is .09. The coefficients for the two-way visibility hypothesis is significant (p-value = .08), but the sign is positive, opposite to that hypothesized. Model one results indicate that given base year information, the adoption choice is significantly

influenced by the interaction of UE and EA. This interaction smooths any unexpected change in earnings from the prior year.

The p-value of the differenced model (model 2) is .00. This model supports both the two-way and the three-way interactions derived from the contracting hypotheses. The coefficient for the two-way interaction is positive, with a one-tailed p-value of .04, and the coefficient for the three-way interaction is negative with a one-tailed p-value of .08.

When the differenced terms are added to the base year (model 1 to model 3), there is marginal improvement in the log-likelihood (p-value = .15), supporting that the chooser looked at the difference in the information set in the adoption decision.

When the base year information is added to the differenced model (model 2 to model 3), the log-likelihood is not statistically improved (p-value = .94). This again supports that the differenced information is capturing all the explanatory power of the choice.

The overall p-value of the third model is .00 and the log-likelihood is -73.45. The only support consistent with earnings management is in the differenced two-way contracting term, which is positive and significant with a one-tailed p-value of .05. It appears that, for this standard, the debt level of this year versus the next has a

significant influence on the early adoption choice.

The overall p-value for the concluding model is .00. The difference in the log-likelihood of model 2 and model 4 is not significant (p-value .28), indicating that adding terms to the fourth model fails to increase its explanatory power. The difference information is consistent with the contracting theory motivation for early adoption. The signs of the coefficients are in the hypothesized direction and are significant (.06 and .04, respectively).

With respect to the smoothing motivation for early adoption, both the base year and the differenced information are relevant. The smoothing interactions support H3, with p-values of .08 in the base year and .02 for the differenced information. It appears that the choice decision is influenced by the current year smoothing information, the difference between this year and next year's smoothing information, and the difference between this year and next year's debt levels.

CHAPTER 6

CONCLUSION, LIMITATIONS, AND FUTURE RESEARCH

Conclusion

This study combines two bodies of research: earnings management and early adoption. The combination of earnings management motivations and early adoption actions represents a step toward answering the why question (why firms choose) in policy choice decisions rather than addressing only the who (which firms choose) question. The early adoption decision is modeled as a choice rather than as a classification. The choice decision is captured by aligning data in the choice year rather than in the year that action was taken.

This study contributes to earnings management research by controlling for competing positive theory motivations for earnings management in one model. This study enhances the body of research on early adoption by going beyond purely descriptive research to a choice model of why early adoption is observed.

Table 12 presents an overview of the results found in this study. The findings strongly suggest that the early adoption choice was unique to each standard. No single positive theory motivation is pervasive in early adoption

choice, nor does there appear to be any one set of information that is consistently significant to that choice.

For SFAS 87, the political visibility motivation for early adoption is very strong. Both the base year and the differenced information are relevant in capturing the politically visibility motives. These findings suggest that, for SFAS 87, the larger the firm, the less likely it will be to early adopt an income-increasing standard. Given the choice to adopt in the early year, the firm's current year's size, as well as the difference between this year and next year's anticipated size, was relevant to that decision. These findings make sense intuitively. SFAS 87 addressed pension accounting. Larger firms are more likely to have pension plans and, therefore, are more likely to be affected by this standard.

The incentive in the early adoption of SFAS 34 is not consistent for either the base year or differenced information. The signs on the coefficients switch and fluctuate in their significance, therefore causing any conclusion drawn from them to be tenuous. The concluding model reveals conflicting motivations for early adoption. SFAS 34 addressed capitalization of interest. As seen in the change in mean values, rapidly growing firms were the early adopters. A multitude of factors affect rapidly growing and expanding firms and the sample size for this standard was quite small. These factors together may

explain the inconsistency of the results.

For SFAS 8, base year information prevailed as the significant information set in the adoption decision. Political visibility and contracting characteristics were consistently significant in explaining the probability of adoption. The larger the firm, the less likely it would be to early adopt if the effect of adoption was income-increasing; and the higher the relative debt level of the firm to its peers, the more likely it would be to early adopt if the effect of adoption was income increasing. SFAS 8 addressed foreign currency translation and was anticipated to increase financial statement volatility. During the mid 1970s it is likely to have been the larger firms that participated in foreign activities. The motivations for earnings management revealed in this study are intuitively consistent, because larger firms are concerned with political visibility and contracting constraints.

For SFAS 52, contracting incentives for early adoption are strong with the differenced information relevant to the choice. This finding suggests that the firms assessed current year debt levels and anticipated next year's debt levels in the decision. Given the level and change in debt, the highly levered firm was more likely to early adopt SFAS 52 if the effect of adoption increased earnings.

The smoothing incentive for early adoption is also strong for SFAS 52. Both base year and differenced

information were relevant to the choice. This finding suggests that firms early adopted SFAS 52 if the effect of adoption would reduce the variability in the current year or the next year's anticipated earnings. SFAS 52 also addressed foreign currency, but was expected to minimize the variability produced by SFAS 8. Therefore, it makes sense that early adopters of this standard were motivated by smoothing and contracting incentives to stabilize the earnings process and to reduce the risk of contract violation.

For SFASs 87, 34, and 8, there is persistent evidence of Big Bath behavior in the smoothing interaction term. This study was not set up to directly test for the Big Bath; therefore, at this point, the observed behavior is only speculation.

Limitations

As with all empirical research, there are limitations as to what the model can capture. This study is necessarily a joint test of the theories, the model specification, and the way the variables are operationalized. Failure to find results consistent with the hypotheses could be attributed to any one of these factors.

The inconsistencies in the motivation and information set across standards strongly suggest that more factors affect the decision than are measured in the models

presented in this study. Specification of the variables used to capture the construct may add to the measurement problems.

The following section suggests extensions that represent a step toward overcoming the limitations of a simple model. This study was a first attempt to capture the richness of a decision as complex as early adoption as an earnings management tool.

Future Research

The persistence of the positive sign on the smoothing interaction indicates the Big Bath may have been occurring. The Big Bath can be tested directly by operationalizing the smoothing variable. This could be done by testing the relative magnitude between unexpected earnings and the effect of adoption. If the effect of adoption completely offsets an unexpected decrease or increase in earnings, then perhaps smoothing is preferred.

If the effect of adoption is opposite in sign, but the relative magnitude to unexpected earnings is minimal, then smoothing behavior would not be observed. This study tested only the direction of the signs, not the relative magnitude of the variables.

Different measures could be used for the effect of adoption, anticipated second-year data, and unexpected earnings. The effect of adoption is assumed to be constant

in this study. A future study could develop an expectation of the effect of adoption and compare the results to those found here, such as was done in Langer and Lev (1993).

Actual second-year data was used as a surrogate for choosers' expectations. Use of budgeted data would measure management's actual expectations at the time of the choice. A more sophisticated measure of benchmark earnings could also be used to more accurately assess unexpected earnings.

This study controlled for the presence of competing earnings management incentives, but it did not assess the relative weight of the competing theories. Evaluation of the derivatives of the logistic coefficients would permit such an evaluation to take place. This evaluation would allow the researcher to draw conclusions about the relative importance of more than one incentive in the adoption decision.

Finally, evaluation of the early adoption decision could be supplemented with field inquiries or case studies. Corporate decisions represent a constellation of multiple factors, only some of which have been captured in this study. Identification of these factors through interviews would help to build a richer model. Some of these factors could include general economic conditions, individual corporate objectives, other earnings management tools in use, or some overall pervasive characteristic common to all firms that apply a particular standard. The identification

of specific factors would be a starting point in putting together the why's of corporate behavior.

APPPENDIX

TABLES

TABLE 1

Two-Way Interactions

	Effect of Adoption	
	Positive	Negative
Hypothesis 1a: Contracting		
desirability of early adoption	increases (+)	decreases (-)
sign of interaction	positive (+)	negative (-)
sign of coefficient	positive (+/+ = +)	positive (-/- = +)
Hypothesis 2a: Political Visibility		
desirability of early adoption	decreases (-)	increases (+)
sign of interaction	positive (+)	negative (-)
sign of coefficient	negative (-/+ = -)	negative (+/- = -)
Hypothesis 3: Smoothing		
Positive		
desirability of early adoption	decreases (-)	increases (+)
sign of interaction	positive (+)	negative (-)
sign of coefficient	negative (-/+ = -)	negative (+/- = -)
Negative		
desirability of early adoption	increases (+)	decreases (-)
sign of interaction	negative (-)	positive (+)
sign of coefficient	negative (+/- = -)	negative (-/+ = -)

TABLE 2

Three-Way Interactions

	Unexpected Earnings	
	Positive	Negative
Hypothesis 1b and 1c: Contracting		
Positive		
desirability of early adoption	decreases (-)	increases (+)
sign of interaction	positive (+)	negative (-)
sign of coefficient	negative (-/+ = -)	negative (+/- = -)
Negative		
desirability of early adoption	increases (+)	decreases (-)
sign of interaction	negative (-)	positive (+)
sign of coefficient	negative (+/- = -)	negative (-/+ = -)
Hypothesis 2b and 2c: Political Visibility		
Positive		
desirability of early adoption	decreases (-)	increases (+)
sign of interaction	positive (+)	negative (-)
sign of coefficient	negative (-/+ = -)	negative (+/- = -)
Negative		
desirability of early adoption	increases (+)	decreases (-)
sign of interaction	negative (-)	positive (+)
sign of coefficient	negative (+/- = -)	negative (-/+ = -)

TABLE 3

SFAS'S With Early Adoption Window

SFAS	Issued	Effective	Window
8 Foreign Currency	Oct 1975	for years beginning Jan 1, 1976	1 year
34 Interest Capitalization	Oct 1979	for years beginning Dec 15, 1979	1 year
52 Foreign Currency	Dec 1981	for years beginning Dec 12, 1982	2 years
87 Pensions	Dec 1985	for years beginning Dec 15, 1986	2 years

TABLE 4

SAMPLE SUMMARY

	FAS 87			FAS 52			FAS 34			FAS 8			TOTAL		
	EARLY	LATE	TOTAL	EARLY	LATE	TOTAL	EARLY	LATE	TOTAL	EARLY	LATE	TOTAL	EARLY	LATE	TOTAL
TOTAL IDENTIFIED BY AT&T	230	182	412	258	74	332	33	165	198	62	62	124	583	483	1066
LESS MISSING COMPUSTAT OR ANNUAL REPORT OR OUTLIERS	-88	-107	-195	-92	-37	-129	-18	-107	-125	-17	-23	-40	-215	-274	-489
NET SAMPLE	142	75	217	166	37	203	15	58	73	45	39	84	368	209	577
INCREASED NI	112	38	150	80	2	82	13	51	64	24	8	32	229	99	328
DECREASED NI	1	4	5	5	1	6	0	0	0	0	5	5	6	10	16
NO MATERIAL EFFECT ON NI	29	33	62	81	34	115	2	7	9	21	26	47	133	100	233
TOTAL	142	75	217	166	37	203	15	58	73	45	39	84	368	209	577

TABLE 5

Variable Definitions

Construct	Variable Definition	Abbreviation
Contracting Constraints	$DEBT_j$ - $INDMED_j$, where, $DEBT_j$ = debt (Compustat #9 + #44) / total $assets_{t-1}$, $INDMED_j$ = debt-to-asset median for the four digit SIC industry of firm j,	DBT
Political Visibility	(500 - *Fortune* ranking) / 501 for those firms on 500, (50 - *Fortune* ranking) / 51 for those firms on 50,	FINDX
Smoothing	Unexpected earnings = (CE_j /total $assets_{t-1}$) - (CE_{j-1} /total $assets_{t-1}$), where, CE_j = current year earnings, excluding EA_j,	UE
Effect of Adoption on Net Income	the effect of early adoption on firm j as disclosed in the financial $statements_{t(d)}$ / total $assets_{t(d)-1}$, where, $_{t(d)}$ = year of disclosure,	EA

TABLE 6

Hypotheses Predictions

HYP	THEORY	VARIABLE	SIGN
H_{1a}	Contracting theory	DBT*EA	Positive
H_{1b}	Contracting theory	DBT*EA*UE	Negative
H_{1c}	Contracting theory	DBT*EA*UE	Negative
H_{2a}	Political theory	FINDX*EA	Negative
H_{2b}	Political theory	FINDX*EA*UE	Negative
H_{2c}	Political theory	FINDX*EA*UE	Negative
H_{3}	Smoothing theory	EA*UE	Negative

TABLE 7

VARIABLE MEANS

SFAS 87	BASE YEAR		DIFFERENCE			
VARIABLE	EARLY	LATE	EARLY	LATE		
FINDX	63.79	53.60	0.17	0.92		
DBT	0.02	0.01	1.94	0.35		
UE	-0.66	-0.82	-1.54	-1.73		
EA	0.31	0.23	0	0		
SFAS 34	BASE YEAR		DIFFERENCE			
VARIABLE	EARLY	LATE	EARLY	LATE		
FINDX	64.12	54.46	0.84	0.31		
DBT	4.79	0.24	-4.61	0.52		
UE	0.22	0.59	1.27	1.48		
EA	0.23	0.24	0	0		
SFAS 8	BASE YEAR		DIFFERENCE			
VARIABLE	EARLY	LATE	EARLY	LATE		
FINDX	70.51	67.82	-0.11	0.04		
DBT	0.36	0.12	0.71	-1.32		
UE	-1.87	-1.18	-2.79	-2.56		
EA	0.16	0.03	0	0		
SFAS 52	BASE YEAR			DIFFERENCED		
VARIABLE	EARLY 1981	EARLY 1982	LATE	EARLY 1981	EARLY 1982	LATE
FINDX	53.73	56.65	57.23	0.00	0.01	-0.01
DBT	-1.86	-2.12	2.46	-0.01	0.00	0.00
UE	-0.87	-0.62	-0.46	-0.01	0.01	-0.01
EA	0.62	0.18	0.01	0	0	0

TABLE 8

SFAS 87

	PARAMETERS	P-VALUE OF MODEL	LOG-LIKELIHOOD	INCREMENTAL P-VALUE
(1) BASE MODEL = CONSTANT + FINDX + FINDX*EA + FINDX*EA*UE + FINDX*UE + DBT + DBT*EA + DBT*EA*UE + DBT*UE + EA + UE + EA*UE	12	0.07	-130.62	p=.65 df=10
(2) DIFFERENCED MODEL = CONSTANT + DFINDX + DDBT + DUE + DFINDX*EA + DFINDX*EA*DUE + DFINDX*DUE + DDBT*EA + DDBT*EA*DUE + DDBT*DUE + EA*DUE + EA	12	0.36	-133.90	p=.16 df=10
(3) BASE MODEL + DIFFERENCED TERMS = CONSTANT + FINDX + FINDX*EA + FINDX*EA*UE + FINDX*UE + DBT + DBT*EA + DBT*EA*UE + DBT*UE + EA + UE + EA*UE + DFINDX + DDBT + DUE + DFINDX*EA + DFINDX*EA*DUE + DFINDX*DUE + DDBT*EA + DDBT*EA*DUE + DDBT*DUE + EA*DUE	22	0.20	-126.74	N/A
(4) CONCLUDING MODEL = CONSTANT + FINDX + FINDX*EA + DFINDX + DFINDX*EA + EA + UE + EA*UE	8	0.01	-129.33	p=.98 df=14

TABLE 8
(continued)

SFAS 87

(sign of coefficient and p-values)

	VISIBILITY		CONTRACTING		SMOOTHING
MODEL	2-WAY	3-WAY	2-WAY	3-WAY	2-WAY
HYPOTHESIS	2H1A	H1B	H2A	H2B	H3
(predicted sign)	(-)	(-)	(+)	(-)	(-)
(1)BASE YEAR	(-).20	(+).11	(+).44	(+).41	(-).23
(2)DIFFERENCED	(-).03	(+).47	(+).30	(+).45	(+).11
(3)BASE YEAR +	(-).21	(+).11	(+).35	(-).45	(-).32
DIFFERENCED	(-).09	(+).41	(+).28	(+).16	(-).23
(4)CONCLUDING MODEL					
BASE YEAR	(-).04	-	-	-	(+).06
DIFFERENCED	(-).09	-	-	-	-

TABLE 9

SFAS 34

	PARAMETERS	P-VALUE OF MODEL	LOG-LIKELIHOOD	INCREMENTAL P-VALUE
(1) BASE MODEL = CONSTANT + FINDX + FINDX*EA + FINDX*EA*UE + FINDX*UE + DBT + DBT*EA + DBT*EA*UE + DBT*UE + EA + UE + EA*UE	12	0.01	-25.23	p=.01 df=10
(2) DIFFERENCED MODEL = CONSTANT + DFINDX + DDBT + DUE + DFINDX*EA + DFINDX*EA*DUE + DFINDX*DUE + DDBT*EA + DDBT*EA*DUE + DDBT*DUE + EA*DUE + EA	12	0.40	-31.30	p=.00 df=10
(3) BASE MODEL + DIFFERENCED TERMS = CONSTANT + FINDX + FINDX*EA + FINDX*EA*UE + FINDX*UE + DBT + DBT*EA + DBT*EA*UE + DBT*UE + EA + UE + EA*UE + DFINDX + DDBT + DUE + DFINDX*EA + DFINDX*EA*DUE + DFINDX*DUE + DDBT*EA + DDBT*EA*DUE + DDBT*DUE + EA*DUE	22	0.00	-13.49	N/A
(4) CONCLUDING MODEL = CONSTANT + FINDX + DBT + UE + EA + DFINDX + DDBT + DUE + FINDX*EA + DFINDX*EA + DBT*EA + DBT*EA*UE + DBT*UE + DDBT*EA + EA*UE + EA*DUE	16	0.00	-17.53	p=.23 df=6

TABLE 9
(continued)

SFAS 34

(sign of coefficient and p-values)

	VISIBILITY		CONTRACTING		SMOOTHING
MODEL	2-WAY	3-WAY	2-WAY	3-WAY	2-WAY
HYPOTHESIS	H1A	H1B	H2A	H2B	H3
(predicted sign)	(-)	(-)	(+)	(-)	(-)
(1)BASE YEAR	(-).14	(+).28	(-).09	(+).18	(+).45
(2)DIFFERENCE	(-).10	(+).16	(+).10	(-).26	(+).41
(3)BASE YEAR +	(-).36	(-).15	(-).08	(+).02	(+).05
DIFFERENCED	(+).02	(+).10	(+).02	(-).13	(-).02
(4)CONCLUDING MODEL					
BASE YEAR	(-).09	-	(-).03	(+).04	(+).04
DIFFERENCED	(+).01	-	(+).03	-	(-).03

TABLE 10

SFAS 8

	PARAMETER	P-VALUE OF MODEL	LOG-LIKELIHOOD	INCREMENTAL P-VALUE
(1) BASE MODEL = CONSTANT + FINDX + FINDX*EA + FINDX*EA*UE + FINDX*UE + DBT + DBT*EA + DBT*EA*UE + DBT*UE + EA + UE + EA*UE	12	0.01	-44.63	p=.38 df=10
(2) DIFFERENCED MODEL = CONSTANT + DFINDX + DDBT + DUE + DFINDX*EA + DFINDX*EA*DUE + DFINDX*DUE + DDBT*EA + DDBT*EA*DUE + DDBT*DUE + EA*DUE + EA	12	.31	-51.64	p=.01 df=10
(3) BASE MODEL + DIFFERENCED TERMS = CONSTANT + FINDX + FINDX*EA + FINDX*EA*UE + FINDX*UE + DBT + DBT*EA + DBT*EA*UE + DBT*UE + EA + UE + EA*UE + DFINDX + DDBT + DUE + DFINDX*EA + DFINDX*EA*DUE + DFINDX*DUE + DDBT*EA + DDBT*EA*DUE + DDBT*DUE + EA*DUE	22	0.01	-39.25	N/A
(4) CONCLUDING MODEL = CONSTANT + FINDX + FINDX*EA + FINDX*EA*UE + DBT + DBT*EA + FINDX*UE + EA + UE + EA*UE	10	0.01	-47.29	p=.19 df=12

TABLE 10
(continued)

SFAS 8

(sign of coefficient and p-values)

	VISIBILITY		CONTRACTING		SMOOTHING
MODEL	2-WAY	3-WAY	2-WAY	3-WAY	2-WAY
HYPOTHESIS	H1A	H1B	H2A	H2B	H3
(predicted sign)	(-)	(-)	(+)	(-)	(-)
(1)BASE YEAR	(-).03	(-).03	(+).01	(+).03	(+).02
(2)DIFFERENCE	(+).36	(-).45	(+).14	(+).15	(+).23
(3)BASE YEAR	(-).04	(-).04	(+).03	(+).10	(+).08
DIFFERENCED	(+).27	(+).25	(+).28	(+).41	(+).18
(4)CONCLUDING MODEL					
BASE YEAR	(-).05	(-).03	(+).01	-	(+).04
DIFFERENCED	-	-	-	-	-

TABLE 11

SFAS 52

	PARAMETER	P-VALUE OF MODEL	LOG-LIKELIHOOD	INCREMENTAL P-VALUE
(1) BASE MODEL = CONSTANT + FINDX + FINDX*EA + FINDX*EA*UE + FINDX*UE + DBT + DBT*EA + DBT*EA*UE + DBT*UE + EA + UE + EA*UE	12	0.00	-80.68	p=.15 df=10
(2) DIFFERENCED MODEL = CONSTANT + DFINDX + DDBT + DUE + DFINDX*EA + DFINDX*EA*DUE + DFINDX*DUE + DDBT*EA + DDBT*EA*DUE + DDBT*DUE + EA*DUE + EA	12	.00	-75.52	p=.94 df=10
(3) BASE MODEL + DIFFERENCED TERMS = CONSTANT + FINDX + FINDX*EA + FINDX*EA*UE + FINDX*UE + DBT + DBT*EA + DBT*EA*UE + DBT*UE + EA + UE + EA*UE + DFINDX + DDBT + DUE + DFINDX*EA + DFINDX*EA*DUE + DFINDX*DUE + DDBT*EA + DDBT*EA*DUE + DDBT*DUE + EA*DUE	22	.00	-73.45	N/A
(4) CONCLUDING MODEL = CONSTANT + DFINDX + DDBT + DDBT*EA + DDBT*EA*DUE + EA + DUE + UE + DUE*EA + UE*EA	10	0.00	-80.46	p=.28 df=12

TABLE 11
(continued)

SFAS 52

(sign of coefficient and p-values)

	VISIBILITY		CONTRACTING		SMOOTHING
MODEL	2-WAY	3-WAY	2-WAY	3-WAY	2-WAY
HYPOTHESIS	H1A	H1B	H2A	H2B	H3
(predicted sign)	(-)	(-)	(+)	(-)	(-)
(1)BASE YEAR	(+).08	(+).23	(+).46	(-).25	(-).09
(2)DIFFERENCED	(-).47	(+).02	(+).04	(-).08	(-).16
(3)BASE YEAR +	(+).28	(+).40	(-).35	(-).47	(-).28
DIFFERENCED	(-).30	(+).07	(+).05	(-).20	(-).17
(4)CONCLUDING MODEL					
BASE YEAR	-	-	-	-	(-).08
DIFFERENCED	-	-	(+).06	(-).04	(-).02

TABLE 12

SUMMARY OF RESULTS

	THEORY					
	Political Visibility		Contracting		Smoothing	
	Base	Differ	Base	Differ	Base	Differ
SFAS 87	X	X				
SFAS 34 (see note)						
SFAS 8	X		X			
SFAS 52				X	X	X

X - indicates there is evidence consistent with this positive theory motivation for early adoption using either base year or differenced information.

Note: The results of SFAS 34 are inconclusive and, therefore, not presented here.

REFERENCES

Agrawal, A., and G. Mandelker. 1990. Large shareholders and the monitoring of managers: The case of antitakeover charter amendments. *Journal of Financial and Quantitative Analysis* 25 (June): 143-61.

_____. 1992. Shark repellents and the role of institutional investors in corporate governance. *Managerial and Decision Economics* 13 (January): 15-22.

Abarbanell, J., and V. Bernard. 1992. Tests of analysts' overreaction/underreaction to earnings information as an explanation for anomalous stock price behavior. *Journal of Finance* 47 (July): 1181-1207.

Ayres, F. 1986. Characteristics of firms electing early adoption. *Journal of Accounting and Economics* 8: 143-58.

Baber, W., P. Fairfield, and J. Haggard. 1991. The effect of concern about reported income on discretionary spending decisions: The case of R&D. *Accounting Review* 66 (October): 818-29.

Badrinth, S., G. Gay, and J. Kale. 1989. Patterns of institutional investment, prudence, and the managerial "safety net" hypothesis. *Journal of Risk and Insurance* 56 (December): 605-29.

Baysinger, B., R. Kosnik, and T. Turk. 1991. Effects of board and ownership structure on corporate R&D strategy. *Academy of Management Journal* 34: 205-14.

Beidleman, C. 1973. Income smoothing: The role of management. *Accounting Review* 68 (October): 653-67.

Bernard, V., and J. Thomas. 1989. Post-earnings-announcement drift: Delayed price response or risk premium? *Journal of Accounting Research* 27 (Supplement): 1-48.

_____. 1990. Evidence that stock prices do not fully reflect the implications of current earnings for future earnings. *Journal of Accounting and Economics* 13: 305-40.

Bowen, R., E. Noreen, and J. Lacey. 1981. Determinants of the corporate decision to capitalize interest. *Journal of Accounting and Economics* 3 (August): 151-79.

Boynton, C., P. Dobbins, and G. Plesko. 1991. Earnings management and the corporate AMT. Working paper.

Cheng, C.S., W. Hopwood, and J McKeown. 1992. Non-linearity and specification problems in unexpected earnings response regression model. *Accounting Review* 67 (July): 579-98.

Christie, A. 1990. Aggregation of test statistics: An evaluation of the evidence on contracting and size hypotheses. *Journal of Accounting and Economics* 12: 15-36.

Daley, L., and R. Vigeland. 1983. The effects of debt covenants and political costs on the choice of accounting methods: The case of R&D costs. *Journal of Accounting and Economics* 5 (December): 195-211.

Deakin, E. 1979. An analysis of differences between non-major oil firms using successful efforts and full cost methods. *Accounting Review* 54 (October): 722-34.

Dhaliwal, D. 1980. The effect of the firm's capital structure on the choice of accounting methods. *Accounting Review* 55 (January): 78-84.

Dhaliwal, D., G. Salamon, and E. Smith. 1982. The effect of owner versus management control on the choice of accounting methods. *Journal of Accounting and Economics* 4 (July): 41-53.

El-Gazzar, S. 1993. Stock market effects of the closeness to debt covenant restrictions resulting from capitalization of leases. *Accounting Review* 68 (April): 258-72.

El-Gazzar, S.,and V. Pastena. 1990. Negotiated accounting rules in private financial contracts. *Journal of Accounting and Economics* 12: 381-96.

Gordon, M. 1964. Postulates, principles and research in accounting. *Accounting Review* (April): 251-63.

Grove H., and J. Bazley. 1992. Earnings management with early adoption of a FASB statement. *SWFAD Proceedings*.

Gujarathi, M., and R. Hoskin. 1992. Evidence of earnings management by the early adopters of SFAS 96. September. Working paper.

Hagerman, R., and M. Zmijewski. 1979. Some economic determinants of accounting policy choice. *Journal of Accounting and Economics* 1 (August): 141-61.

Hand, J. 1989. Did firms undertake debt-equity swaps for an accounting paper profit or a true financial gain? *Accounting Review* 64 (October): 587-623.

Hansen, G., and C. Hill. 1991. Are institutional investors myopic? A time-series study of four technology-driven industries. *Strategic Management Journal* 12 (January): 1-16.

Healy, P. 1985. The impact of bonus schemes on the selection of accounting principles. *Journal of Accounting and Economics* 7 (April): 85-107.

Healy, P., S. Kang, and K. Palepu. 1987. The effect of accounting procedure changes on CEO's cash salary and bonus compensation. *Journal of Accounting and Economics* 9: 7-34.

Healy, P., and K. Palepu. 1990. Effectiveness of accounting-based dividend covenants. *Journal of Accounting and Economics* 12 (January): 97-124.

Holthausen, R., and R. Leftwich. 1983. The economic consequences of accounting choice: Implications of costly contracting and monitoring. *Journal of Accounting and Economics* 5 (August): 77-117.

Jerris, S., and K. Tennant. 1990. A case study of a change to SFAS No. 96. *Journal of Commerical Bank Lending* 72 (June): 49-61.

Jones, J. 1989. The effect of foreign trade regulation on accounting choices. The University of Chicago. Working paper.

_____. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29 (Autumn): 193-228.

Langer, R., and B. Lev. 1993. The FASB's policy of extended adoption for new standards: An examination of FAS no. 87. *Accounting Review* 68 (July): 515-33.

Ma, C.K. 1988. Loan loss reserves and income smoothing: The experience in the U.S. banking industry. *Journal of Business Finance and Accounting* 15 (Winter): 487-97.

Maddala, G. 1983. *Limited-dependent and qualitative variables in econometrics*. New York: Cambridge University Press.

McNichlols, M., and G.P. Wilson. 1988. Evidence of earnings management from the provision for bad debts. *Journal of Accounting Research* 26 (Supplement): 1-31.

Norton, C. 1989. Transition to new accounting rules: The case of FAS 87. *Accounting Horizons* 3 (December): 40-48.

Perry, S., and T. Williams. 1992. Earnings management in going-private transactions. January. Working paper.

Press, E., and J. Weintrop. 1990. Accounting-based constraints in public and private debt agreements. *Journal of Accounting and Economics* 12: 65-95.

Salatka, W. 1989. The impact of SFAS No. 8 on equity prices of early and late adopting firms. *Journal of Accounting and Economics* 11 (February): 35-69.

Schipper, K. 1989. Commentary on earnings management. *Accounting Horizons* (December): 91-102.

Senteney, D., and J. Strawser. 1990. An investigation of the association between financial statement effects and management's early adoption of SFAS 87. *Review of Business and Economic Research* 25 (Spring): 12-22.

Smith, C. 1993. A perspective on accounting-based debt covenant violations. *Accounting Review* 68 (April): 289-303.

Steinberg, D., and P. Colla. 1991. *LOGIT: A supplementary module for SYSTAT*. Evanston, IL:SYSTAT Inc.

Stone, M., and R. Ingram. 1988. The effect of statement No. 87 on the financial reports of early adopters. *Accounting Horizons* 2 (September): 48-61.

Stulz, R., R. Walkling, and M. Song. 1990. The distribution of target ownership and the division of gains in successful takeovers. *Journal of Finance* 45 (July): 817-33.

Suh, Y. 1990. Communication and income smoothing through accounting method choice. *Management Science* 36 (June): 704-23.

Szewczyk, S., G. Tsetsekos, and R. Varma. 1992. Institutional ownership and the liquidity of common stock offerings. *Financial Review* 27 (May): 211-25.

Train, K. 1986. *Qualitative choice analysis*. Cambridge: MIT Press.

Trueman, B., and S. Titman. 1988. An explanation for accounting income smoothing. *Journal of Accounting Research* 26 (Supplement): 127-43.

Watts, R., and J. Zimmerman. 1978. Towards a positive theory of the determination of accounting standards. *Accounting Review* 53 (January): 112-34.

_____. 1986. *Positive accounting theory*. Englewood Cliffs: Prentice Hall.

_____. 1990. Positive accounting theory: A ten year perspective. *Accounting Review* 65 (January): 131-56.

Wruck, K. 1989. Equity ownership concentration and firm value: Evidence from private equity financings. *Journal of Financial Economics* 23 (June): 3-28.

Zmijewski, M., and R. Hagerman. 1981. An income strategy approach to the positive theory of accounting standard setting/choice. *Journal of Accounting and Economics* 3 (August): 129-49.