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Prospective information in SEC filings: An analysis of management choice and the effect of auditor involvement—a signaling approach

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PROSPECTIVE INFORMATION IN SEC FILINGS: AN ANALYSIS OF MANAGEMENT CHOICE AND THE EFFECT OF AUDITOR INVOLVEMENT -- A SIGNALING APPROACH --

by

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To the one who gives me endless love, support, and life. I dedicate this manuscript , to my beloved wife Zeinab, God bless her.

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CHAPTER I
INTRODUCTION

Pro forma adjusted information is prepared to present the effect of an underlying transaction or event as if the underlying transaction or event had already taken place or had taken place at an earlier date.

Pro forma financial information shall be furnished when any of the following conditions exist:[1]

1. a significant business combination.
2. an initial offering of securities to the security holders in exchange for a significant business to be acquired.
3. disposition of a significant portion of the business.
4. change in the form of business organization or status as an autonomous entity. Such presentation is necessary to reflect operations and financial position of the registrant as an autonomous entity.
5. any other event or transaction has occurred or is probable for which disclosure of pro forma financial information would be material to investors.

Pro forma financial information is one of two alternatives that are required by SEC for certain companies which are required to file pro forma information with the Commission. Companies are either to report (signal) on a pro forma basis or to report (signal) a forecasted income statement. A pro forma presentation is designed to demonstrate the impact of a transaction by showing how it might have affected the historical financial statements if it had been consummated during the period covered by those statements. A forecast presentation is based

on assumptions about future events. The assumptions are, in turn based on a combination of available information (historical information) and judgment in which both history and plans play a part.[2]

Financial forecasts are one type of prospective financial information. This information is defined by AICPA "Statement on Standards for Accountants' Services on Prospective Financial Information: Financial Forecasts and Projection," --October 1985--.[3] A Financial Forecast is defined as follows:

> A financial forecast is a presentation that depects, to the best of management's knowledge and belief, the entity's expected future financial position, results of operations and changes in financial position based on conditions management expects to exist and actions it expects to take. (p. 12)

Prospective financial statements are financial information about the future that impart certain minimum details about the results of operations and changes in financial position. Disclosure of prospective financial information deals with information and its communication within accounting and economic systems.

Prospective financial statements are intended to provide the financial information needed by persons making financial decisions but who do not have access to the entity's records or management. Prospective financial information could be of interest to a broad spectrum of parties besides managements, including present or potential owners of equity interests, credit grantors, governments agencies, and other third parties. Because prospective financial information presents the responsible

party's[4] estimate of the entity's future results, it can be expected to be useful for financial decisions by any potential user or class of users. Financial forecasts are appropriate, according to the recent AICPA statement, for use in general offering of debt or equity. A general offering of debt or equity is a soliciation to invest in the debt or equity of the entity made to parties with whom the responsible party is not negotiating directly (e.g., tax exempt bond offerings, and tax shelter limited partnership offerings).

Pro forma statements are ordinarily presented in columnar form showing condensed historical statements, pro forma adjustments, and the pro forma results. The pro forma condensed income statement should disclose income (loss) from continuing operations before nonrecurring charges or credits directly attributable to the transaction. If the transaction for which pro forma financial information is presented relates to the disposition of a business, the pro forma results should give effect to the disposition and be presented under an appropriate caption.[5] Material nonrecurring charges or credits and related tax effects which result directly from the transaction and which will be included in the income of the registrant whithin the 12 months succeeding the transaction should be disclosed separately. Also, it should be clearly indicated that such charges or credits were not considered in the pro forma condensed income statement.

Tables 1 and 2 show and illustrate pro forma and financial forecast information that are required for filing with the SEC.

4-16, TABLE 1-Notes to Unaudited Pro Forma Condensed Balance Sheet

Pro forma financial information should assist investors in analyzing the future prospects of the registrant because they illustrate the possible scope of the change in the registrant's historical financial position and results of operations caused by the transaction.

A financial forecast may be filed in lieu of the pro forma condensed statements of income required by the SEC. The financial forecast shall cover a period of at least 12 months from the latest of (i) the most recent balance sheet included in the filing or (ii) the consummation date or estimated consummation date of the transaction. The forecasted statement of income shall be presented in the same degree of detail as the pro forma condensed statement of income required by the SEC.

Auditor involvement (compile, review, or examine), with pro forma or financial forecast information in an SEC filing is always optional. The SEC does not require an independent accountant to report on pro forma financial information, or financial forecast information. When not engaged to report on pro forma or financial forecast information that is included in and SEC filing, the accountant's responsibilities are described in SAS No. 8, "Other Information in Documents Containing Audited Financial Statements", and SAS No. 37, "Filings Under Federal Securities Statutes."

Generally, there is no obvious reason to think that people willingly will share their information with others.[6] To the contrary, much disclosure legislation seems motivated by exactly the opposite view. Individuals who are privy to special information are generally thought to be unwilling

to signal that information to the market; it seems a plausible story can always be told to support the notion that it is in their best interests to capitalize on such information before revealing it.[7]

From the point of view of incentive-signaling theory, presumably, information would not be signaled by managers when the cost of doing so exceeds the benefits. The signaling theory also argues that relevant information will be disclosed. The incentive-signaling theory provides a structure that managers use to disclose their information in such a way that outsiders in the market believe it.

The research presented in this study is based on signaling literature. This study assesses whether firm-specific characteristics, as suggested by economic theory, influence management choice to report and signal pro forma or financial forecast information. It is the first investigation into existing management choice to disclose prospective financial information with or without auditor involvement.

This study does not test signaling models, but rather takes signaling theory as a given. The intention is to examine voluntary choice and disclosure of pro forma and financial forecast information in SEC filings as an application of signaling information to investors. The study distinguishes between the characteristics of companies that signal pro forma and those that signal financial forecast information. This is accomplished by grouping firms according to their reported information (i.e., pro forma or financial forecast information), and according to firm-specific (characteristic) variable

under investigation. Then the study uses probit analysis which tests whether these characteristics can predict or explain the choice of the firm with regard to reporting rules or information.

The analysis of firm-specific characteristics shows whether these characteristics influence managers' ability to signal information. The analysis also shows whether companies use auditor involvement in such information as a "vehicle" to guarantee the validity of such a signal.

This study provides evidence of the association between "auditor involvement" in prospective information and firm-specific variables. The evidence is obtained from a sample of 162 pro forma and financial forecast information reviewed or examined by a CPA. For each sample firm, the expected frequencies of "auditor involvement" is estimated with a "chi-square" incorporating variables that summarize the firms' characteristics. Each firm's "auditor involvement" is classified according to the type of pro forma or financial forecast information and according to a ranking system which incorporates the whole sample. Mann-Whitney test, then, is used to test whether there is a difference between companies in their preferences for auditor involvement.

This study also presents a descriptive analysis of the reports used by auditors to describe such involvement with pro forma financial information. In analyzing reports, the following matters are considered:

a) Does the report use the term "reviewed"[8] or some other term to describe involvement?[9]

b) How does the report describe what the CPA has done with regard to such information?

c) What form of assurance does the auditor express? Possible forms of assurance include the following:

(1) whether the auditor believes that management's assumptions provide a reasonable basis for presenting the significant direct effects of the transaction?

(2) whether the auditor believes that the related pro forma adjustments give apropriate effect to these assumptions?

(3) whether the adjustments are properly applied in the pro forma condensed financial statements?

SIGNIFICANCE OF THE RESEARCH

The results of this study have implications for:

A. Auditor.

1. Auditors may use the results of this study to identify the type of information they want to be associated with under similar economic circumstances, and according to the type of tradeoffs facing them- such as losing a client or facing lawsuits.
2. Auditors confronted with problems in applying pronouncements related to the subject may benefit from this study's findings.

B. Firms.

1. Some studies suggested that the size of a CPA firm implies better quality of services performed. Other studies suggested that size of a CPA firm has nothing to do with the quality of services performed. This study's findings may shed some light on this problem.
2. According to Ross (1979), managers use dividend announcements as a "vehicle" to guarantee an information signal- such as an increase in earnings. The results of this study (using Ross reasoning) provides evidence about whether managers use auditor involvement as a "vehicle" to guarantee the accuracy or the validity of the information signal- such as forecasts or pro forma financial information.

C. Financial Analysts.

1. The results of this study may also have implications for financial analysts. Since an auditor involvement decision may signal information about the validity of the firm's forecasts, analysts should consider such information in forecasting firm's future earnings.

D. Public and Private Regulatory Bodies.

1. Many entities issue forecasts or projections to lenders, underwriters and prospective investors in connection with obtaining debt or equity financing. Forecasts or projections are included in offering circulars for bond issues to finance the construction of hospitals, airports, sports arenas and other public facilities, as well as in offering circulars for limited partnership interests, particularly in real estate.

   The Auditing Standards Division of the AICPA issued four documents on the subject: The Guide for a Review of a Financial Forecast (Oct. 1980, 1982); Report on a Financial Feasibility Study (Oct. 1982); Statement on Standards for Accountants' Services on Prospective Financial Information: Financial Forecasts and Projection (Oct. 1985); and Guide for Prospective Financial Statements (July 1986).

   The Securities and Exchange Commission permits the publication of prospective information under certain conditions and has adopted the general policy of encouraging such publication. The SEC has indicated that companies that include prospective financial information in SEC filings or annual reports should meet certain broad standards and disclosure requirements.

   Therefore, the results of this study may be of interest to public or private regulatory bodies (e.g., the SEC, Auditing Standard Division of AICPA, FASB, etc.,) that have or may establish standards or regulations related to such information.

E. In General.

1. This study may also provide evidence on whether firms are the same in their preferences to report auditor involvement with their pro forma or financial forecast information. The question of whether firms are the same in their preferences to report auditor involvement with their pro forma or financial forecast information should be of considerable interest to firms, auditors, regulators, and users since auditor involvement with corporate financial forecast or pro forma information is an important issue facing the auditing profession today.
2. While the tests developed in this study are applied only to the information content of auditor involvement, they have wider applicability. The tests provide a means of using accounting data to test the validity of information signaling that is widely used to explain wealth effects of corporate finance decisions.

This study's analysis is based on:

a) recent developments in capital structure,
b) signaling theory, and
c) analysis of pro forma and financial forecast information in accounting literature.

ECONOMIC MOTIVATION, SIGNALING THEORY, AND DERIVED DEMAND FOR VOLUNTARY DISCLOSURE OF PROSPECTIVE FINANCIAL INFORMATION

Lev and Ohlson (1982), asked the question: "What are managers' motives in selecting among alternative accounting techniques?" Their answer to that question was; "Not much is currently known about these motives. An early line of thought attributed the selection of alternative accounting techniques to managers' (derived from stockholders') preference toward smoothing earnings."

GAAP, in some circumstances, allow the selection of different accounting methods to account for the same given set of financial occurrences. For example, several acceptable methods of depreciating an asset exist, and management can choose from among such methods. Also, management can time financial transactions (i.e., delaying a sale) and make discretionary expenditures. Because of this flexibility, management can systematically influence reported income.

On the other hand, other empirical work[10] concluded that perhaps the most obvious is the assumption that income maximiztion is the primary factor in the choice of accounting method. Gagnon (1967) suggested that corporate managers may account for mergers in a manner which maximizes reported income. Other empirical work[11] provides evidence that firms, under certain conditions, select accounting practices that minimize reported income.

Managers are assumed to have incentives to communicate messages regarding their firms' performance in the form of signals in financial policies at their discretion to investors and other groups of users. If managers withhold such information from the market, the problem of asymmetric information will be present and unequal distributiuon of information between the two groups (managers and investors) is apparent.[12]

Ross (1979) adresses the issue of informational asymmetry and its implications for the theory of corporate finance. Asymmetry of information arises when firms are not distinguishable into distinct risk classes or their return streams are unknown to the market participants.

Atiase (1980) indicated that management may use voluntary disclosure such as financial forecasts as means of signaling their firm's favorable economic and technological attributes in order to single out their firm from others in the market.

Gonedes (1978) developed a signaling model based on Spence (1974) to explain the disclosure of extraordinary items and dividend policy. According to Gonedes's model, there are incentives for managers to communicate information (in the form of signals) related to the characteristics of their decisions which they believe have favorable implications for distributions of securities values.

Ronen (1977) asserted that management of a firm has incentives to abstain or delay signaling the unfavorable economic attributes to the market. On the other hand, there are incentives to early dissemination and signaling of favorable ones. Pastena and Ronen (1979) reached the same conclusion that management attempts to delay signaling negative information relative to positive information, disclose soft positive information as contrasted with soft negative information, and disclose negative information essentially only after such information becomes hard.

In fact, corporate signaling entails management's behaving as if they are providing observables with which agents can make inference about unobservables.[13] The same analogy can be made in the voluntary disclosure of prospective financial information. Managements intend to communicate

their prospective financial information voluntarily in order to signal unobservable economic attributes which are relevant to the firm's valuation in the market.[14]

Using signaling theory, Penman (1980) assumed that corporate managements have knowledge of an economic attribute relevant to firm valuation which is not known to outsiders. Prospective financial information disclosure occurs when management possesses information about economic attributes which they believe to be favorable relative to their firm valuation, otherwise they will abstain from signaling with the hope of avoiding negative valuation of their firms.

Penman (1980) suggested that financial forecast information may satisfy the conditions for a signal. Both Patell (1976) and Penman (1980) provide evidence on financial forecast information as a signaling mechanism. They reported that firms that disclose financial forecast information voluntarily are, on average, performing better than the market.

Based on the above discussion, the following factors represent the incentives of managers to disclose pro forma or financial forecast information voluntarily: profitability; degree of competitiveness; the riskiness of the venture (or uncertainty); and diversity and complexity in the market. These are the selected variables that are tested by this study.

These variables are selected to help understand better the different characteristics of companies that signal pro forma or financial forecast information. Also, since managers have greater incentives to select accounting methods which minimize (or maximize) reported income, thereby increase cashflows, firm values, and their welfare, the variables selected are in conformity

with these ideas.

RESEARCH QUESTIONS (OBJECTIVES OF THE STUDY)

The primary research question is: Are there significant relationships between selected variables and management choice to report and signal prospective financial information with or without auditor involvement? Are the two populations from which the samples were drawn identical in their preferences for auditor involvement? In other words, are they different in using auditor involvement as a "vehicle" to guarantee the validity of the signal?

The answer to these questions can be determined by considering the subsidiary questions:

1. What firm-specific variables appear to influence management choice to report and signal prospective financial information?
2. How can the relationships between these variables and management choice be measured?

To date, no study has empirically tested management motivations to select pro forma or financial forecast information in the SEC filings. To correct the perceived deficiencies in the prior literature, the present study provides a theoretical and empirical analysis of accounting and economic incentives which motivate corporate management to report and signal pro forma or financial forecast information.

Thus, the objectives of this study are to analyze theoretically and test empirically the above major and subsidiary questions.

To provide adequate coverage, an eclectic approach is used:

1. Annual reports and 10-Ks of pro forma and financial forecast firms are reviewed and analyzed.
2. Models of managerial motivation (based on signaling theory) are developed. This part represents a theoretical basis of this study.
3. Given the nature of the data required for this study, the N-Chotomous Probit Analysis seems to be an appropriate technique to test empirically the models of management motivation of reporting and signaling pro forma or financial forecast information. Mann-Whitney test is also used and Kruskal-Wallis test is used as an additional test for auditor involvement.

ORGANIZATION OF THE STUDY

This study is divided into seven chapters.

Chapter I. INTRODUCTION.

Major areas covered in chapter I include background information, the research problem, the significance and purpose of the research, the research questions, an introduction to the methodology used in the research, the scope and the organization of the study.

Chapter II. AN ANALYSIS OF MANAGEMENT REPORTING CHOICE WITHIN SIGNALING THEORY FRAMEWORK (THEORETICAL BACKGROUND)

Incentive signaling analysis is presented in this chapter as an approach to the management of reporting choice. The linkage between information and disclosure signal is discussed. Managers usage of disclosure opportunity, and the role of legislation with regard to that matter are also discussed. Disclosure of prospective information and the auditor's role regarding pro forma and financial forecast information are presented in this chapter. The two alternatives of reporting pro forma or financial forecast information in SEC filings are introduced and discussed.

Chapter III. PRO FORMA AND FINANCIAL FORECAST CHOICE AND ECONOMIC FACTORS WHICH MOTIVATE MANAGEMENT CHOICE.

In this chapter, some accounting and economic determinants of pro forma and financial forecast information choices models are examined. This chapter represents the theoretical basis for the study and also provides the testable hypotheses for managerial motivations of prospective information choices.

Chapter IV. RESEARCH DESIGN.

This chapter is divided into two phases:

1. sample selection. Phase 1 describes the selection of samples, the data used for the empirical analysis .
2. methodology. Phase 2 describes the specification of N-Chotomous Probit, Mann-Whitney, and Kruskal-Wallis procedures employed in the study.

Chapter V. ANALYSIS AND INTERPRETATION OF DATA AND RESULTS.

In this chapter, the details of the empirical results for the models are reported and discussed.

Chapter VI. DESCRIPTIVE ANALYSIS OF AUDITORS' REPORTS ON PRO FORMA FINANCIAL INFORMATION.

In this chapter, a discriptive analysis of the reports used by auditors to describe their involvement in pro forma financial information is presented and discussed.

Chapter VII. CONCLUSION, LIMITATIONS, IMPLICATIONS AND FUTURE RESEARCH.

Conclusion, limiations, implications and future research are considered in the last chapter.

FOOTNOTES

1. AICPA Auditing Standards Board, 1984, "Exposure Draft-reporting on Pro Forma Financial Information in SEC Filings," (June 29, 1984)

2. Finan, M "The SEC Amends Its Financial Statement Requirements," SEC Accounting, 1984, pp. 58-61.

3. AICPA, "Statement on Standards for Accountants' Services on Prospective Financial Information: Financial Forecasts and Projections," (October 1985)

4. AICPA, 1986, "Guide for Prospective Financial Statements,"

5. Security and Exchange Commission, 1982, "Article 11 of Regulation S-X of the SEC," (September 20, 1982)

6. Ross, S. A. "Disclosure Regulation in Financial Markets: Implications of Modern Finance Theory and Signaling Theory," Financial Regulation, 1979, p. 177

7. Ibid., p. 178

8. The terminology that has been used by Auditing Standards Board is "reviewed" pro forma information instead of "audited" pro forma information. The term "reviewed" indicates the auditor's level of involvement.

9. Since the AICPA Exposure Draft on Reporting on Pro Forma Information has not been issued as an SAS other terms may be used in practice.

10. Copeland, R. and J. Wojdak, "Income Manipulation and the Purchase-Pooling Choice," Journal of Accounting Rresearch, (Autumn 1969), pp. 188-195.

11. See, for example, Watts and Zimmerman (1978); Dhaliwal (1980); Lilien and Pastena (1982); and Hagerman and Zmijewski (1981).

12. Ross, S. "The Determination of Financial Structure: The Incentive Signaling Approach," The Bell Journal of Economics, (Spring 1977), pp. 23-40.

13. Ronen, J. "The Effect of Insider Trading Rules on Information Generation and Disclosure by Corporation," The Accounting Review, (April 1977), pp. 438-449.

14. op. cit., Ross, S. "The Determination of Financial Structure: The Incentive-Signaling Approach," p. 33.

CHAPTER II

AN ANALYSIS OF MANAGEMENT REPORTING CHOICE WITHIN SIGNALING THEORY FRAMEWORK (THEORETICAL BACKGROUND)

A) INCENTIVE-SIGNALING ANALYSIS. The performance of the company is affected by the actions of the management and serves as a measure of how well the members have performed. Compensation geared to firm performance, therefore, serves as an incentive for managerial performance. The effect of managerial activities on firm performance links the fortunes of the managers with those of the firm. If the firm does poorly, management will be thought to bear some responsibility, and the demand for their services will be less. Conversely, if the firm prospers, management will share some of the credit, and the competitive market will drive their wages up.[1]

There are, howerver, limits. The compensation of managers is to some extent dictated by the wage level they could receive in competitive jobs.[2] By the same token, stockholders will not permit a manager to have the freedom to trade- in the firm for his own account. Such activities would be precluded by contract.

In the absence of government, the private market would have to erect a structure for monitoring and enforcing these contracts. An important role for the public sector, therefore, is to provide these services.[3] Judicial penalties for fraud and breach of contract are an incentive for management not to violate the non-insider-trading provisions that would be written into their contracts in competitive markets. This is quite different from saying that the public sector mandates disclosure regulation.[4] Rather, in competitive markets for managerial services, managers and stockholders would reach contracts that preclude

insider trading, and the role of the law is its usual one of enforcing contracts.[5]

In summary, in a competitive market (with no mandated disclosure), the managers of firms will find their compensation linked directly to the fortunes of the firm on an ongoing basis and will be precluded from profiting directly from inside information. In such a situation, they will have a strong self-interest in disclosing relevant information to the outside market.[6]

Certainly, management will have an incentive to disclose good information (unless doing so will jeopardize its value to the firm). Such disclosure will raise the value of the firm and, therefore, the manager's compensation.[7]

In general, there is a hierarchy of firms from best to worst, based on the relative change in their values that would occur if their inside information were made public. The incentive-signaling mechanism provides a structure that managers use to disclose their information in such a way that outsiders in the market believe it. Those with the best news distinguish their firms from those with the next best, and so on down the line. At the bottom of the hierarchy are those with the worst news, who would like to suppress it, but since it is not in their interest to offer the kinds of guarantees provided by those with better news, the worst news will also be effectively signaled.[8]

There are many complicated issues (such as timing problems and the force of the different incentive signals), but they do not alter the validity of the incentive-signaling view; they only influence its application to specific circumstances.[9]

The problem facing the manager with genuine good news is how to signal this information to the market in such a way that it will not be confused with all the misleading and false information being supplied. The managers's problem is similar to that of a producer with a superior product to sell. The natural solution to both problems is to offer a guarantee or a warranty.[10] Suppose that a manager knows that earnings will be moving up to a new higher level over the next several years. This is complex information, and while its detailed dissemination is possible, outsiders with no direct means of checking on the information would tend to discount its validity.[11] A simple announcement of a dividend increase can be used by the firm to signal the market that earnings are rising.[12] This is a strong way of validating management's view that earnings have reached a new higher level; the penalty associated with reneging on dividend payments is high.[13]

The managers with good information have an incentive to signal this information to the market to distinguish their firms from others. Those with no information also have an incentive to signal. For example if the level of dividends has been raised in the past to the maximum level of sustained earnings, then simply retaining it at that level will signal "no news". Presumably, firms anticipating periods with no significant inflows of information will have an incentive to maintain their current levels precisely to signal this and to distinguish themselves from firms receiving adverse news. The "no news" firms are in exactly the analogous situation as the "good news" firms. They must provide a sufficient guarantee to the market to insure, in their case, that they have not received bad news.[14] Firms with bad news are then left with no recourse. They cannot match the

guarantees of the good news and the "no news" firms; hence, they will be evaluated as having received bad news.[15]

The linkage between signaling theory and this study objectives, is that signaling theory provides a disclosure system that managers use to disclose information in such a way that outsiders in the market believe it. This study uses signaling theory disclosure structure to provide empirical evidence about whether managers use auditor involvement in prospective information, in such a way, that financial statement users believe the signal given to them by such information.

B) AUDITOR'S ROLE - A SIGNALING APPROACH. Two issues were investigated by Simunic (1980) and DeAngelo (1981), who studied the effects of auditors' size on audit prices and quality, respectively. Using audit fee data, Simunic was unable to reject the hypothesis that large CPA firms follow the same pricing policies as their smaller competitors both in the less competitive market ('large' auditees) and in the more competitive market ('small' auditees). In addition, DeAngelo, pursuing a theoretical argument of client-specific quasi-rents, claims that larger audit firms would provide a higher quality audit because they are better able to resist clients' pressures. According to DeAngelo, larger auditors have a large number of clients, each contributing a small proportion of the auditor's revenues and client-specific quasi-rents. Consequently, client threats of contract termination are less effective, thereby improving the audit quality.

The existence of differences in audit quality among audit firms seems to be an unsettled issue. Presumably, all auditors follow the same auditing standards and requirements. While smaller auditors may be in an inferior position to withstand clients' pressure, they may perform more thorough audits and uncover a greater number of errors.[16] Measuring the quality of an audit as the probability that an error that had been detected would be disclosed, as suggested by DeAngelo, appears to be only a partial measure of audit quality. Thus classifying audit quality according to the size of the auditor, although empirically convenient, is theoretically unsatisfactory.[17]

Nevertheless, two empirical findings warrant attention. Carpenter and Strawser (1971), replicating an AICPA study,

found a high proportion of firms which preceded the decision to go public with a decision to switch to a larger auditor. Furthermore, Arnett and Danos (1979) reported that underwriters urged firms to make such switches to ensure higher prices for their securities. These findings call for better understanding of the auditor selection process and auditor involvement.

The purpose of this section is to examine the auditor's role through a signaling approach.

As mentioned before, insider trading literature assumes that managers of firms possess superior information about future earnings (forecasts).[18] Stockholders induce managers to disclose additional information and regard an auditor's report on such information as an "investment on the signal" to guarantee the validity of such information.[19] It is argued that managers who perceive their firm to be superior will:

a) select a larger auditor to report on such information, or
b) change from local to national auditing firm.

The larger auditors set higher prices to compensate themselves for the incremental risk of litigation which is a function of their size.[20] The selection of a large audit firm, or the change from local to national auditors signals to the market that the manager expects his firm to have high future earnings (forecasts) and determines the stock prices of firms by using this signal.[21]

The fundamental premise about the economic environment is the existence of information asymmetry between stockholders and managers. Managers are assumed to possess

superior knowledge about their firm's forecasts. Stockholders, then, have a motive to induce managers to share this knowledge with capital market participants, so that the value of the firm will reflect the future earnings as assessed by the manager.

Stockholders determine the manager's compensation in a way which induces him to disclose his assessments of future earnings. Once these assessments are known, market equity prices will adjust to reflect the manager's information about future earnings. In equilibrium, market prices will help the resource allocation in the economy, where firms with better assessments of future earnings receive a larger amount of capital from stockholders.

The manager will convey his future earnings (forecasts) assessments by selecting an observable action which indicates his expectation. The manager is assumed to make decisions consistent with expected utility maximization. Furthermore, stockholders design the manager's compensation in a way that:

1. induces him to disclose his assessments fully and instantaneously, and
2. penalizes him for actions which are inconsistent with his assessments (i.e., induces him not to deceive).

Hence, such a compensation scheme consists of two components:[22]

a) a component which depends on the firm's current market value, and
b) a component which depends on the realization of the firm's future earnings.

The first component motivates the manager to disclose fully and instantaneously his assessments of future earnings, so that current market prices will reflect his assessments. The second component discourages him from taking an inap-

propriate action.

Signaling theory assumes that audit firms provide identical services to their clients, performing essentially the same audit tests by using the same resources. The audit, therefore, is assumed to be of homogeneous quality across auditors. Auditors, however, vary in their exposure to losses that may result in cases of litigation. It is assumed that the larger the audit firm, the more resources it owns and the larger is its share of a loss in a case of litigation against the manager and the auditor.[23] The size of the auditor, therefore, is assumed to suggest a higher expected earnings to the stockholders, who may participate in a class action if they consider themselves misled by misrepresentations in the financial statements.

Stockholders in this setting play an important role; they design the compensation scheme, and in particular they set the bounds which classify management's performance as "good" or "bad". These bounds are designed to prevent the manager from signaling his firm as a high expected earnings firm, while in fact the firm may not be as such. The penalty for a false signal comes through the compensation at the end of the period, and, in particular, through the bounds. Thus, these bounds must be set such that they will ensure correct signal and will also be able to classify firms according to their expectations of future earnings.[24]

Based on signaling approach, stockholders may prefer firms with a larger auditor for two reasons:

a) a larger auditor is able to bear a larger share of the losses in cases of "bad" performance, and
b) a larger auditor signals higher expected earnings.

Both of these reasons appear to be empirically verified. Arnett and Danos (1979), report a higher frequency of litigation against larger audit firms. Thus, the notion of larger auditors bearing a larger share of the losses appears to be empirically valid. In addition, both Carpenter and Strawser (1971) and Arnet and Danos (1979) report that underwriters feel that securities may sell at a higher price if a larger auditor is engaged. These findings are consistent with a signal that is transmitted to potential investors about future earnings if the auditor is involved in such information.

This study <u>is not an attempt to examine:</u>

1. whether the selection of auditor or change from local to national auditing firm signals information about company's forecasts, or
2. whether there is a market reaction to the selection of auditor or the change from local to national auditing firm, or
3. whether there is an effect to the selection of auditor or the change from local to national auditing firm on reporting and signaling pro forma and financial forecast information.

These questions are beyond the limitions of this research. But they will be the focus, as an extension, of this study in the future. However <u>this study examines the following:</u>

1. whether there is an association between CPA firm size and management choice to report and signal pro forma and financial forecast information.
2. whether firms use auditor involvement as a "vehicle" to guarantee the validity of pro forma and fianancial forecast information.

c) DEVELOPMENTS CONCERNING PRO FORMA AND PROSPECTIVE FINANCIAL INFORMATION IN SEC FILINGS. The central focus of this research is to identify the management reporting choice with regard to prospective financial information and to determine how that choice is related to selected firm-specific characteristic variables. This process involves several methods and steps.

The first step is an in-depth review of SEC literature related to the pro forma and forecast information. The central focus of this review is to identify:

1. different management choices with regard to prospective information, and
2. the economic variables which could affect management choices.

The SEC for many years prohibited the inclusion of financial forecasts in prospectuses and reports filed with it. In 1973, however, the SEC reversed its long-standing position, and now allows, and in fact encourages, voluntary disclosure of management forecasts and other types of "soft information". This reversal was part of a series of actions designed to improve the quality of corporate information disclosed to investors, and the new rules were accompanied by a set of restrictive guidelines intended to enhance the accuracy of any projections made public.

In its statement on this subject, the Commission indicated that companies under its jurisdiction should not be required to make forecasts, but that those who chose to do so should be required to meet certain standards and disclosure requirements, including rules for filing with the Commission.

C.1.) ARTICLE 11 OF REGULATION S-X (RULES 11-01 AND 11-03, SEPTEMBER 30, 1982). The SEC believes that pro forma financial information should help investors analyze a company's future potential by highlighting the effects of a transaction on historical financial position and results of operations. In June 1982, the SEC adopted Article 11 of Regulation S-X, which includes instructions applicable to pro forma information included in SEC filings after September 30, 1982.

Article 11 asserts that pro forma financial information should provide investors with information about the continuing impact of a particular transaction by showing how it might have affected historical financial statements if the transaction had been consummated at an earlier time.[25] "Such statements should assist investors in analyzing the future prospects of the registrant because they illustrate the possible scope of the change in the registrant's historical financial position and results of operations caused by the transaction." [26]

i) ARTICLE 11 REQUIREMENTS. Pro forma financial information should consist of a pro forma condensed balance sheet, pro forma condensed statements of income, and accompanying explanatory notes. If a limited number of pro forma adjustments are required and those adjustments are easily understood, a narrative description of the pro forma effects of the transactions may be furnished in lieu of condensed statements.

The pro forma information should be accompanied by an introductory paragraph which briefly sets forth a description of: the transactions; the entities involved;

and the periods for which the pro forma information is presented. In addition, a narrative explanation of what the pro forma presentation shows should be presented.

ii) RULE 11-03, PRESENTATION OF FINANCIAL FORECAST. Article 11 of the SEC's Regulations S-X, Rule 11-03 provides an alternative to managements required to present pro forma information. This Rule provides that a financial forecast may be filed in lieu of the pro forma condensed statements of income required by Rule 11-01.

Rule 11-03 states that the financial forecast should cover a period of at least 12 months from the later of:

1) the most recent historical balance sheet included in the filing, or
2) the consummation date or estimated consummation date of the transaction.

The forecast statement of income should be presented in the same degree of detail as the pro forma condensed statement of income required by Rule 11-01. The assumptions particularly relevant to the transaction and effects thereof should be clearly set forth. Historical condensed financial information of the registrant and the business acquired or to be acquired, if any, should be presented for at least a recent 12 month period in parallel columns with the financial forecast. Such forecast information should be presented in accordance with the guidelines established by the American Institute of Certified Public Accountants (AICPA). Forecasted earnings per share data should be substituted for pro forma per share data.

In summary, two alternatives, pro forma and financial forecast information, are provided by the SEC for certain

companies which are required to file pro forma information with the Commission. Companies are either to report (signal) on a pro forma basis or to report (signal) a forecasted income statement in lieu of a pro forma income statement.

C.2.) AUDITOR INVOLVEMENT IN PRO FORMA AND PROSPECTIVE FINANCIAL INFORMATION. Another critical point for this study is that auditor involvement with pro forma and financial forecast information is an important issue facing the auditing profession. Pro forma or financial forecast information is believed to be an important source of information to individuals using corporate financial statements. So strong is this belief that the SEC (1978, 1982) has concluded that it is desirable to have public auditor involvement with such information.

The research which is presented in this study is the first investigation into existing management choice to report and signal pro forma or financial forecast information with or without auditor involvement.

i) WILL FIRMS VOLUNTARILY ARRANGE FOR EXAMINATION OF THEIR PROSPECTIVE FINANCIAL INFORMATION BY A CPA?

"Auditing exists because some segment of society perceives a need for the increased level of credibility that an independent examination provides. If the demand for credibility by any segment is deemed to be sufficiently broad, legislation may be enacted to require examination services in specified circumstances. Indeed, an important part of current examination practice is derived in this manner." [27]

Independent auditors are hired to express an opinion on a client's financial statement presentation. In particular, they are required to apply procedures to obtain evidence such that an opinion can be formed as to the fairness of this presentation in conformity with GAAP. If the opinion does not reflect the true state, (i.e., the financial statements are materially misleading), auditors may be held liable at common law or under the federal securities laws. Accordingly, the audit firm has an incentive to issue an accurate and unbiased opinion.[28] Unqualified opinions convey favorable information and qualified opinions convey unfavorable information about the company whose financial statements are examined.[29] This same reason may motivate firms to voluntarily arrange for examination of their prospective information.

The independent auditor, in reaching an opinion on a client's financial statements, is required to conduct an examination in accordance with generally accepted auditing standards. These standards currently encompass both conventional audit practices and practices required by statements promulgated by the Auditing Standards Board.

The auditor's role in reporting on financial forecasts has developed into an important issue for the accounting profession. Evidence of this importance is manifested by the AICPA's publication of the "Guide for a Review of a Financial Forecast", (AICPA, 1980), its Exposure Draft entitled "Accountant's Report on a Financial Forecast Contained in Filings Under Federal Securities Statutes", (AICPA, 1982), its recent statement entitled "Statement on Standards for Accountant's Services on Prospective Financial Information: Financial Forecasts and Projections"

(AICPA, 1985), the "Guide for Prospective Financial Statements," (AICPA, July 1986), and recent actions taken by the SEC to encourage public dissemination of managements' financial forecasts and other forward-looking information (SEC, 1978, 1979, and 1982).

Although independent accountants have traditionally resisted examining and reporting on these financial forecasts, there is growing pressure on them to do so to enhance the reliability and usefulness of forecasts.[30] The independent accountant should ensure that the financial forecast provides full disclosure of the sources of the information, the major assumptions made, the character of the work performed, and the degree of responsibility he or she is taking.[31]

ii) REPORTING ON PRO FORMA FINANCIAL INFORMATION IN SEC FILINGS, (JUNE 29, 1984). In June 29, 1984, Auditing Standards Board issued a proposed statement which provides guidance on the independent auditor's responsibilities when engaged to report on pro forma financial information contained in a filing with the securities and Exchange Commission pursuant to Article 11 of Regulation S-X. Article 11 sets forth the SEC's requirements regarding the form and content of pro forma financial information and when and for what perids such information is required to be presented.

This proposed statement repeats the SEC position that the objective of pro forma financial information is to show what the significant direct effects on historical financial information might have been had a consummated or proposed transaction or event occurred at an earlier date. Pro forma financial information should be appropriately labeled as such to distinguish it from historical

financial information; it need not be marked as unaudited because it is not part of the financial statements. The pro forma financial information should describe the purpose for which it has been prepared, the source of the historical financial information on which it is based, the transaction or event that is reflected in the pro forma financial information, significant assumptions used in developing the pro forma adjustments, and any significant uncertainties about those assumptions.

This proposed statement strongly suggests, but does not require, that the pro forma financial information also include statements to the effect that the pro forma information should be read in conjunction with the related historical financial information and that pro forma information is not necessarily indicative of the results (such as financial position and result of operations, as applicable) that would have been attained had the transaction or event actually taken place earlier.[32]

The independent auditor may agree to report on pro forma financial information if the following conditions are met:

a) the document that contains the pro forma financial information includes complete historical financial statements of the entity for the most recent year.
b) the independent auditor who is reporting on the pro forma financial information has an appropriate level of knowledge of the entity's accounting and financial reporting practices and its system of internal accounting control, which has ordinarily been obtained by auditing or reviewing historical financial statements of the entity.

c) the historical financial statements of the entity on which the pro forma financial information is based have been audited by an independent auditor.

The report on pro forma financial information should include:

a) an indentitication of the pro forma financial information.

b) a statement that the review of the pro forma financial information was made in accordance with applicable AICPA standards and a brief description of the nature of such a review.

c) a statement regarding whether the auditor believes that management's assumptions provide a reasonable basis for presenting the significant direct effects of the transaction or event and whether the related pro forma adjustments give appropriate effect to those assumptions and are properly applied in the pro forma financial information.

iii) REPORTING ON PROSPECTIVE FINANCIAL INFORMATION, (1985, 1986). In October 1985, and in Feb/July 1986, the Auditing Standards Board issued a statement and a guide for accountants engaged to report on prospective information. The statement provides much needed information and guidance relating to prospective financial information. The "Statement for Prospective Financial Information" [33] establishes guidelines for the preparation and presentation of and reporting on financial forecasts and projections. The statement establishes a rule to require the accountant to report whenever he or she is associated with prospective statements. The definition of association is based on concepts in Statement on Auditing Standards no. 26, "Association with Financial Statements," [34] and Statement on Standards

for Accounting and Review Services no. 1, "Compilation and Review of Financial Statements."[35]

Thus, association with prospective financial statements would depend on the following major factors:

a) whether the accountant's name was used in conjunction with the presentation of such information.
b) whether the accountant assembled or assisted in the assembly of such information.
c) whether the service was provided on prospective financial statements.

The accountant who is associated with the prospective financial statements would be required to report on them for the same reasons an auditor is required to report on historical financial statements with which that auditor is associated. That is, users are better informed and the auditor is better protected if the auditor explicitly identifies the scope of his or her services and the degree of responsibility he or she is taking.

The standard report on an examination of a financial forecast should include:

a) an identification of the forecast information presented by management and a description of what it is intended to represent.
b) a statement that the accountant assumes no responsibility to update the report for events and circumstances occurring after the date of the report.
c) a statement that the examination was made in accordance with apblicable AICPA guidelines for an examination of a forecast.
d) a statement regarding whether the accountant believes that the financial forecast is presented in conformity with applicable AICPA guidelines for presentation of a financial forecast and whether the underlying

assumptions provide a reasonable basis for management's forecast.[36]

e) a caveat regarding the ultimate attainment of the forecasted results.

FOOTNOTES

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3. Ibid., p. 781.

4. op. cit., Ross, S. "Disclosure Regulation in Financial Market:," p. 187.

5. Ibid.,, pp. 188-189.

6. Ross, S. "Options and Efficiency," Quarterly Journal of Economics, (Feb. 1976a), pp. 75-89.

7. op. cit., Ross, S. "Some Notes on Financial Incentive-Signaling Models," p. 781.

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9. Ibid., p. 185.

10. Ibid., p. 186.

11. Ibid., p. 186.

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21. Leland, H. and D. Pyle, "Informational Asymmetries, Financial Structure, and Financial Intermediaries," Journal of Finance, (May 1977).

22. op. cit., Arnett, and Danos, "CPA Firm Viability," p.25

23. Ibid., p. 27

24. Ibid., p. 29

25. Pro forma Information is prepared to present the effect of an underlying transaction or event as if the underlying transaction or event had already take place or had taken place at an earlier date.

26. Article 11 of Regulation S-X of the SEC, (Sep. 20, 1982).

27. Biggs, Sheridan. "Perspectives in Auditing for the 1980s and Beyond," Journal of Accountancy, (May 1982), p. 93.

28. Church, B. "Confirmatory Bias in Audit Settings," Working Paper, (School of Accounting, Univ. of Florida, Feb. 1985).

29. Chow, C. and Rice, S. "Qualified Audit Opinions and Share-Prices: An Investigation," Auditing, (Winter, 1982).

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31. Pallais, D., Dan Guy, and D. Meals, "The Proposed Guide for Prospective Financial Statements," Auditing, (Winter 1984), P. 64

32. AICPA Exposure Draft, "Proposed Statement on Auditing Standards: Reporting on Pro Forma Financial Information in SEC Filings," (AICPA: New York, June 29,1984).

33. Ibid., p. 5

34. AICPA Statement, "Statement on Standards for Accountant's Services on Prospective Financial Information: Financial

Forecasts and Projections," (Oct., 1985).

35. AICPA, Statement on Auditing Standards no. 26, "Association with Financial Statements," (AICPA: New York, 1979).

36. AICPA, Statement on Standards for Accounting and Review Services no. 1, "Compilation and Review of Financial Statements," (AICPA: New York, 1979).

CHAPTER III
ECONOMIC FACTORS WHICH MOTIVATE MANAGERS' CHOICE TO REPORT PRO FORMA OR FINANCIAL FORECAST

Based on signaling theory and the discussion in CHAPTER II, the following variables are examined:

1. profitability,
2. degree of competitiveness,
3. the riskiness of the venture (or uncertainty),
4. diversity and complexity in the market, and
5. identity of CPA firm.

It is an objective of this study to determine if there are any significant relationships between selected economic variables and management choice with regard to report and signal pro forma or report and signal financial forecast information.

The more significant the relationship is, (between the economic variable and management choice), the more likely that the conclusion will be that such particular economic variable affects (or influences) management (ability) to signal prospective information to investors.

If there is a significant relationship, (between economic variables and management choice), and, at the same time, there is an auditor involvement in such information, the conclusion of this study will be that management is, more likely, using auditor involvement, (as a vehicle) to guarantee the validity of such information signal.

A. RELATED PRIOR RESEARCH

The existing academic literature relating to this study is composed of three streams: (1) forecast accuracy

models; (2) information content of earnings forecasts models; and (3) demographics (characteristics, attributes) of forecast firms models.

The most relevant models to this study are those included in the third stream. However, some of conclusions of the first and second streams are important to start with as a background for this study. Accordingly, a brief summary of forecast accuracy and information content models will be outlined, below, and the third stream will be discussed in detail.

i) FORECAST ACCURACY MODELS. These models were directed to test the accuracy of different forecasting techniques compared with those produced by management or financial analysts. Different measures of relative accuracy were employed in those models. However there was no agreement to which forecasting model provides a better accuracy level.

The evidence and results of these models are mixed due to several reasons. Among these reasons are: difference in sample selection criteria; difference in time periods; difference in time horizon of forecasts; and difference in accuracy measures. These models have been introduced by Elton and Gruber 1972; Copeland and Marioni 1972; Barefield and Comiskey 1975; Ruland 1978; Brown and Rozeff 1979; and Jaggi 1980.

ii) INFORMATION CONTENT MODELS. These models were directed to test the information content of management earnings forecasts. There are six major models using different methodology to confirm the notion that management

forecasts are useful to investors in making economic decisions even if those forecasts are overestimated by management. (Foster 1973; Gonedes, Dopuch, and Penman 1976; Patell 1976; Jaggi 1978; Nichols and Tsay 1979; and Penman 1980).

The evidence and results provided by these models are needed to determine a public policy implication. If such forecasts have no information content, they will have no value to the investor. The public policy implication, then, will be that it does not matter to mandate a rule of forecast disclosure by management.

Penman (1980) found that the expected returns of forecast firms are significantly higher than that of no-forecast firms. He also stated that "forecasts appear to reflect information over and above that available in the annual earnings announcement for the fiscal year."

Based on Penman findings, it could be argued that there is an incentive to management for false forecast signaling to acheive an upward stock price adjustment. However, Gonedes (1978) opposed such false forecast signaling stating that the market will identify such false forecast signals.

iii) DEMOGRAPHICS (CHARACTERISTICS, ATTRIBUTES) OF FORECAST FIRMS MODELS. To determine factors which motivate management to release their forecasts is the main point of this study. Determining such motivational factors will help to understand why some firms do publish their financial forecast information while others do not. A better understanding of those motivational factors may help the regulatory agencies decide from which class of firms they

should require such forecast information.

Imhoff (1978) conducted a study to determine whether forecast firms were representative of non-forecast firms. Imhoff surrogates forecast accuracy by three attributes:

1. the variability of accounting earnings measured by the coefficient of variation,
2. systematic risk of market-based returns, and
3. analysts' mean absolute relative prediction errors.

Imhoff results show that forecast firms have low variability in earnings; higher systematic risk than those in the index (S & P 500); and smaller relative prediction errors. He stated that forecast firms are not representative of non-forecast firms.

Cox (1981) replicates Imhoff models. He used Imhoff's two attributes and added firm size as explanatory variable to distinguish between forecast and non-forecast firms. Cox findings indicate that forecast firms have low earnings variability and low systematic market-risk. He pointed out that firms with large size are more likely to disclose their forecasts.

Jaggi and Grier (1980) analyzed the differences between firms which disclose forecasts and those that do not. The test of the hypothesis of no difference was conducted for the following:

1. expected future performance,
2. variability in the growth rate of historical earnings,
3. the interaction of growth rate variability of historical earnings with expected future performance.

They concluded that forecast firms differ from non-forecast firms. However there was no theoretical support given by Jaggi and Grier to include their differentiating variables. Accordingly, no directional hypothesis could be made.

Jaggi (1982) conducts a similar model to his and Grier's previous model with some variations. He identified three variables:

1. expected economic performance,
2. historical performance, and
3. market performance.

Jaggi used univariate as well as multiple discriminant analysis in testing the hypothesis of no difference between forecast and non-forecast firms. His results show that firms with high growth rate in net income and EPS, high market returns and dividend/earnings ratios and lower total risk, and, possibly, low variability in historical earnings are more likely to disclose forecasts.

B. FACTORS WHICH MOTIVATE MANAGEMENTS' CHOICES

The issue of choices avaiable to management has been introduced in Article 11 of the Regulation S-X of the SEC (Sep. 1982). Companies are either to report on a pro forma basis or to report a forecasted income statement in lieu of a pro forma income statement.

This study assumes that any reporting company (if it is applicable) can report a financial forecast if the decision to report such information is made in order to signal good news to the investor, to distinguish the firm from others, to affect the price of its stocks, to raise the value of the firm, and increase management's

compensation.

If the firm does not report a financial forecast (when applicable), it will continue to risk being labelled "no news" or "bad news" information. This labeling will affect its stock price, its value, and management's compensation.

A large body of literature has dealt with management's motivation for choosing one method of reporting versus another. In general, there is very strong evidence that a firm's debt status affects its choice of accounting principles or procedures. Size as a surrogate for political costs successfully explains accounting choices in politically sensitive industries such as oil and gas. Evidence from some studies, such as Watts and Zimmerman (1978) indicates that the existence of managerial incentive plans or significant managerial ownership can affect the choice of accounting principles and procedures.

The managerial choice to report and signal financial forecast or pro forma information is different than the choice of accounting principles and procedures. Since the reporting choice of financial forecast or pro forma determines whether the firm value will be affected; whether the stock price will be changed; and whether management's compensation will be altered, every motivational and economic factor which affects the firm also affects the choice.

PROFITABILITY

The investors (receivers of signals) are supposed to be able to discriminate between two classes of signals. The two classes of signals can be taken as favorable and unfavorable relative to certain economic attributes of a specific firm regarding future profitability.[1]

Since managers of firms have a great amount of discretion over their firms' operations, then the degree of control exercised by management may vary among firms within the same industry.[2] Signaling theorists advocate that signaling equilibrium can be attained when the equilibrium point in managerial incentive scheme is determined.[3] Hence, managements are assumed to have incentive to screen their firms in the market from other firms when they perceive a great probability of having an increase in their firm's earnings prospects.[4]

Therefore, profitability is a significant factor in motivating management to report and signal financial forecast information. Firms with positive (or high profitability) are more likely to select and signal financial forecast information than those with negative (or lower) profitability.[5]

The implication of this study is that managers in a profitable firm may tend to select and signal financial forecast information in order to support the continuance of their position and compensation. They are motivated to show that their profitability will be competitive in the future.[6]

On the other hand, managers with a lower (or negative) profitability may tend to select and signal pro forma financial information since such information is either neutral with respect to future profitability or will provide financial information users[7] with an explanation for lower profitability in the future.

Based on the above discussion it appears that profitability may influence management's choice to select and signal pro forma or financial forecast information. The profitability of the firm can be measured by its rate of return. (Rate of return is the net income before extraordinary items over net worth).

The hypothesis that is tested with regard to profitability is the following:

HYPOTHESIS 1: Profitability of a firm is positively correlated with the financial forecast choice as an alternative to pro forma information.

DEGREE OF COMPETITIVENESS

Managers have an incentive to resist unfavorable wealth transfers because they reduce the value of the firm. Likewise they will want to forestall additional competition because it will reduce the value of the firm, and the salaries and emoluments the managers receive.[8] Thus management will, in its own self interest, want to reduce potential competition.[9]

There are at least two reasons reported accounting earnings increase the competition a firm faces. The first is the possibility of anti-trust action which could lead to the fragmentation of the firm or some other governmental action which would increase competition. Reported earnings have been used by the Justice Department to determine

market power and by individuals to suggest that certain companies be investigated for possible anti-trust violation.[10]

The second reason is that other firms will enter the industry. If this occurs, the abnormal returns, to the extent they exist, of the current firms in the industry will be reduced and the managers of these firms will have to give up some of their explicit or implicit compensation. The established firms can adopt the strategy of keeping prices equal to or below the costs of potential competitors.[11] This presupposes that potential competitors know their own cost curves for alternative products and compare them with prevailing market prices. It is more likely, however that potential competitors only estimate their cost curves if there is some evidence that entry may be profitable.[12] This logic is supported by the evidence Mansfield (1962) developed which indicates that the number of firms entering an industry is positively related to the accounting earnings of the industry.

What is said about reported earnings could be said about financial forecast information. That is; signaling financial forecast information may increase the competition a firm faces for the same two reasons (anti-trust and entry).

However, older, will-established companies may tend to select and signal financial forecast information more than young-unsettled firms because they feel less at a competitive disadvantage.[13] On the other hand, the opposite may be true if younger firms feel they are able to attract

a greater following to their shares through the signaling of financial forecast information. However, the SEC's Advisory Committee on Disclosure concluded that "it is difficult to prepare adequate projections or forecasts due to lack of operating history, general economic factors, or industry conditions (i.e., elements contribute to market power). Companies, with such limitations, should not be compelled to subject themselves to possible risks of liability for inaccurate projections or forecasts.[14]

Concentration ratio which is defined as the percent of total industry sales made by some specified number of the largest sales firms in the industry is the most widely used measure of market power. The logic behind this measure is that if only a few firms account for most of the sales in the industry, they probably earn abnormal earnings.[15]

The more concentrated the industry is (high concentration ratio firms), the greater is the likelihood of either anti-trust or entry. Since the existing firms do not want to encourage entry by revealing profitable opportunities, they have the incentive to reduce reported earnings.[16] High concentration ratio firms, therefore, may select to report and signal pro forma financial information in order to discourage entry and anti-trust, since such information is either neutral with respect to future earnings or will provide financial information users with an explanation for lower earnings in the future.

The hypothesis that is tested in this case is the following:

HYPOTHESIS 2: Concentration ratio is negatively correlated with financial forecast choice as an alternative to pro forma information.

THE RISKINESS OF THE VENTURE (OR UNCERTAINTY)

Klein and Bawa (1976, 1977) show that if investors possess "minimal" information on a subset of available assets, they may rationally neglect these securities and instead form portfolios only from the subset of securities upon which they have "sufficient" information. Levey (1978); and Collins et al., (1981) asserted that if management is aware of such investor behavior, management can take efforts to signal and assure (guarantee) the investing society about corporate financing and operating activities.

To elaborate on the above ideas, McKelvey and Zavoina (1975) stated that two kinds of risks managements or firms face:

1. the inherent risk associated with the industry in which the company operates.
2. the inherent risk associated with the current economic conditions in the capital market.

Although these factors (or kinds of risks) have an impact on the forecasts or projections financial information, they are beyond the control of the management of all firms and will affect all firms within the industry in a similar manner. These industry and economic factors are of little or no value in distinguishing individual firms from one another within their own industry, but are crucial in distinguishing between firms in different industries.[17]

Firms within the same industry may have a different extent of discretion available to their managements in selecting projects suitable to their firms. Managements who select highly certain and less volatile projects will be more confident in selecting and signaling prospective financial information with less probability of having large errors in forecasts, because they are less dependent on market and industry factors relative to those firms with highly uncertain projects. Such firms with highly uncertain projects, are likely to have a higher probability of having large errors or adjustments, and therefore, a preferable situation of selecting and signaling pro forma adjusted information.[18]

In some cases, on the other hand, management wants to prepare a forecast but is unable to because it cannot develop a single point estimate relating to one or more conditions or courses of actions. For example, a real estate developer (or a hotel chain manager, or a hospital administrator, etc.,) may not be able to provide a single point estimate of the occupancy rate of a new building although he believes occupancy will be higher than, say 70% but lower than, say 90%.

In such cases, managements (for the purpose of SEC filings) have incentive to:

1. present financial forecast information as a range using the lower end of the range of its estimation and widen the range in order to make sure that the actual results fall within the range. But financial information users would likely percieve wider ranges as signifying riskier ventures and

they would charge more for use of capital,[19] or

2. select pro forma financial information. In this case, they may be able to avoid the problem of estimation or the problem of increasing cost of capital.

Systematic risk (beta) would be a good proxy of the riskiness of the ventures (or uncertainty). The CRSP file is utilized to calculate systematic risk. There are some other sources for beta. In the preliminary analysis, the Value Line Investment Survey is used to obtain information about systematic risk.

The hypothesis that is tested in this case is the following:

HYPOTHESIS 3: Systematic risk is negatively correlated with financial forecast choice as an alternative to pro forma information.

DIVERSITY AND COMPLEXITY IN THE MARKETS

Steiner (1980) stated that today's business environment has dramatically affected the job of top executives and the role of business in society. Today's environmental forces that have an important impact on business- externally as well as internally- are powerful, fundamental, numerous, and generally threatening.

One major consequence of many current market complexities is that managers of companies today, especially in the larger firms, must operate under "rules of the game" that are dramatically different from those applying a few years ago.[20] This, in turn, is significantly changing

the managerial task. Furthermore, these complexities and diversities in the markets (e.g., political, geographical, labor, technological, etc.) are forcing on the business institution a different role in society than that expected of it in the past.[21]

Today it is clear that the terms of the contract between society and business are, in fact, changing in substantial and important ways. Business is being asked to assume broader responsibilities to society than ever before and to serve a wider range of human values. Business enterprises, in effect, are being asked to contribute more to the quality of American life than just supplying quantities of goods and services. In as much as business exists to serve society, its future will depend on the quality of management's responses to the changing expectations of the public.[22]

Another complexity that exists is that the volume of government regulation of business is so large that no corporation can faithfully comply with all the laws and regulations to which it is subject. Smaller companies do not even know all the laws that they should obey. Not only is the volume of federal regulations enormous, but it has grown significantly in the past 15 years.[23] The cost of complying with federal regulations, not to mention state and local laws, are very significant and rising rapidly.[24]

In the international economic markets of products and services and multinational corporations are encountering new and perplexing economic complexities. They face a declining but fluctuating value of the dollar in foreign exchange, competition from powerful companies partly subsidized by governments, increasing competition from highly efficient foreign producers, and demands from host governments to assume increased social responsibilities.[25]

Companies that face such complexities in the markets need to report and signal more information (than the normal) to the investors. In order that financial statement users may obtain a clear understanding of the group's affairs, it is necessary to provide additional information showing the expected future position and operations of the firm.

Diversity of product line is used as a proxy for the diversity and complexity in the markets. A firm with a single line of product can do a better job of reporting and signaling with much less effort than a widely diversified firm. With a single product line the normal financial statements of the firm may do a fair job in disclosure. However, with a multiple product line, the normal financial statements do not have sufficiently detailed information for the investor.[26] In this case the firm has to report and signal additional information such as financial forecast information.

In highly diversified firms it is helpful to present an analysis of expected earnings as between the parent,

subsidiaries, and associated companies and to disclose any restrictions on their future distribution because this may affect the ability of the parent to distribute dividends in the future.[27]

In other words, highly diversified firms may select and signal financial forecast information as an alternative to pro forma information, since such information is useful not only to financial information users but also to divisions, departments, branches, domestic, and international managers.

(Diversity of product line is measured by number of segments each firm disclosed in its 10-K in accordance with the SEC's ASR No. 177).

The hypothesis that is tested in this case is the following:

HYPOTHESIS 4: Diversity and complexity in the markets are positevly correlated with financial forecast choice as an alternative to pro forma financial information.

IDENTITY OF CPA FIRM

The primary responsibility for preparing the annual report rests with the company. However, the company's independent auditors may exercise some influence or provide some advice regarding the level of disclosure and the information to be disclosed.[28]

Chow and Rice (1982); and Ashton (1983), argue that auditing firms may be able to exercise greater influence and hence they may be associated with management choice to report and signal financial forecast information.

Therefore, differences in management choice with regard to pro forma or financial forecast information may be associated with the attitude and policies of the CPA firm which renders an opinion on the company's financial statements. [29]

Singhvi and Desai (1971); and Chow and Rice (1982) found a positive relationship between the size of a CPA firm and the extent of corporate disclosure. Larger CPA firms are associated with additional information, such as segment information; price level adjusted information; and forecast information.

Based on the above discussion, this study assumes that large-size CPA firms are associated with financial forecast information, while small-size CPA firms are associated with pro forma financial information.

In this study, the following eight CPA firms are classified as large and the remaining CPA firms are small.

1. Touche Ross & co.
2. Deloitte Haskins and Sells.
3. Arthur Young & Co.
4. Price Waterhouse & Co.

5. Coopers & Lybrand.
6. Ernst & Whinney.
7. Peat, Marwick, Mitchell & Co.
8. Arthur Andersen & Co.

This order (from the lowest to the highest revenue), of the big-8 CPA firms is according to the estimates of gross revenue made by "Public Accounting Report- Georgia, June 15, 1987". Therefore, It might be interesting to test among big-8 CPA firms whether there is a significant difference between the frequencies of the first four firms (smaller in size), and the second four firms (larger in size). This test may also explain the effect of the CPA firm size on management choice.

This variable is used in this study as a dummy variable with 1 if the firm is a big-8 CPA and 0 otherwise.

The hypothesis that is tested in this study is as follows:

HYPOTHESIS 5: Size of CPA firm is positively correlated with the financial forecast information choice as an alternative to pro forma information.

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20. Steiner A. "Can Business Survive Its New Environment?" Business, (Jan./Feb. 1980), pp. 13-19.

21. Ibid., p. 14

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27. Gary, S. "Segment Reporting and the EEC Mutinationals," Journal of Accounting Research, v. 16 (Autumn, 1987), pp. 242-53.

28. See, for example, Cerf (1969); Singhvi and Desai (1971); Chow (1973); Buzby (1975); and Duff and Phelps (1976).

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CHAPTER IV

RESEARCH DESIGN

This research is accomplished using an ex-post facto descriptive design. In this approach, the research seeks to describe a particular phenomenon without attempting to manipulate variables, to arrange for events to occur, or to explain why the phenomenon exists. This design was selected because of its applicability to the objectives, scope and limitations of this research. Management reporting choice and signaling pro forma or financial forecast information is described and relationships between reporting choice and firm-specific variables are examined as they presently exist in organizations.

No attempt is made to determine which reporting choice (pro forma or financial forecasts) is the most effective or what relationships should exist.

1. SAMPLE SELECTION. Firms must meet the following data availability requirements in order to qualify for the inclusion into one of the two groups (pro forma or financial forecast information):

   a. presentation of pro forma or financial forecast information in the annual report or the 10-K.
   b. annual accounting data history available from the COMPUSTAT data file.
   c. availability of a descriptive source such as the annual report or the 10-k SEC filing to facilitate classification of the information presented and related matters.
   d. availability of the data on CRSP tape for the period starting 1980 to 1986.
   e. availability of the data on Moody's Industrial manual for the period starting 1980 to 1986.
   f. availability of the data on the Value Line Investment Survey for the period starting 1980 to 1986.

In order to collect the sample firms two steps were taken:

1. The National Automated Accounting Research System (NAARS) is scanned for pro forma and financial forecast firms that are subject to Article 11 of the Regulation S-X. This step produced 867 pro forma and financial forecast firms.
2. To make sure that the sample firms have the requirements of Article 11, and to eliminate any firm that discloses pro forma according to AICPA or FASB requirements, all annual reports of the sample firms were investigated. This step produced a final sample of 162 firms (114 pro forma, and 48 financial forecast).

Table 3 provides samples classified by reporting choice, pro forma or financial forecast information, and according to auditor involvement.

The data used in this study was obtained from several sources:

1. Annual reports and 10-K's from the libraries of the SEC; Baruch College; Colombia University; and AICPA.
2. Moody's Manual from Baruch College library.
3. COMPUSTAT ANNUAL RESEARCH TAPE from the computer center.
4. Value Line Investment Survey from the library of Baruch College, and from Merrel Lench library.

TABLE 3

SUMMARY OF PRO FORMA AND FINANCIAL FORECAST INFORMATION SAMPLE FIRMS

Sample firms identified from NAARS		867
"Reviewed" Pro Forma sample firms	53	
"unreviewed" Pro Forma sample firms	61	
Total Pro Forma sample firms	114	
"Examined" Forecast sample firms	19	
"unexamined" forecast sample firms	29	
Total Forecast sample firms	48	
Total sample to test reporting choice of pro forma or financial forecast.		162

2. METHODOLOGY. This study examines voluntary choice and disclosure of pro forma and financial forecast information in SEC filings. The study examines this issue as an application of signaling information to investors. A major issue is addressed in this study. That is: What are the characteristics of companies that select pro forma and those that select financial forecast information to be signaled to investors?

This issue is examined for the following reasons:

a. to distinguish between the characteristics of companies that signal pro forma and those that signal financial forecast information.
b. to find out whether firm-specific characteristics influence managers to signal prospective information.
c. to find out whether companies use auditor involvement in such information (as a vehicle) to guarantee the validity of such signals.

The predicted conclusions of this study are:

a. if a significant relationship between a particular firm-specific characteristic and management choice to report pro forma or financial forecast information exists, such a particular firm-specific characteristic may influence or motivate management to signal particular information to investors.
b. if the firms are identical in their preferences for auditor involvement in their prospective information, they may not use auditor involvement (as a vehicle) to guarantee the validity of their information signals.

Based on these conclusions, the sixth null hypothesis that is tested in this study is:

HYPOTHESIS 6: The two populations from which the samples were drawn are identical in their preferences for auditor involvement in prospective information.

THE MODELS. Two models are used in this study. The first is N-Chotomous probit analysis which is used by this study for the following:

1. to obtain information on how management choice of reporting pro forma or financial forecast information will be influenced by:
   a. profitability,
   b. degree of competitiveness,
   c. riskiness of the venture,
   d. diversity and complexity in the markets, and
   e. identity of CPA firm.
2. to obtain information on whether there are significant relationships between selected economic variables and management choice to report and signal pro forma or financial forecast information.

The second model is Mann-Whitney test which is used for the following:

1. to obtain information on whether there are differences between companies in their preferences for auditor involvement.
2. to obtain information on whether companies use auditor involvement (as a vehicle) to guarantee the validity of their information signals.

N-CHOTOMOUS PROBIT ANALYSIS. The probit analysis was first developed by Finney (1952). It was used to determine the relationship between the probability that an insect will be killed and the strength of the choice of poison

administered. Recently, probit analysis has been applied successfully in political science (e.g., Wolfinger, 1978) and in demand forecasting (e.g., Daganzo, 1979). In accounting literature, probit analysis has been applied to accounting choice studies (e.g., Hagerman and Zmijewski, 1979; Lilien and Pastena, 1982), to bond rating decisions (e.g., Kaplan and Urwitz, 1979) and to loan decisions (e.g., Grablowsky and Talley, 1981).

To understand the probit analysis, assume that there is a theoretical dummy dependent variable Z_i which measures the probability of the choice of one policy and eliminates another, for firms which face the problem of reporting pro forma or financial forecast information for the purpose of SEC's filings, and which can be determined by the independent variables.

The theoretical variable Z_i is assumed to be a continuous variable which is random and normally distributed for the usual econometric reasons (e.g., Pindyck and Rubinfeld 1981). This dummy dependent variable can be interpreted as it has two values:

1. high value of Z_i (e.g., pro forma decision firms),
2. low value of Z_i (e.g., financial forecast decision firms).

The theoretical dependent variable is not actually measured; instead the data which is available can estimate a version of Z_i . Let Y_i be assigned to a version of Z_i. This version of probit analysis has the property of restricting the the range of $E(Y_i)$ that lies between the low and high value (e.g., 0 and 1) interval for all independent variables. This analysis is associated with the cummulative normal prob-

ability function. Thus, the general form of the models can be determined as follows:

$$Y_i = a + B_i X_i + e \qquad (1)$$

where:

Y_i = 0 if the corporate management's choice is pro forma financial information.

Y_i = 1 if the corporate management's choice is financial forecast information.

B_i = a vector of coefficients.

X_i = a vector of the independent variables describing the the relevant determinants of firm (i).

e = a random variable assumed to be independently distributed with mean = 0 and variance = 1.

Since the probit analysis assumes that Z is a normally distributed random variable, then it is possible to use the cumulative normal probability function (e.g., Pindyck and Rubinfeld, 1981, p. 283). This can be written as follows:

$$P_i = F(Z_i) = \frac{1}{\sqrt{2\pi}} \int_{-a}^{z_i} e^{-s^2/2} ds \qquad (2)$$

where S is ñ (0,1)

P_i must lie in the (0, 1) interval.

$P_i = P_0 , P_1$

P_0 is the probability of pro forma information choice, and P_1 is the probability of financial forecast choice. Because the cumulative normal transformation is nonlinear, this study is using the maximum-likelihood estimation to obtain values for (alpha) and (beta).

Theil (1971) shows that the maximum-likelihood estimation yields an estimator which is not only consistent for the parameters but also asymptomatically normally distributed. This property of the maximum-likelihood estimation is frequently described as asymptomatic efficiency. To show that; let n be a random sample size from a normal distribution ($\tilde{N}$) with unknown mean $\emptyset$ and unknown variance $¥^2$. The likelihood function can be expressed as follows:

$$L\ (X_1,\ldots,X_n;\ \emptyset,\ ¥^2) = \frac{1}{(2¥^2)\ n/2} \exp\left| - \frac{1}{2¥^2} \sum_{i=1}^{n} (X_i - \emptyset)^2 \right|$$

The logarithm of the above equation is:

$$\text{Log } L\ (X_i,\ldots,X_n;\ \emptyset, ¥^2)$$

$$= - \frac{n}{2} \log 2\,\text{¶} - \frac{n}{2} \log ¥^2 - \frac{1}{2¥^2} \sum_{i=1}^{n} (X_i - \emptyset)^2$$

To find the maximum-likelihood estimation of parameters, it is necessary to find the values of the parameters which maximize the log of (L). By setting partial derivative of log (L) with respect to $\emptyset$ and $¥^2$.

$$\frac{\partial \log L}{\partial \phi} = \frac{1}{\sigma^2} \sum_{i=1}^{n} (X_i - \phi)^2$$

$$\frac{\partial \log L}{\partial \sigma^2} = \frac{n/2}{\sigma^2} + \frac{\sum_{i=1}^{n} (X_i - \phi)^2}{2\sigma^4}$$

By equating the derivatives to zero, then X is the maximum-likelihood estimator of ϕ. Also, W is the maximum likelihood estimator of σ^2, as follows:

$$W = \frac{1}{n} \sum_{i=1}^{n} (X_i - X)^2$$

The statistical significance of the n-chotomous probit analysis is tested by looking at the negative ratio of logarithm of likelihood function times two.

MANN-WHITNEY TEST. To test hypothesis 6, this study uses the Mann-Whitney test. This test is similar to the runs test but more powerful. The null hypothesis is that the two populations from which the samples were drawn are the same in their preferences with respect to auditor involvement in financial information.

The study is undertaken to test whether there is

a difference between companies in their preferences for auditor involvement. Two populations (pro forma and financial forecasts) are selected. A random sample is drawn from each population, and a test (scanning of economic variables) administered to each sample. This procedure yields some (frequencies) scores. The scores for each sample are combined and ranked on a single scale. Then, the sum of the ranks is obtained for both samples and is labelled SR_i . Then a statistic designated U is computed by the following equation:

$$U_1 = n_1 n_2 + \frac{n_1(n_1 + 1)}{2} - SR_1 \qquad (3)$$

The sampling distribution of U has a mean of:

$$u_U = \frac{n_1 n_2}{2} \qquad (4)$$

and a variance of:

$$\sigma_{U1}^2 = \frac{n_1 n_2 (n_1 + n_2 + 1)}{12} \qquad (5)$$

To convert the sample U to a Z score, this study uses the following equation:

$$Z = \frac{U_1 - u_{U1}}{\text{Standard Deviation of } U_1} \qquad (6)$$

Comparing the calculated Z to the critical Z, the study can draw an inference about the null hypothesis. If the null hypothesis is rejected that means that firms are different in their preferences with respect to auditor involvement in their pro forma or financial forecast information. If the null hypothesis is accepted that means that firms are identical in their preference with respect to auditor involvement in such information.

With regard to this study, H_{06} is rejected. The conclusion is that companies may use auditor involvement (as a vehicle) to guarantee the validity of their information signals.

HYPOTHESIS NUMBER 6 REVISED (ADDITIONAL TEST)

If hypothesis number 6 is revised, it will read as follows:

H_{06}: The two populations from which the samples were drawn are identical in their preferences with respect to report pro forma or financial forecast information.

The original hypothesis was that "The two populations from which the samples were drawn are identical in their preferences with respect to auditor involvement." The test of the original hypothesis indicates that firms are (or are not) the same in their preferences to report auditor involvement with pro forma or financial forecast

information.

Testing the revised hypothesis gives similar results that is; firms are (or are not) the same in their preference to report pro forma or financial forecast information given that the auditor is involved (or is not involved) in such information. The results of each test validates and strengthens the other test.

KRUSKAL-WALLIS TEST (ADDITIONAL TEST)

To test for the relationship between auditor involvement and management choices to report pro forma or forecast information, and at the same time to test that the two populations (pro forma and financial forecast information firms) from which the samples were drawn are the same in their preferences for auditor involvement in such information, Kruskal-Wallis test is used.

The procedures for this test are as follows:

1. add SR_1 and SR_2 . Call the new term RS, which is equal to 828 according this study results.
2. using the following equation:

$$H = \frac{12}{n(n+1)} \left[\sum_{j=1}^{n} \frac{RS_j^2}{n_j} \right] - 2(n+1) \qquad (7)$$

H = Chi-Square

Using equation (7) a chi-square value of 44.7 is obtained. The critical value of chi-square at .5% level of significance

and j-1 degree of freedom is 40 . Since H is greater than X^2 , the null hypothesis is rejected and the conclusion is that :

1. there is a significant association between auditor involvement and management choices to report and signal pro forma or financial forecast information.
2. that the two populations (pro forma and financial forecast information firms) from which the sample were drawn are not likely to be the same in their preferences for reporting auditor involvement in such information.

CHAPTER V

ANALYSIS AND INTERPRETATION OF DATA RESULTS

This chapter reports analysis and interpretation of data for all tests achieved. These tests include:

1. tests of corporate management's choice to report pro forma or financial forecast information.
2. tests of auditor involvement in such information.

These tests are achieved by the following models:

1. n-chotomous probit analysis,
2. mann-whitney test,
3. kruskal-wallis test,
4. cumulative normal probability function,
5. maximum-likelihood estimator,
6. t-test, chi-square test, r-square test, and mean-vairance test.

TESTS OF CORPORATE MANAGEMENT'S CHOICE TO REPORT PRO FORMA OR FINANCIAL FORECAST INFORMATION.

Pro forma or financial forecast information choices model is based on an understanding of SEC's filing rules with regard to pro forma or financial forecast. Multivariate statistical analysis is used to test this model. Under multivariate statistical approach, four separate tests were performed. These tests include the following:

1. The first test includes the entire sample (162 firms) and all five hypotheses. The hypotheses tested are profitability, degree of competitiveness, riskiness of the venture, identity of CPA firm,

and diversity and complexity in the market.

2. The second test includes a subsample (132 firms) for all the hypotheses with an adjustment in the identity of CPA firm hypothesis. The hypothesis is considering the test between the top four and the bottom four firms of the big-8 CPA firms.
3. The third test includes the entire sample (162 firms) for all the hypotheses except the identity of CPA firm hypothesis.
4. The forth test includes the entire sample (162 firms) for all the hypotheses. The test is the choice to report reviewed or examined supplementary information and unreviewed or unexamined supplementary information.

TESTS OF PROBIT ANALYSIS RESULTS. The objective of using n-chotomous probit analysis is to find:

1. Individual significant levels of the independent variables,
2. Overall significant level of the model,
3. Overall accuracy of the model, and
4. Value of R^2.

The empirical tests predict whether firms choose voluntarily to report pro forma or financial forecast information. The choice is the dependent variable, and is defined in the context of the SEC's Article 11 of Regulation S-X (Rules 11-01, and 11-03). In these tests, the independent variables are managerial motivation variables which are developed in chapter III in this study.

FIRST TEST. This test used the entire sample (162 firms) and tested profitability, degree of competitiveness, riskiness of the venture, identity of CPA firm, and diversity and complexity in the market. The test is the choice of reporting pro forma or financial forecast information.

The following model was tested using the probit analysis:

$$Y_1 = a + B_1\phi_1 + B_2\phi_2 + B_3\phi_3 + B_4\phi_4 + B_5\phi_5 + \acute{e} \qquad (8)$$

Where;

Y_i = 0 if corporate management's choice is pro forma information.

1 if corporate management's choice is financial forecast information.

ϕ_1 = Net Income/New Worth (profitability variable)

ϕ_2 = Beta (Riskiness of the venture variable)

ϕ_3 = 0 if the CPA firm is a small firm, and 1 if it is a big-8 CPA firm, or

0 if the CPA firm is from the bottom four of the big-8 CPA firms, and 1 if the CPA firm is from top four in the list on page 60/61. This was done in the sixth test (Identity of CPA firm Variable)

ϕ_4 = Concentration Ratio = Sales/ Average 3 largest sales firms in the industry (degree of competitiveness variable)

ϕ_5 = Number of segment (Diversity and complexity in the market variable)

B_1, B_2, B_3, B_4, and B_5 = Independent variables coefficients.

a = The constant

é = Random variable which is ñ with mean = 0, and variance = 1.

Table 4 provides the statistical description of variables included in the analysis of this test. Given the nature of financial forecast and future projects, both the sample mean and variance of systematic risk are, relatively, high. They are .9615 and .0692 respectively. This statistical evidence is consistent with the previous literature which found that forecast firms have low systematic risk (e.g., Cox, 1981; and Jaggi, 1982).

Table 5 illustrates the results of probit analysis which obtained when the choice of reporting and signaling pro forma versus reporting and signaling financial forecast is the dependent variable, and the five managerial motivations variables, as defined above, are the independent variables. As expected, profitability, identity of CPA

TABLE 4

PRO FORMA VS FINANCIAL FORECAST

SUMMARY OF STATISTICS OF VARIABLES IN THE PROBIT MODEL

(FIRST TEST)

VARIABLE NAME	SAMPLE MEAN	SAMPLE VARIANCE
Profitability	.1388	.0061
Riskiness of the venture	.9615	.0692
Identity of CPA firm	.8148	.0509
Degree of Competitiveness	.1116	.0089
Diversity and complexity	2.5370	2.1252

TABLE 5

PRO FORMA VS FINANCIAL FORECAST

PROBIT ANALYSIS RESULTS*

(FIRST TEST)

EXPECTED SIGN OF INDEPENDENT VARIABLES	+	-	+	-	+
INDEPENDENT VARIABLES**	RR	B	CPA	CR	NS
Maximum-Likelihood Estimate	5.4587	-57.7785	3.5400	-15.9309	2.00662
t-statistic	1.761	- 1.671	.717	- 1.515	1.712
Level of significant***	.0411	.05	.14	.068	.046

*Pro forma firms were assigned a dependent variable of "0" and financial forecast firms a dependent variable of "1".

**RR = Profitability, B = Riskiness of the venture, CPA = Identity of CPA firm, CR = Degree of competitiveness, and NS = Diversity and complexity in the market.

***The intercept of -11.970 is a significant at .10 Its t-statistic is -1.28.

firm, and number of segments are positively correlated with financial forecast information choice, while riskiness of the venture, and degree of competitiveness are positively correlated with pro forma financial information choice. Profitability is significant at .0411 level, identity of CPA firm is significant at .14 level, diversity and complexity in the market are significant at .046 and the intercept of -11.970 is significant at .10 level. Riskiness of the venture, and degree of competitiveness have the expected signs, and they also significant.

R^2 for this test is 90.9% which is, for accounting numbers, considering a high R^2. Such R^2 by itself does not prove that the overall model is significant (Chow, 1982, p. 286). To prove the significance of the overall model the log-likelihood ratios is multiplied by (-2). The resulting statistic is distributed as a Chi-square with 5 degrees of freedom (number of independent variables). As reported in table 6, the chi-square of 96.7 with 5 degrees of freedom is significant at .001 level of significance. Thus, the probit model is extremely significant at the highest level of significance.

The overall accuracy of the pro forma or financial forecast information choice model is 72%. In assessing the significance[1] of this result, it is important to compare the total classification accuracy versus the proper number of correct classifications that are expected by chance.[2] Approximately 71.5% of the firms (in the sample) are pro forma reported firms and 28.5% are financial forecast reported firms. The naive classification method which maximizes correct classification is the maximum chance criteria under which all firms are classified

in the larger group (i.e., pro forma information). Under this naive criteria, all firms would be classified as pro forma reported firms, and this would produce a correct classification rate of 71.5%, which is approximately the same as the overall accuracy of the probit model.

Another way to classify overall groups simultaneously is to use the proportional chance criterion.[3] The proportional chance criterion is most appropriate for establishing the number of correct classifications expected by chance. Under this criterion, the expected probability of correct classification over two groups is equal to $(P_1)^2 + (P_2)^2$ where P_1 equals the prior probability in the population of an observation belonging to the first group (i.e., pro forma), and P_2 equals the prior probability of a given observation belonging to the second group (i.e., financial forecast). The proportional chance method would achieve only a 71.5% success. The probit model results exceed those achieved under either naive model or proportional chance criterion model. In other words, the probit model performed better than both naive models.

This study, also, claculated F value of the probit analysis. F, and ANOVA test yield independent and unbiased estimates of the population variance that is assumed to be common to all groups. In the analysis of variance, it is customary to refer to a sum of squares divided by the appropriate degrees of freedom as a mean square. Thus, the among groups sum of squares divided by the associated degrees of freedom is called the among groups mean square (MSA), and the error sum of squares (or the residual sum of squares) divided by the error degrees of freedom is called the error mean square (MSE).

TABLE 6
PRO FORMA VS FINANCIAL FORECAST
OTHER STATISTICAL MEASUREMENTS
(FIRST TEST)

STATISTICAL MEASUREMENT	VALUE
X^2	96.7%
R^2	90.9%
F	29.8%
Overall Accuracy of the Model	72%

In this study, the sum of squares is 30.1910. Divided such sum by (K-1) which is 1 equals MSA. The sum of squares is 162. Divided by (N-K) which is 160 equals 1.0125. Therefore, MSA and MSE would equal 30.1919 and 1.0125 respectively. To get F value, divided MSA/MSE which equals 29.8. Comparing this value by the critical value of 7.88 at .005 level of significant will show that the probit analysis, again, is extremely significant at the highest level of significance.

SECOND TEST. This test includes a subsample (132 firms) for all the hypotheses with an adjustment in the identity of CPA firms hypothesis. The hypothesis is considering the test between the top four and bottom four firms of the big-8 CPA firms.

Previous studies[4] relate size of CPA firm to the quality of information reported in the annual statements of a client. In order to test the effect of the size of CPA firm on management's choice to report and signal information, this study follows two steps:

1. study the effect of big-8 firms vs non-big-8 firms.
2. study the effect of the first four firms of the big-8 vs the last four firms of the big-8.

Considering these two steps means that this study is analyzing the effect of CPA firm size not only among big-8 and non-big-8 firms, but also among big-8 CPA firms themselves. Each one of these analyses will validate and strengthen the other.

Public Accounting Report- Georgia, June 15, 1987, establishes a list of the big-8 CPA firms according to their estimated gross revenues (i.e., low revenue firm listed first, and so on). This list is in page 63/64 of this study.

Table 7 indicates the statistical description of variables included in the analysis of this test. Table 8 provides the results of probit analysis which obtained when the choice of reporting and signaling pro forma versus reporting and signaling financial forecast is the dependent variable, and the five managerial motivations variables, as defined before, are the independent variables.

The identity of CPA firm variable is introduced as a dummy variable with "1" if the CPA firm is from the last four firms of the big-8, and "0" if it is from the top four firms.

TABLE 7

PRO FORMA VS FINANCIAL FORECAST

(FIRST FOUR VS LAST FOUR OF BIG-8 CPA FIRMS)

SUMMARY OF STATISTICS OF VARIABLES IN THE PROBIT MODEL

(SECOND TEST)

VARIABLE NAME	SAMPLE MEAN	SAMPLE VARIANCE
Profitability	.3903	.2963
Riskiness of the venture	.9298	.9582
Identity of CPA firm	.6742	.0582
Degree of competitiveness	.6928	.3575
Diversity and complexity	2.4942	2.0226

TABLE 8

PRO FORMA VS FINANCIAL FORECAST

(FIRST FOUR VS LAST FOUR OF BIG-8 CPA FIRMS)

PROBIT ANALYSIS RESULTS*

(SECOND TEST)

EXPECTED SIGN OF INDEPENDENT VARIABLES	+	-	+	-	+
INDEPENDENT VARIABLES**	RR	B	CPA	CR	NS
Maximum-Likelihood Estimate	8.356	-58.086	5.249	-18.338	1.949
t-statistic	1.160	- 1.005	1.77	- 1.55	1.622
Level of significant***	.10	.12	.0411	.066	.052

*Pro forma firms were assigned a dependent variable of "0" and financial forecast firms a dependent variable of "1"

**RR=profitability, B=riskiness of the venture, CPA=identity of CPA firm, CR=degree of competitiveness, and NS=diversity and complexity.

***The intercept of -1.1167 is significant at .005 level. Its t-statistic is -2.404.

TABLE 9

PRO FORMA VS FINANCIAL FORECAST

- 4FIRST FOUR VS LAST FOUR OF BIG-8 CPA FIRMS)

OTHER STATISTICAL MEASUREMENTS

(SECOND TEST)

STATISTICAL MEASUREMENT	VALUE
X^2	60.1%
R^2	90.4%
F	23.3%
Overall Accuracy of the Model	71.5%

As expected, profitability, identity of CPA firm, and diversity and complexity in the market are positively correlated with financial forecast at .10, .0411, and .052 level of significance respectively. Riskiness of the venture, and degree of competitiveness are positively correlated with pro forma information choice. X^2 is 60.1% which is significant at .001, R^2 is 90.4% , and F value is 23.3% which is significant at .001 or better. The overall accuracy of the model is very high. It is 71.5%.

Comparing this test to the first test, it is obvious from the similarity of the results that CPA firm size affects management's choice of pro forma or forecast information. Large size CPA firm may prefer to report and signal financial forecast. Also, it could be said that large size CPA firm is likely to be associated with the quality of information reported.

THIRD TEST. This test includes the entire sample (162 firms) for all the hypotheses except the identity of CPA firm hypothesis.

To validate the results of the last test (the second test), the study is undertaken of the third test. If the identity of CPA firm variable has a correlation with another independent variable (which will weaken the results) then, the results of the third test will be different from the second test, otherwise the results of both test are going to be similar.

The similarity of the results between the second and the third tests indicates the validity of the second

test and shows that there is a relationship between the size of CPA firm and management's choice to report and signal pro forma or financial forecast information.

Table 10 indicates the statistical description of variables included in the analysis of this test. Table 11 provides the results of probit analysis which obtained when the choice of reporting and signaling pro forma versus reporting and signaling financial forecast is the dependent variable, and the five managerial motivations except identity of CPA firm, are the independent variables.

As expected, profitability, and diversity and complexity in the market are positively correlated with financial forecast. Profitability is significant at .047, and diversity is significant at .032 level. Riskiness of the venture and degree of competitiveness are positively correlated with pro forma information choice. X^2 is 60.4% which is significant at .001, R^2 is 87.6% and F value is 47.9% which is significant at .001 or better. The overall accuracy of the model is very high. It is 72%.

Comparing this test results to the results of the second test it seems that there are great similarities between both. These similarities indicate the validity of the second test results and suggest the relationship between the size of CPA firm and management's choice to report and signal pro forma or financial forecast information.

TABLE 10

PRO FORMA VS FINANCIAL FORECAST

(WITHOUT CPA FIRM VARIABLE)

SUMMARY OF STATISTICS OF VARIABLES IN THE PROBIT MODEL

(THIRD TEST)

VARIABLE NAME	SAMPLE MEAN	SAMPLE VARIANCE
Profitability	.1388	.0061
Riskiness of the venture	.9615	.0692
Degree of competitiveness	.1116	.0089
Diversity and complexity	2.5370	2.1252

TABLE 11

PRO FORMA VS FINANCIAL FORECAST

(WITHOUT CPA FIRM VARIABLE)

PROBIT ANALYSIS RESULTS*

(THIRD TEST)

EXPECTED SIGN OF INDEPENDENT VARIABLES	+	-	+	-	+
INDEPENDENT VARIABLES**	RR	B	CPA	CR	NS
Maximum-Likelihood Estimate	4.3356	-80.69	++++	-16.461	2.618
t-statistic	1.687	-1.835	++++	-1.690	1.877
Level of significant***	.047	.036	++++	.048	.032

*Pro forma firms were assigned a dependent variable of "0" and financial forecast firms a dependent variable of "1"

**RR=profitability, B=riskiness of the venture, CPA=identity of CPA firm, CR=degree of competitiveness, and NS=diversity and complexity.

***The intercept of -1.0849 is significant at .005 level. Its t-statistic is -2.347.

TABLE 12
PRO FORMA VS FINANCIAL FORECAST
(WITHOUT CPA FIRM VARIABLE)
OTHER STATISTICAL MEASUREMENTS
(THIRD TEST)

STATISTICAL MEASUREMENT	VALUE
X^2	60.4%
R^2	87.65%
F	47.9%
Overall Accuracy of the Model	72%

TESTS OF AUDITOR INVOLVEMENT IN PROSPECTIVE INFORMATION.

Auditor involvement model is tested using the following:

1. n- chotomous probit analysis. This test refers to as the fourth and the last test of the series of tests that had been performed in chapter V.
2. Mann-Whitney and Kruskal-Wallis tests.

FOURTH TEST. This test used the entire sample (162 firms) and tested profitability, degree of competitiveness, riskiness of the venture, identity of CPA firm, and diversity and complexity in the market. The test is the choice of reporting examined or reviewed prospective information versus reporting unexamined or unreviewed prospective information.

The following model was tested using the probit analysis:

$$Y_j = a + B_1\emptyset_1 + B_2\emptyset_2 + B_3\emptyset_3 + B_4\emptyset_4 + B_5\emptyset_5 + \acute{e} \qquad (9)$$

Where;

$$Y_i = \begin{cases} 0 \text{ if corporate management's choice is unexamined or unreviewed prospective information.} \\ 1 \text{ if corporate management's choice is examined or reviewed prospective information} \end{cases}$$

and, all other variables the same as defined before, under equation (8).

This test is undertaken to investigate the relationship between managerial motivation variables, as defined before, and the choice of reporting examined or reviewed, and unexamined or unreviewed prospective information. In other words, to investigate the relationship between factors that motivate managers to report prospective

information and auditor involvement in such information. This is what may be labelled "the willingness of managements" for auditor involvement. The next model is investigating "the willingness of auditors" to get involved in such information.

Table 4 provides the statistical description of variables included in the analysis of this test. Table 13 illustrates the results of probit analysis which obtained when the choice of reporting and signaling examined or reviewed prospective information versus reporting and signaling unexamined or unreviewed prospective information, is the dependent variable, and the five managerial motivations variables, as defined before, are the independent variables.

As expected, identity of CPA firm, and diversity and complexity in the market variables are positively correlated with examined or reviewed prospective information, and profitability, riskiness of the venture, and degree of competitiveness are positively correlated with unexamined or unreviewed prospective information.

It is argued that independent accountant does not prefer to be associated with too much profit (higher profitability).[4] Also, it is argued that independent accountants (on average) are risk averse.[5] These study's results confirm these arguments.

Profitability is significant at .01 riskiness of the venture is significant at .063 identity of CPA firm is signficant at .04, degree of competitiveness is significant at .01 and the intercept is signficant at .005 level of significance.

TABLE 13

EXAMINED-REVIEWED VS UNEXAMINED-UNREVIEWED

PROSPECTIVE INFORMATION

PROBIT ANALYSIS RESULTS*

(FOURTH TEST)

EXPECTED SIGN OF INDEPENDENT VARIABLES	-	-	+	-	+
INDEPENDENT VARIABLES**	RR	B	CPA	CR	NS
Maximum-Likelihood Estimate	.62738	-.31826	.4988	-.53115	.07999
t-statistic	2.384	-1.571	1.791	-2.355	5.539
Level of significant***	.01	.063	.04	.01	.001

*Unexamined-Unreviewed firms were assigned a dependent variable of "0" and examined-Reviewed firms a dependent variable of "1"

**RR=profitability, B=riskiness of the venture, CPA=identity of CPA firm, CR=degree of competitiveness, and NS=diversity and complexity.

***The intercept of -2.737 is significant at .005 Its t-statistic is -3.267

TABLE 14

EXAMINED-REVIEWED VS UNEXAMINED-UNREVIEWED

PROSPECTIVE INFORMATION

OTHER STATISTICAL MEASUREMENTS

(FOURTH TEST)

STATISTICAL MEASUREMENT	VALUE
X^2	60.5%
R^2	69.19%
F	35.9%
Overall Accuracy of the Model	88.2%

X^2 is 60.5% which is significant at .005, R^2 is 69.19% and F value is 35.9%, which is significant at .001 or better. The overall accuracy of the model is 88.2% These results indicate that probit analysis is extremely significant at the highest level of significance.

MANN-WHITNEY TEST. To test hypothesis 6, the study is using Mann-Whitney test. The null hypothesis is that the two populations from which the samples were drawn are the same in their preferences with respect to auditor involvement in prospective information.

The study is undertaken to test whether there is a difference between companies in their preferences for auditor involvement. Two populations are selected, and a random sample is drawn from each population. A test administered to each sample. This test yields some (frequencies) scores. The observed frequencies table 15 shows such scores, and table 16 , illustrates (using M-W Ranking), how the scores for each sample are combined and ranked on a single scale, and the sum of the ranks is obtained for both samples and is labelled SR_1 and SR_2 . They are 227 and 593 respectively.

By using equation (3) a U_1 value of 383 is obtained. Using equation (4) the mean u_{U1} is 200, and by using equation (5) the variance of U_1 is 36.96.

To convert the sample U_1 to a Z score, the study uses equation (6). A Z score of 4.95 is obtained which is significant at .005 level of significance. Therefore, the null hypothesis is rejected. The conclusion is that the populations (pro forma and financial forecast information firms) from which the samples were drawn are not the

TABLE 15

SCORES ADMINISTERED BY SCANNING MANAGERIAL MOTIVATION VARIABLES OBSERVED FREQUENCIES

	RR* MEAN= .1388		B MEAN= .9615		CPA MEAN= .8148		CR MEAN= 2.5370		NS MEAN= .1116		T
	BELOW	ABOVE	BELOW	ABOVE	BELOW	ABOVE	BELOW	ABOVE	BELOW	ABOVE	
R. P. F.**	30	23	28	25	31	22	21	32	40	13	265
E. F.	6	13	8	11	7	12	3	16	17	2	95
U. P. F.	36	25	35	26	36	25	24	37	47	14	305
U. E. F.	10	19	17	12	17	12	6	23	17	12	145
TOTAL	82	80	88	74	91	71	54	108	121	41	810

*RR=profitability, B= riskiness of the venture, CPA= identity of CPA firm, CR=degree of competitiveness, NS= diversity and complexity in the market.

**R. P. F. = Review pro forma, E. F.= Examined forecast, U. P. F. =Unreview pro forma, and U. E. F. = Unexamined forecast.

same in their preferences for reporting auditor involvement in such information.

KRUSKAL-WALLIS TEST. To test for the relationship between auditor involvement and management choices to report pro forma or financial forecast information and at the same time to test that the two populations (pro forma and financial forecast information firms) from which the samples were drawn are the same in their preferences for auditor involvement, Kruskal-Wallis test may be used. The procedures are as follows:

1. add SR_1 and SR_2 .
2. call the new term RS which = 828
3. use equation (7), an H value of 44.7 is obtained.

H value equals a chi-square. Comparing this value to the critical value of chi-square, which is 40.1 at .005 level of significant, shows that H value is significant at the highest level of significance. Therefore, the null hypothesis is rejected and the conclusion is that:

1. there is a significant relationship between auditor involvement and management choices to report pro forma or financial forecast information.
2. that the two populations (pro forma and financial forecast information firms) from which the sample were drawn are not the same in their preferences for reporting auditor involvement in such information.

HYPOTHESIS NUMBER 6 REVISED (ADDITIONAL TEST). If hypothesis number 6 is revised and tested, it will give results, in a way, similar to that of testing hypothesis number six. The conclusion of this test can be stated as follos;

TABLE 16

MANN-WHITNEY RANKING RESULTS

MANAGEMENT CHOICES OF REPORTING AUDITOR INVOLVEMENT

		PRO FORMA		FORECAST	
		N = 20 SCORES	RANKS	N = 20 SCORES	RANKS
ARR(BM)*	1	30	9	6	37.5
ARR(AM)*	2	23	16.5	13	27.5
NRR(BM)*	3	36	4.5	10	34
NRR(AM)	4	25	13	19	20
AB(BM)	5	28	10	8	35
AB(AM)	6	25	13	11	33
NB(BM)	7	35	6	17	22.5
NB(AM)	8	26	11	12	30.5
ACPA(BM)	9	31	8	7	36
ACPA(AM)	10	22	18	12	30.5
NCPA(BM)	11	36	4.5	17	22.5
NCPA(AM)	12	25	13	12	30.5
ACR(BM)	13	21	19	3	39
ACR(AM)	14	32	7	16	25
NCR(BM)	15	24	15	6	37.5
NCR(AM)	16	37	3	23	16.5
ANS(BM)	17	40	2	17	22.5
ANS(AM)	18	13	27.5	2	40
NNS(BM)	19	47	1	17	22.5
NNS(AM)	20	14	26	12	30.5
Total		SR_1 = 227		SR_2 = 593	

*A= auditor involvement, N= non-auditor involved, BM= below mean, and AM= above mean.

** RR= profitability, B=risk, CPA= identity of CPA, CR=degree of competitivness, and NS=diversity and complexity.

Firms are (or are not) the same in their preference to report pro forma or financial forecast information, given that the auditor is involved (or is not involved) in such information. This test may be labelled "the willingness of auditor" to get involved in prospective information.

The revised hypothesis reads as follows: The two populations (examined and unexamined prospective information) from which the samples were drawn are identical in their preferences with respect to report pro forma or financial forecast information.

To test the revised hypothesis, the following steps were conducted:

1. two samples were drawn as follows:
   a. auditor involvement sample.
   b. non-auditor involvement sample.
2. a test administered to each sample which yields some scores.

Table [17] shows the scores, and, also, illustrates how the scores for each sample are combined and ranked on a single scale, and the sum of the ranks is obtained for both samples.

SR_1 ,and SR_2 of 456, and 372 respectively, are obtained. By using equation (3) a U_1 value of 154 is obtained. Using equation (4) the mean u_U is 200 and by using equation (5) the variance of U_1 is 36.9. To convert the sample U_1 to Z score, the study uses equation (6). A Z score of 1.24 is obtained which is significant at .06 level of significance. Therefore, the null hypothesis is rejected. The conclusion is that the two populations from which the sample were drawn are not likely to be the same in their preferences for reporting pro forma

TABLE 17

MANN-WHITNEY RANKING RESULTS

MANAGEMENT CHOICES OF REPORTING PRO FORMA OR FORECAST

		AUDITOR INVOLVEMENT N = 20 SCORES	RANKS	AUDITOR NON INVOL. N = 20 SCORES	RANKS
PFRR(BM)*	1	30	9	36	4.5
PFRR(AM)*	2	23	16.5	25	13
PFB(BM)	3	28	10	35	6
PFB(AM)	4	25	13	26	11
PFCPA(BM)	5	31	8	36	4.5
PFCPA(AM)	6	22	18	25	13
PFCR(BM)	7	21	19	24	15
PFCR(AM)	8	32	7	37	3
PFNS(BM)	9	40	2	47	1
PFNS(AM)	10	13	27.5	14	26
FRR(BM)*	11	6	37.5	10	34
FRR(AM)	12	13	27.5	19	20
FB(BM)	13	8	35	17	22.5
FB(AM)	14	11	33	12	30.5
FCPA(BM)	15	7	36	17	30.5
FCPA(AM)	16	12	30.5	12	30.5
FCR(BM)	17	3	39	6	37.5
FCR(AM)	18	16	25	23	16.5
FNS(BM)	19	17	22.5	17	22.5
FNS(AM)	20	2	40	12	30.5
Total		SR_1 = 456		SR_2 = 372	

*PF= pro forma information, F= forecast information, BM=below mean, and AM= above mean.

**RR=profitability, B=risk, CPA=identity of CPA, CR= degree of competitiveness, and NS=diversity and complexity.

or financial forecast information. In other words, reporting pro forma or financial forecast information may depend upon auditor willingness, given that the auditor is involved in such information.

DISCUSSION

This study examined whether there is a relationship between firm-specific characteristics (managerial motivation factors), suggested by economic theory, and management choices to report and signal pro forma or financial forecast information. It also examined that firms may be different in their preferences with regard to auditor involvement in such information.

The main objectives of these tests are:

1. to provide empirical evidence whether the selected firm-specific characteristics influence management choice to report pro forma or financial forecast information.
2. to provide empirical evidence whether there is a significant association between firm-specific characteristics and management choice. If there exists such significant association, it is more likely to conclude that these characteristics influence management to signal these particular information to investors.
3. to provide empirical evidence whether firms use auditor involvement in prospective information to signal a guarantee of the validity of such information. This conclusion has been derived at from signaling theory literature. Ross (1979) in his empirical work on signaling theory, used a sample of firms that expected an increase in

> annual earnings. Managements want to reveal this information to investors but they are afraid that investors will perceive this signal as a false one. To guarantee the validity of the signal, managements announced a level of dividends higher than the prevailing level for the last year. In other words, he suggested that managements reveal (signal) information to investors through the act of announcing a higher level of dividends to guarantee the validity of their information signal.

Management choices are defined as management reporting choices of reviewed pro forma; unreviewed pro forma; examined forecasts; and unexamined forecast information.

Firms profitability was measured by rate of return. Profitability was found to be a significant influence on management reporting choices. Profitability is positively correlated with financial forecast choice. These results indicate that more profitable firms (on average) are likely to select to report and signal financial forecast information.

The riskiness of the venture was measured by beta. This variable was found to be positively correlated with pro forma choice. These results indicate that low systematic risk firms (on average) are likely to select to report and signal financial forecast information. This evidence is consistent with the previous literature which found that forecast firms have low systematic risk.

Identity of CPA firm was introduced as a dummy variable. Firms in the sample, were classified as big-8 and non-big-8 firms. This variable also was found to be significantly, positively correlated with financial forecast choice. The results indicate that large-size CPA firms (on average) are likely to select to report and signal financial forecast information.

The study examines the effect of CPA firm size on management choice to report and signal pro forma or financial forecast information as follows:

1. small CPA firms vs large-size CPA firms.
2. the top four vs bottom four CPA firms (from the list on page 63/64.
3. identity of CPA firm variable was taken out in the third test.

The results indicate that identity of CPA firm was positively correlated with financial forecast when small CPA firms vs large-size CPA firms were taken as an independent variable. The results also show that this variable was positively correlated with financial forecast when the top four vs bottom four CPA firms were taken as an idependent variable. When identity of CPA firm variable was taken out, the results were not affected. The conclusion is that the size affects management choice to report and signal prospective information.

Degree of comptitiveness was measured by concentration ratio of the firm. Concentration ratio was measured by the sales of the firm divided by the average 3 largest sales firms in the industry. This variable was found to be positively correlated with pro forma choice.

The results indicate that the higher the concentration ratio of the firm is, the greater is the likelihood that it may select to report and signal pro forma financial information.

Diversity and complexity in the market are measured by number of lines of business the firm is engaged in, more specifically, the number of segments disclosed in its 10-K in accordance with the SEC's ASR No. 177. This variable was found to be positively correlated with financial forecast information choice. The results show that highly diversified firms (on average) are likely to select to report and signal financial forecast information since such information is useful not only to financial information users but also to divisions, departments, branches, domestic and international managers.

From the Mann-Whitney results it can be shown that companies are using auditor involvement in prospective information as a vehicle to guarantee the validity of their information signal.

The study investigate management willingness for auditor involvement as well as auditor willingness to get involved in such information.

The study's results indicate that firms are not the same in their preferences for reporting auditor involvement with pro forma or financial forecast information. This means that auditor involvement in financial information may depend upon the nature and kind of information reported. The study's results also show that revising the sixth hypothesis gives similar results, that is: firms are

not likely to be the same in their preferences to report pro forma or financial forecast information, given that the auditor is involved or is not involved in such information. Which means that reporting pro forma or financial forecast information may depend upon auditor willingness, given that the auditor is involved in such information. The results of each test validates and strengthens the other.

FOOTNOTES

1. Pinches. G. and Mingo. K. "A Multivariate Analysis of Industrial Bond Ratings," Journal of Finance, (March 1973), pp. 1-18.

2. Ibid, p. 11

3. Ibid., p. 13

4. DeAngelo, L. A. "Auditor Size and Audit Quality," Journal of Accounting and Economics, (Dec. 1981), pp. 183-200.

Rhode, J., M. Whitsell and R. Kelsey, "An Analysis of Client-Industry Concentrations for Large Public Accounting Firms," Accounting Review, (Oct. 1974), pp. 772-87.

5. Danos, P. and E. Imhoff, "Factors Affecting Auditors' Evaluations of Forecasts," Journal of Accounting Research, vol. 21, no. 2 (Autumn 1983), PP. 473-93.

CHAPTER VI
DESCRIPTIVE ANALYSIS OF AUDITORS' REPORTS ON PRO FORMA FINANCIAL INFORMATION

In this chapter a descriptive analysis of the reports used by auditors to describe their involvement in pro forma financial information. In analyzing reports, the following matters are considered:

1. Does the report use the term "reviewed" or some other term to describe involvement?
2. How does the report describe what the CPA has done with regard to such information?
3. What form of assurance does the auditor express? Possible forms of assurance include the following:
   a. whether the auditor believes that management's assumptions provide a reasonable basis for presenting the significant direct effects of the transaction?
   b. whether the auditor believes that the related pro forma adjustments give appropriate effect to these assumptions?
   c. whether the adjustments are properly applied in the pro forma condensed financial statements?

1. Does the Report Use the Term "Reviewed" or Some Other Term to Describe involvement?. The terminology that has been used by Auditing Standards Board is "reviewed" pro forma information instead of "audited" pro forma information. The term "reviewed" indicates the auditor's level of involvement.

Auditing Standards Board used the term "reviewed" to indicate auditor's involvement, but since the Exposure Draft has not been issued as an SAS other terms may be used in practice.

In the auditors' reports on pro forma information, different terms have been used. Such as; checked, examined, read, and reviewed. Tables 18, 19, and 20 show these terms.

Some independent accountants stated that:

> Also, we have reviewed the pro forma balance sheet as of ..., 19x, and in our opinion...

In some other reports, they stated:

> We have checked the accompanying pro forma consolidated balance sheet as of..., 19x...

Another example:

> We have also read the pro forma adjustments to the statement of operations- pro forma for the year ended Dec., 31, 19x, and in our opinion...

From the analysis of the reports, it can be said that there are no consistencies among CPA firms (or auditors) or among different reports of the same CPA firm, with regard to the terminology that they used to describe their involvement.

2. How Does the Report Describe What the CPA Has Done With Regard to Such Information? Five different ways explain what has the CPA done with such information.
Table 21 illustrates different ways in handling pro forma information by a CPA, as follows:

a. the independent accountant used the information for compliation only. For example:

TABLE 18

TERMS THAT DESCRIBE AUDITOR'S INVOLVEMENT IN PRO FORMA FINANCIAL INFORMATION CLASSIFIED BY NUMBER OF REPORTS

TERM USED	# OF FREQUENCIES (REPORTS)
Checked	5
Examined	19
Read	7
Reviewed	22
Total	53

TABLE 19

TERMS THAT DESCRIBE AUDITOR's INVOLVEMENT
IN PRO FORMA FINANCIAL INFORMATION
CLASSIFIED BY CPA FIRMS

TERM USED	CPA FIRM (# OF REPORTS)
Checked	
Arthur Andersen	4
Deloitte Haskins	1
Examined	
Touche Ross	2
Ernst & Whinney	2
Coopers & Lybrand	8
Peat, M., M., & co	1
Others	6
Read	
Touche Ross	3
Ernst & Whinney	1
Arthur Andersen	1
Coopers & Lybrand	2
Reviewed	
Touche Ross	3
Ernst & Whinney	1
Price Waterhouse	6
Peat, M., M., & co.	3
Arthur Young	3
Others	6
Total	53

TABLE 20
TERMS THAT DESCRIBE AUDITOR'S INVOLVEMENT
IN PRO FORMA FINANCIAL INFORMATION
CLASSIFIED BY CAPITAL MARKET LISTING

TERM USED	CAPITAL MARKET LISTING (# OF REPORTS)
Checked	
NYSE	4
ASE	1
OTHERS	0
Examined	
NYSE	5
ASE	6
OTHERS	8
Read	
NYSE	2
ASE	1
OTHERS	4
Reviewed	
NYSE	3
ASE	6
OTHERS	13
Total	53

In some reports, independent accountants stated the following:

> We have checked, for compilation only, the accompanying pro forma consolidated balance sheet as of July 31, 1985, giving effect to the plan of reorganization and the adoption of the first-in, first-out (FIFO) method to account for the U.S. Reprographics segment inventories as more fully explained in note... to the consolidated financial statements and the pro forma consolidated statement of earnings per share ..., in our opinion, those financial statements have been properly compiled from the historical financial statements for the periods referred to above to reflect the aforementioned transactions as though they had occurred on July 31, 1985.

b. the independent accountant makes use of the information in his report without revieweing it. for example:

In some reports, independent accountants stated the following:

> As more fully discussed in Note... to the financial statements, during December 19x the company purchased another operating company for approximately $xx million and in January 19x, applied to the SEC for approval to deregister as an investment company and to report instead as an operating company, whereby it would consolidate the financial statements of its subsidiaries. A pro forma condensed consolidated balance sheet (unaudited) of the company giving effect to the consolidation of its subsidiaries as of October 31, 19x is included in Note...

c. the independent accountant may review pro forma information as a part of the historical information. For example:

In some reports, independent accountants stated the following:

> We have examined the consolidated balance sheets of XYZ co., and subsidiaries as of December 31, 1985 and the related consolidated statements of income,... We have also

examined the pro forma consolidated statement of income, changes in stockholders' equity and changes in financial position of XYZ co., and subsidiaries for the year ended December 31, 1985. Our examinations were made in accordance with generally accepted auditing standards.

In our opinion, the consolidated financial statements and pro forma financial statements referred to above present fairly the financial position of XYZ co., and subsidiaries as of December 31, 1985 and the results of their operations and changes in their financial position...

d. the independent accountant may review pro forma information as a separate information. For example:

In some reports, independent accountants stated the following:

We have examined the consolidated balance sheets of Xonics, Inc., and subsidiaries as of March 31, 1983 and the related consolidated statements of operations,...In our opinion, the financial statements referred to above present fairly the consolidated financial position of Xonics, inc., and subsidiaries...

We have also reviewed the pro forma adjustments prepared for purposes of giving effect to the transactions described in Note 19 to the consolidated financial statements. In our opinion, this pro forma adjustments give effect to the transactions described and have been properly applied in the preparation of the pro forma consolidated balance sheet.

From the above reports, it can be seen that there are different ways in handling pro forma information by a CPA. He/she may review pro forma as (1) a part of the historical information, (2) as a separate information, (3) for compilation only, (4) may use it without reviewing it, or (5) just ignore such information.

TABLE 21

DIFFERENT WAYS IN HANDLING PRO FORMA INFORMATION BY A CPA

WAY OF HANDLING	# Of FREQUENCIES (REPORTS)
1. Compile of the information	12
2. Make use of the information without reviewing it	11
3. Review the information as a part of the historical information.	16
4. Review the information as a separate information.	37
5. Ignore such information.	46
Total	122

3. What Form of Assurance Does the Auditor Express? By looking at three different reports, the study can show the following possible forms of assurance. Table 22 illustrates three different types of assurance as follows:

a. that management's assumptions provide a reasonable basis for presenting the significant direct effects of the transaction.
b. that the related pro forma adjustments give appropriate effect to these assumptions.
c. that the adjustments are properly applied in the pro forma financial statements.

First Report.

> We have also reviewed the applications of the pro forma adjustments to the pro forma consolidated statements of income, in our opinion, such statements have been properly compiled and the pro forma adjustments, as set forth in Note..., have been properly applied on the bases described therein.

Second Report.

> ... the accompanying pro forma balance sheet and related income statement,..., present fairly the financial position of the Trust as it would have appeared at November 30, 1984 as if the financial Restructuring Plan had been consummated at that date.

Third Report.

> In our opinion, this pro forma financial statements give effect to the transactions described in Notes 3 , 4, ..., 19, ...,..., and 40 and have been properly applied in the preparation of the pro forma consolidated balance sheet.

TABLE 22

DIFFERENT TYPES OF ASSURANCE

TYPE OF ASSURANCE	# Of FREQUENCES (REPORTS)
1. Reasonable basis for presenting the significant direct effects of the transaction.	18
2. Pro forma adjustments give appropriate effect to the transactions.	10
3. The adjustments are properly applied in the pro forma financial statements.	25
Total	53

Although, these reports are different in terminology and in information revealed by each independent accountant they are similar in stating the form of assurance that the auditor expresses in each report.

Each report refers to the basis that pro forma is prepared according to, that is; historical financial statements. Each report stated that pro forma adjustments are properly applied in the pro forma financial statements. Therefore, it can be concluded that CPA reports are similar, in general, but they they differ in terminology.

CHAPTER VII
CONCLUSIONS, IMPLICATIONS AND RECOMMENDATION FOR FURTHER RESEARCH

Managers of today are faced with the problem of determining how and when to implement the numerous accounting concepts and techniques. Efficient economic theories which offer the managers some guidelines for their problem are agency theory, signaling theory, and capital structure theory. These theories recognize the differences in the environments of organizations and suggest that managers must evaluate their environment and then, and only then, can they pick the accounting technique which is best for their organization.

In recent years, accounting policymakers (e.g., AICPA, and FASB) emphasized the usefulness of accounting numbers to equityholders, creditors and to managements in making decisions in the interests of the owners. Previous studies have dealt with the usefulness of accounting numbers to equity holders and creditors (e.g., efficient market hypotheses studies).

Recent developments in the economics of internal organization, such as agency theory, motivated a number of authors to analyze some accounting questions based on positive economics paradigm. Also, signaling theory which motivated number of authors to analyze the structure that managers use to disclose their information in such a way that investors may believe it.

Previous studies about forecasts; attempted to build forecast accuracy models, information content models,

and demographics of forecast firms models.

This study assumes that any reporting company can report a financial forecast if the decision to report such information is made in order to signal good news to the investor, to distinguish the firm from others in the market, to affect the price of its stocks, to raise the value of the firm, and to increase management's compensation.

If the firm does not report a financial forecast (when applicable), it will continue to risk to be labelled "no news" or "bad news" information firm. This labeling will affect its stock price, its value, and management's compensation.

A large body of literature has dealt with management's motivation for choosing one method of reporting versus another. In general, there is very strong evidence that a firm's debt status affects its choice of accounting principles or procedures. Size as a surrogate for political costs successfuly explains accounting choices in politically sensitive industries such as oil and gas. Evidence from some studies, such as Watts and Zimmerman (1978) indicates that the existence of managerial incentive plans or significant managerial ownership can affect the choice of accounting principles and procedures.

The managerial choice to report and signal financial forecast or pro forma information is different than the choice of accounting principles and procedures. Since the reporting choice of financial forecast or pro forma determines whether the firm value will be affected; whether the stock price will be changed; and whether management's

compensation will be altered, every motivational and economic factor which affects the firm also affects the choice.

Analysis of the results led to the following implications:

1. Profitability, identity of CPA firm, and diversity and complexity in the market are found to be significantly and positively correlated with financial forecast choice. The implication is that these variables can affect not only accounting choice, but also economic decisions (i.e., price of the stocks, value of the firm, and management's compensation).
2. Managements use auditors involvement in prospective information as a vehicle to guarantee the validity of their information signal. The implication is that auditors involvement in prospective information depends upon managements willingness for auditors involvement and auditors' willingness to get involved in such information.
3. The size of CPA firm affects accounting choice. This confirm the previous studies' conclusions that there is a relationship between size of a CPA firm and the quality of the information reported by a client.
4. It has been proven in this study that significant relationships exist between selected motivational variables and managerial choice of reporting and signaling prospective information. The implication is that accounting numbers prove to be significantly important in economic decision making.

The general conclusion of this study is that the accounting number based on traditional historical approach, on pro forma basis, or on forecast basis, is useful to managers and directors in making decisions in their organizations.

RECOMMENDATION FOR FURTHER STUDY.

Additional research should be accomplished to develop the relationships which were found in this research. Further research also should be accomplished to identify other motivational variables which affect managerial choice. The research which has been accomplished in this study serves as a building block for this further research.

Future research would include the following:

1. whether the selection of auditor or change from local to national auditing firm signals information about company's forecasts,
2. whether there is a market reaction to the selection of auditor or the change from local to national auditing firm,
3. whether there is an effect to the selection of auditor or the change from local to national auditing firm on reporting and signaling pro forma and financial forecast information.

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