Order Number 8820867

Management earnings forecast disclosure: An empirical study of factors influencing the decision

George, Nashwa Elgallab, Ph.D.

City University of New York, 1988

U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

PLEASE NOTE:

In all cases this material has been filmed in the best possible way from the available copy. Problems encountered with this document have been identified here with a check mark __✓__.

1. Glossy photographs or pages _____
2. Colored illustrations, paper or print _____
3. Photographs with dark background _____
4. Illustrations are poor copy _____
5. Pages with black marks, not original copy ____✓
6. Print shows through as there is text on both sides of page _____
7. Indistinct, broken or small print on several pages ____✓
8. Print exceeds margin requirements _____
9. Tightly bound copy with print lost in spine _____
10. Computer printout pages with indistinct print _____
11. Page(s) _____ lacking when material received, and not available from school or author.
12. Page(s) _____ seem to be missing in numbering only as text follows.
13. Two pages numbered _____. Text follows.
14. Curling and wrinkled pages _____
15. Dissertation contains pages with print at a slant, filmed as received ____✓
16. Other_____

_____

_____

MANAGEMENT EARNINGS FORECAST DISCLOSURE
AN EMPIRICAL STUDY OF FACTORS INFLUENCING THE DECISION

by

NASHWA ELGALLAB GEORGE

A dissertation submitted to the Graduate Faculty in Business in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

1988

This manuscript has been read and accepted for the Graduate Faculty in Business in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy

1/19/88
Date

Chair of Examining Committee

1/19/88
Date

Executive Officer

Prof. Martin Benis

Prof. Steven Lustgarten

Prof. Leopold Bernstein

Supervisory Committee

The City University of New York

Acknowledgements

A dissertation research project is the culmination of interactions between a doctor of philosophy candidate and a dedicated dissertation committee. A special thanks to Professor William Ruland, chairman of my dissertation committee, for the guidance, encouragement and support he gave me from an initial idea through a completed dissertation. I also thank professors Martin Benis, Steven Lustgarten and Leopold Bernstein for their advice and their valuable suggestions.

A special acknowledgement to a very special person is due. It is to my husband, Soukar, whose love and encouragement as well as the many hardships he endured during the period of study, helped me to reach a successful ending. My appreciation extends to my son Meena and my daughters Sarah and Christine, who shared the burden and sacrifices during the course of my work.

My final acknowledgement is of a very special kind. It is to my parents whose care and love never ended. In recognition of their support and love I dedicate this dissertation.

Table of Contents

Table of Contents (continued)

List of Tables

List of Tables (continued)

List of Tables (continued)

CHAPTER I

INTRODUCTION

The task of corporate decision-making has been delegated to management. One of these decisions is whether to disclose earnings forecasts to the public. Forecast reporting by management is presently on a voluntary basis. Some managements publicly report forecasts, while most firms do not release such information. The related literature has examined corporate decision-making and emphasized the importance of managements' behavioral and motivational factors in the choice decision.

This research study investigates, both theoretically and empirically, the factors which influence the forecast disclosure decision. An understanding of why some firms report forecasts publicly while other firms do not disclose this information should be of interest to both regulatory agencies and users of financial information.

The publication of management earnings forecasts has attracted the attention of both the Securities and Exchange Commission and the accounting profession.

1. Position of the SEC

The idea of requiring management to disclose financial forecasts has come from the SEC. In February 1973, the SEC

announced its intention to adopt rules whereby a corporation that discloses a forecast to an outsider would have to make a public filing of that forecast with the SEC. In April 1975, the SEC announced its proposed rules for implementing its plan to integrate projections into the SEC disclosure system. In April 1976, the SEC changed its position in response to a negative reaction to its 1975 proposal and calls for voluntary filing of forecasts with the SEC. In June 1979, the SEC adopted a rule providing for a "safe harbor" from the liability provision of the Federal Securities laws for projections and management plans and objectives. The safe harbor rule, however, did not seem to increase materially the incidence of public forecast reporting.

2. **Position of the Accounting Profession**

The American Institute of Certified Public Accountants (AICPA) has published various pronouncements containing guidance on financial forecasts. In March 1975, the Management Advisory Services Division issued "Guidelines for Systems for the Presentation of Financial Forecasts." In August 1975, the Accounting Standards Division issued "Statement of Position-Presentation and Disclosure of Financial Forecasts." In October 1980, the Financial Forecasts and Projections Task Force issued a "Guide for A Review of A Financial Forecast." In October 1982, it issued a statement of "Position-Report on A Financial Feasibility Study." In September 1983, the task force issued an "Exposure Draft-Proposed Guide for Prospective Financial

Statements," which superseded all previous pronouncements. In October 1985, the AICPA issued "Statement on Standards for Accountants' Services on Prospective Financial Information," which establishes procedures and reporting standards for a compilation and an examination services on prospective financial statements. In January 1986, the Financial Forecasts and Projections Task Force issued a "Guide for Prospective Financial Statements," which includes descriptions and recommendations regarding presentation and disclosure of prospective financial statements.

The Financial Accounting Standard Board (FASB) recognizes the importance of forward looking information to the users' decisions. In 1979, the FASB circulated a discussion memorandum entitled "Analysis of Issued Related to Reporting Earnings" which raised the following two questions:

1) Do management forecasts of future earnings provide information which makes investors' assessments of future earnings more favorable?

2) If assessments of future earnings are improved, will the benefits to investors exceed the costs associated with public disclosure of management's forecasts?

In sum, the basic issues raised from both the SEC and the accounting profession concern with corporate forecast disclosures are: First, to what extent are corporate forecast disclosures required by investors? Second, for what type of firms and under

what circumstances are the release of earnings forecasts by managers required? Finally, do the benefits to investors exceed the costs associated with public disclosure of management's forecasts?

Increased understanding of why managements forecast may help policy makers to develop more effective incentives for disclosure. Additionally, users' understanding of management incentives to report forecasts may facilitate their ability to evaluate the forecast (or absence of any public announcement).

THE PROBLEM STATEMENT

Research using voluntary management forecasts has addressed issues ranging from forecast accuracy to the information content in managements' forecasts as reflected in security prices. Despite growing empirical evidence that stock prices react to the disclosure of management earnings forecasts [Patell (1976), Penman (1980), Ajinkya and Gift (1984) and Waymire (1984)] and evidence that published management forecasts are relatively accurate [Ruland (1978) and Jaggi (1980)], public announcement of earnings forecasts is somewhat rare. For example, Patell (1976) found only a 336 point or range estimate of annual earnings per share reported in the Wall Street Journal during the period 1963-1968, and Waymire (1984, 1985) found only a 479 point projection or range estimate of forecasts reported in the Wall Street Journal during the period 7/1/69 to 12/31/73.

Lees (1981) conducted a survey for The Conference Board, Inc. to investigate whether the SEC should mandate disclosure of corporate earnings forecasts. This survey was directed to corporations whose stocks are listed on the New York Stock Exchange. The results of the survey indicate that: 1) only a small number of companies disclose earnings forecasts to the public. Of the 405 corporate participants in the survey, only 42 companies have ever revealed their forecasts to outsiders; 2) managers of almost two-thirds to three-fourths of all firms in the survey provide assistance to financial analysts in preparing the analysts' forecasts (an indirect disclosure channel). Thus, the apparent infrequency of management disclosure of earnings forecasts belies the widespread activity occurring through this indirect channel. The survey also reveals some reasons why managers do not make their forecasts public directly. The main reasons are: 1) lack of confidence in the ability of managements to predict future events and trends; 2) fear of legal repercussions if forecasts prove to be inaccurate; and 3) the belief that forecast errors will magnify price volatility, thereby leading to lower price/earnings ratios.

Ajinkya and Gift (1984) examined the possibility that firms normally communicate expectations via financial analysts and that managements release forecasts only when analysts' forecasts are believed to be erroneous.

The primary purpose of the current research is to extend

Ajinkya and Gift's analysis and provide additional information on other important factors that explain management's decision to disclose earnings forecasts and to choose forecast horizon.

Given the availability of analysts' forecasts (an indirect disclosure channel) and the infrequency of management earnings forecasts, the relevant questions are:

1. Why do managements release earnings forecasts in particular years but not every year, and under what circumstances does the release of such information occur?

2. Do managers disclose forecasts primarily when analysts' forecasts are incorrect as addressed by Ajinkya and Gift (1984) or are there additional important factors which motivate managers to release their own earnings forecasts?

3. Do firms differ in their choice of forecast horizons and why do such differences occur?

THE OBJECTIVES AND IMPORTANCE OF THE STUDY

The objective of this dissertation is to present a conceptual analysis and empirical investigation of the factors affecting the decision to disclose corporate's earnings forecasts and to choose the forecast horizons.

Knowing that a management earnings forecast has information content and that the SEC "Safe Harbor Rule" protects managers from possible legal liability associated with errors in "good faith" forecasts, the purpose of this research is to develop an

understanding of why few firms release earnings forecasts in any given year, why firms do not release forecasts every year, and under what circumstances such releases occur. Another purpose of the research is to understand why firms differ in choosing of forecast horizons and what factors influence their choice. In addition, the study analyzes the differences between the accuracy of analysts' forecasts for forecast firms and the accuracy of analysts' forecasts for nonforecast firms in the forecast or corresponding year, in the prior year and in the following year.

Investigating these questions is potentially important for the following reasons:

1. The results of the current research may help the SEC in answering a question that is related to the issue of mandatory disclosure of corporate earnings forecasts: under what conditions, if at all, should the SEC continue its effort to mandate earnings forecast disclosure? The SEC issued several releases which were met with opposition by both companies and analysts. Lees (1981) found that 65 percent of analysts are generally opposed to mandated disclosure of management forecasts. Analysts believed that their forecasts are available to the public and that their projections meet the needs of investors. The results of the current study may help to explain the factors which motivate managers to release their own forecasts and the types of firms for which this occurs. The results may show that managements should issue their own forecasts under certain

circumstances, while under other circumstances, analysts' forecasts may be reasonable substitutes.

2. Corporate executives are faced with pressure to disclose their forecasts. The results of the current study may help the investment community and financial analysts to understand and interpret management forecasts by answering the question of why only a few firms disclose their forecasts, and under which conditions this occurs.

3. The AICPA has placed increased emphasis on the future-oriented objectives of financial statements and the involvement of auditors in reviewing such future-oriented information. The results of the current study may serve to encourage or discourage the AICPA in its efforts.

In sum, the resolution of these issues can aid in public policy formulation (for instance, should forecast reporting become mandatory, and under what conditions?), as well as in helping investors to understand and interpret management forecasts.

ORGANIZATION OF THE DISSERTATION

The remainder of this dissertation is organized as follows:

Chapter II provides a review of the related literature and the improvements of the current study over the previous studies.

Chapter III analyzes possible reasons for management forecast disclosures and develops the hypotheses of management's

decision to report earnings forecasts and to choose the forecast horizon.

Chapter IV explains the research methodology, including the sample selection, statistical analysis, and the explanations of variables.

Chapter V analyzes the empirical results of management's choice to disclose forecasts and to choose forecast horizons.

Chapter VI examines the accuracy of analysts' forecasts and the empirical results.

Chapter VII presents the summary and conclusions and recommendations for future research.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

The current study examines voluntary disclosure with respect to earnings forecasts and suggests possible reasons which motivate management to report or not report earnings forecasts. This chapter therefore provides a review of the research related to voluntary disclosure and earnings forecasts.

1. Research Related to Voluntary Disclosure

Spence (1973, 1974) and Ross (1977) provided a theoretical structure for voluntary disclosure of inside information by managers. The idea is that, in competitive markets, incentives exist for managers to publicly disclose inside information relevant to the valuation of their firms by outsiders. Watts (1977) explained voluntary corporate financial reporting as the residual of individual maximizing in both the market and the political processes. Leftwich, Watts and Zimmerman (1981) investigated the economic incentives of managers of corporations to provide interim reports voluntarily. Using agency theory, they suggested that capital structure, asset structure and other monitoring devices could explain the choice. Verrecchia (1983) showed how the existence of disclosure related costs may explain why a manager exercises discretion in disclosing information even though traders have rational expectations about his motivation to

withheld unfavorable reports. In effect, disclosure-related costs introduce noise by extending the range of possible interpretations of withheld information to include news which is actually favorable. Therefore, traders can not interpret withheld information as unambiguously 'bad news' and will thereby discount the value of the firm to the point that the manager is better served to disclose what he knows.

Chambers and Penman (1984) concluded that missing an expected report date signals forthcoming 'bad news' which is reflected in the security price on the date of the expected release.

2. **Research Related to Earnings Forecasts**

The importance of earnings forecasts to investors arises from their effect on the valuation of common stocks.

Govindarajan (1980) provided empirical evidence that investors use earnings information in making their investment decisions more often than they use any other measurement of cash flows. Chang and Most (1980) surveyed hundreds of individual investors, institutional investors and financial analysts. They found that earnings forecasts were considered the most important expectation data to U.S. investors, even more important than dividends and sales forecasts. The survey reported similar results for respondents from the United Kingdom and New Zealand.

Jensen (1980) discussed important future areas of accounting research and pointed out the emphasis placed on forecasts of

companies' future performance. He mentioned that there are increasing pressures for both management accountants and auditors to assume greater responsibilities in reporting both wide-scope information for improved investor forecasting of enterprise performance and expert (notably management) forecasts of enterprise performance. Beaver (1978) indicated that future-oriented data is becoming more important because of the basic change in the stewardship function. He explained the change as follows (p. 45):

> A reporting responsibility arises under stewardship in order to provide the intended beneficiaries with information upon which to base a performance evaluation of the steward. However, since the assets and financial claims of the company are not liquidated at each reporting date, this accountability function may well involve the disclosure of current-value and future-oriented data in order to better assess the implications of current actions by management for the future of the company.

Earnings forecast research has attracted the attention of a large number of researchers. One group of studies was concerned with the accuracy of such forecasts [Copeland and Marioni (1972), Barefield and Comiskey (1975), Ruland (1978), Brown and Rozeff (1978), Jaggi (1980) and Imhoff and Pare (1982) among others]. These studies tested the relative accuracy of management forecasts compared to those produced by financial analysts and/or forecast techniques. Generally, the results indicate that management forecasts are more accurate than analysts' forecasts and simple mechanical models. Recently, Waymire (1986) and

Hassell and Jennings (1986) provided empirical evidence concerning the relative accuracy of analysts' forecasts compared to management earnings forecasts. They found that the accuracy is a function of (1) the timing of the reported analysts' forecasts, (2) the quarter of the fiscal year in which the management forecast is released and (3) the size of the group analysts following the firm at the time the manager makes the forecast.

Although the research dealing with forecast accuracy provides information about the properties of forecast errors, it offers little evidence that investors' assessments of future earnings will be improved by using those forecasts. Accordingly, the results of the accuracy studies may not provide a sound basis for manadatory disclosure of earnings forecasts. Additional study is needed before any conclusion can be drawn about manadatory disclosure.

The second group of studies was related to the information content of management forecasts [Foster (1973), Patell (1976), Gonedes, Dopuch and Penman (1976), and Penman (1980) among others]. Using various methodologies, these studies provided evidence that management earnings forecasts have information content and on average, firms with "good news" appear more willing to reveal their forecasts. One problem, however, is that only a small proportion of prospering, profitable firms choose to report forecasts. Waymire (1984) calculated good news as the

difference between the management forecast and the analyst's forecast issued just prior to the management forecast. His results indicate that good news does not explain the disclosure decision.

In general, the results of the second group of studies indicate that (1) some firms which have good news did disclose their earnings forecasts and (2) the information content of a management forecast is a necessary but not a sufficient condition to mandate disclosure of forecasts. Additional study is needed to examine other important factors which influence management's decision to disclose earnings forecasts in a particular year.

A third group of studies addressed characteristics of the firms that voluntarily disclose earnings forecasts. Imhoff (1978) conducted a study to determine whether forecast firms were representative of nonforecast firms. He used the following variables: (1) the variability of accounting earnings measured by the coefficient of variation (CV), (2) the systematic risk of market-based returns and (3) the analysts' mean absolute relative prediction errors. The results show that forecast firms have lower variability in earnings, higher systematic risk than those in the index (the S&P's 500) and smaller relative prediction errors. He concluded that forecast firms are not representative of nonforecast firms.

Hagerman and Ruland (1979) observed that forecasts reported

in the Wall Street Journal tend to be from larger firms. Jaggi and Grier (1980) analyzed the differences between firms that publish their earnings forecasts and those that do not. The univariate tests of no differences were conducted for the following: (1) expected future performance, (2) variability in the growth rate of historical earnings and (3) the interaction of the variability in the growth of historical earnings with expected economic performance. The results indicate that forecast firms differ from nonforecast firms based on the above variables.

Jaggi (1982) conducted a study similar to the one mentioned above and adding other variables. Using univariate tests as well as discriminant analysis, he concluded that firms with high growth rates in net income and EPS, high market return and dividend/earnings ratios, low total risk and low variability in earnings are more likely to disclose forecasts. He did not examine the reasons behind management's disclosure of earnings forecasts. Cox (1985) replicated Imhoff's study but added firm size as an additional independent variable and controlled for industry effect. Using an experimented design which controlled for interdependencies between test variables, his results indicate that: (1) forecast firms have lower earnings variability and lower systematic market risk than nonforecast firms and (2) large firms are more likely than small firms to disclose their earnings forecasts. Gaber (1985) used variables associated with

forecast reporting including size, beta, earnings variability, expected performance and management ownership. He used probit analysis as well as discriminant analysis. His results indicate that stability of earnings, market risk, size of the firm, management ownership and earnings performance expectations are important factors for forecast reporting decision.

In general, the results of the third group of studies indicate that firms that release their earnings forecasts have different characteristics than firms that do not release their earnings forecasts.

Previous studies have not contributed much to an understanding of why a few firms release earnings forecasts in particular years and not in every year. The current study is concerned with the reasons for forecast reporting in a particular year and the factors which influence the choice of forecast horizon. Knowing such reasons can help investors understand why a few firms issue forecasts and most firms do not release such information.

Ajinkya and Gift (1984) used the findings of a recent survey of corporate executives and financial analysts by Lees (1981), which deals with the incentives (self reported) and other details of managements' earnings forecasting activity, to derive testable hypotheses. They tested the possibility that firms issue forecasts when analysts' forecasts are unrealistic. They hypothesized that if managements looked upon analysts' forecasts

as inaccurate, they would be motivated to "correct" analysts' forecasts with direct forecasts (management forecasts). This motivation would apply whether analysts' forecasts were too high or too low. Their test has two independent variables: 1) a management forecast signal (measured as the difference between the management forecast and the analyst's forecast) and 2) a management forecast error (measured as the difference between the actual earnings and the management forecast). Their dependent variable is an average monthly unexpected securities returns. Their results support the hypothesis that forecasts are issued in cases in which both good news and bad news adjustments are needed. This result contrasts with Penman (1980) and Patell (1976) both of which indicated mostly positive (good news) forecasts.

Of the previous studies, only Ajinkya and Gift (1984) introduced a reason for management forecasts in a particular year. According to these researchers, managements release forecasts because analysts' forecasts are inaccurate. The current study examined more reasons for forecast reporting in a particular year. In addition, it examined the factors which influence the forecast horizon choice.

The current study has the following improvements over the previous studies:

(1) This study included all management forecasts released during the study period. Ajinkya and Gift (1984) looked only at

management forecasts released shortly (three weeks) after the release of analysts' forecasts.

(2) This study considered a variety of possible motivations to forecast.

(3) This study used the Dow Jones News Retrieval Service (DJNRS) to collect the data. Previous studies used the Wall Street Journal Index. The fact that the Wall Street Journal tends to publish forecasts of large firms may reflect editorial policy rather than a firm's reasons to issue a forecast.

(4) This study included all firms that released forecasts during the test period. Previous studies included only NYSE listed firms and/or firms that are followed by analysts (their sample's firms must have analysts' forecast data available). See for example, Imhoff (1978), Waymire (1984), Ajinkya and Gift (1984) and Gaber (1985).

(5) This study examined the forecast horizon choice. Although Ajinkya and Gift (1984) observed both good news and bad news forecasts, they did not examine the forecast horizon for good news and bad news forecasts. Bad news might have been announced late in the year when release was inevitable, as suggested by Pastena and Ronen (1979).

(6) This study included all management forecasts released during the year from January to December. Previous studies excluded one month or more.

CHAPTER III

AN ANALYSIS OF POSSIBLE REASONS FOR MANAGEMENT FORECAST DISCLOSURE

Previous studies have investigated some factors which explain management's decision to report forecasts. However, research in management forecasts has left unanswered some important questions. One question that arises is, why do only a few firms issue direct, or management, forecasts? A second question is, what circumstances motivate management to release its own forecasts in a particular year? A third question is, what factors influence the choice of the forecast horizon?

The current study attempted to develop and test empirically more possible reasons for reporting earnings forecasts by managers. In addition, it examined the factors that influence the choice of the forecast horizon. The purpose is to develop a more comprehensive explanation of the forecasting decision.

1. Management's Choice of Forecast Reporting

One or more of the following could explain the choice of forecast reporting:

1.1 Analysts are not following the firm

Forecasts by corporate managers are not the only source of earnings expectations about firms. Financial analysts form a

potent and active industry and create forward-looking information about firms. Almost continuously, updated earnings forecast information for most firms is available from financial analysts. If a firm is not followed by analysts, less current information is available to investors about the firm's future earnings. Less current information leads to more surprise in the market and higher contemporaneous security return variability. Richardson (1982) and Holthausen and Verrecchia (1982) examined stock price changes accompanying a sequence of information releases. Their models predict that the information content of an announcement is a function of (a) its precision compared with the precision of prior information and (b) the extent to which prior reports covaried with the information content of the current report.

McNichols and Manegold (1983) reported that if there is less marginal information content in reports that are preceded by other reports than in those that are not, the release of the later reports is associated with lower price variability. Using annual reports only, and annual plus interim reports, their results indicated a significant reduction in the marginal information content of annual earnings reports when interim earnings announcements were initiated. In other words, they found a statistically significant decrease in the variance of returns at the annual report announcement date when interim reports were released.

Ohlson (1979) predicted that the variability of returns

associated with the release of information is negatively related to the amount of prior disclosure. Barry and Brown (1985) concluded that as more information becomes available concerning a security, that information leads to lower estimation risk. Atiase (1980) reported significantly greater return variability at the release of the earnings of the third quarter for small firms than for large firms. A contemporaneous increase in return variability has been documented for disclosure of management forecasts [Patell (1976), Ajinkya and Gift (1984) and Waymire (1984) among others]. If management forecasts contain some information that was unavailable until the release of actual earnings, the marginal information content of an actual earnings report which was not preceded by management forecasts should be greater than that of an actual earnings report that follows management earnings forecasts. Managements of the firms that are not followed by analysts will be motivated to issue forecasts, as an alternative source of information, to reduce the variability of stock returns at the actual earnings announcement date.

In summary, firms which are not followed by analysts have a greater tendency to release management forecasts than firms which are followed by analysts, other factors being equal. Thus, the first hypothesis may be formulated as follows:

> H1: The lack of analysts following the firm correlates positively with management's choice to disclose forecasts.

1.2 Inaccuracy of analysts' forecasts

Axelson (1975) and Lees (1981) provided empirical evidence suggesting considerable cooperation between corporate managers and financial analysts in effecting the release of firm-specific private information. Lees (1981) reported that many companies make special efforts to assist analysts by making presentations at analysts' meetings, preparing factbooks containing a vast amount of information on company operations and by granting interviews to individuals and groups of analysts. If these efforts are unsuccessful, management issues its own forecast to minimize the problems caused by allowing unrealistic forecasts by analysts to prevail in the market.

For example, the Allen Group Inc. initiated a policy on forecast disclosure which began in 1973. Prior to that time, the company did not publicly discuss its earnings prospects at all. The reason for its change of heart was the publication in 1972 of an unduly optimistic forecast of the company's earnings by a security analyst. This forecast caused a short-lived increase in the market price of the company's stock, followed by a decline when the optimistic earnings did not materialize. These short-term price movements were to the disadvantage of many of Allen's stockholders.

Lees (1981) reported that dramatic swings in stock prices operate to the disadvantage of both stockholders and management and both groups are concerned about the stability of stock prices

which affect their wealth. Dopuch, Holthausen and Leftwich (1987) pointed out that the greater the variability of a firm's returns, the greater the probability of a large decline in stock price.

Ajinkya and Gift (1984) reported that management forecasts are issued primarily when there is a future likelihood of investor dissatisfaction resulting from their dependence upon prevailing unrealistic analysts' forecasts. Their results indicated that the higher the error rate in analysts' forecasts, the greater the probability that management would release forecasts.

Based on the above argument, the second motivation for management to issue its own forecasts is to supersede analysts' forecasts in a particular period when analysts do not respond to management's attempts to correct their forecasts. Inaccurate analysts' forecasts may cause dramatic swings in stock prices when actual results come out.

In summary, it is expected that the higher the percentage of analysts' forecast errors, the greater the tendency for management to issue earnings forecasts, other factors being equal. Thus, the second hypothesis is:

H2: Analysts' forecast errors and management earnings forecast disclosures are positively correlated.

1.3 Substantial changes in earnings

Previous studies show that the more previous information about earnings that exist (forecasts), the less investors will react and the less erratic the stock price will be when actual results finally emerge. Richardson (1982) and Holthausen and Verrecchia (1982) have contributed a rigorous treatment of previous intuition. They reported that more frequent disclosure of earnings leads to less 'surprise' in any given report and thus these reports are associated with lower contemporaneous return variability.

Trueman (1986) reported that since one of the manager's roles is to choose the firm's optimal production level, the firm's market value at the end of any period will be a function of investors' perceptions of his ability to anticipate future changes in the firm's economic environment and adjust the firm's production plan accordingly. While this ability cannot be directly observed by investors, the manager can provide some information about it by releasing an updated earnings forecast each period when and if the manager observes any changes in the firm's economic condition.

Changes in the firm's economic condition will cause substantial changes in earnings. These changes will not be known to the market until actual results come out or until management releases some information about them. Management is motivated to disclose its own forecasts in order to reduce the stock's return variability when actual results come out later and to show its

ability to anticipate future changes in the firm's economic condition (changes in financial, production and investment decisions). While the market cannot directly observe this ability, releasing a forecast reflects this ability. Thus, when actual results come out in the future period, investors favorably assess management's ability to anticipate changes before they arise. Management is motivated to do so whether a forecast contains good news or bad news and whether or not analysts' forecasts are available to the market. Management should be more inclined to release a forecast related to large earnings changes because of the importance of the message to outsiders. The large earnings change variable may be related to the analysts' forecast error variable, in that large changes in earnings will likely be associated with large analysts' forecast errors. In other words, analysts' forecast errors may tend to be high in periods of large earnings changes. Incorporating this variable in the tests may also reveal to what extent the analysts' forecast errors variable might be attributable to large earnings changes.

From this argument the third motivation to disclose a forecast could be that management expects substantial changes (increases or decreases) in the firm's earnings in that period, compared to previous periods.

In summary, on average, firms having a higher percentage change in earnings, in one period compared to previous periods,

will have a greater tendency to disclose management forecasts, other factors being equal. Thus, the third hypothesis is:

> H3: Large changes in earnings (positive or negative) and management's choice to report earnings forecasts are positively correlated.

1.4 Immediate plans to raise new capital

Lees (1981) surveyed more than 400 NYSE firms and reported that the most important benefit of disclosure of a management forecast is the assistance it provides in raising new capital. The reason is that investors will be less uncertain regarding the financial future of the company. In addition, analysts are likely to have more confidence in recommending stocks of companies that disclose their earnings forecasts.

Myers and Majluf (1984) and Miller and Rock (1982) analyzed the new financing by firms when managers have better information than outside investors about earnings and investment opportunities of the firms they manage. They studied the relationship between information disclosure and the decision to obtain new financing. Their results show a decrease in stock price at the announcement date of the new financing. Myers and Majluf found a more favorable response to new debt financing than to a common stock offering. Miller and Rock (1982) found that the stock price response is the same for debt and equity financing announcements.

The above studies concluded that announcements of new

financing convey unfavorable news about the firm's earnings or investment opportunities and thereby cause common stock price reductions.

Korwar (1982) and Asquith and Mullins (1983) investigated the impact of common stock issuance on security prices. Dann and Mikkelson (1984) studied the impact of convertible debt offerings on stock prices. These researchers all concluded that there is unfavorable information about issuing and offering firms and there are significant negative stock price reactions.

From the above argument, the fourth motivating factor influencing management to disclose its own forecast might be to faciliate the new financing in at least two ways. First, forecasts should reduce investors' uncertainty regarding their future returns. Second, the decrease in the stock price accompanying the announcement of new financing should be mitigated as a result of disclosing the forecasts, the assumptions underlying the forecasts and the planned uses for the new capital.

In summary, on average, firms having a higher percentage increase in capital will have a greater tendency to disclose management forecasts, other factors being equal. Thus, the fourth hypothesis may be formulated as follows:

H4: Raising new capital and management forecasts disclosure are positively correlated.

1.5 Pressure from outside stockholders

A number of previous studies have observed differences in management behavior as a function of the ownership structure [Dhaliwal, Salamon and Smith (1982) and Jensen and Meckling (1976)].

Leftwich, Watts and Zimmerman (1981) reported that if a firm issues any form of capital to outsiders (nonmanagers), an agency relationship exists between the outside owners (nonmanagers) and management. An agency relationship gives rise to "agency costs" because the manager is expected to act in his own interest, which need not be consistent with the interests of the outside owners.

Barnea, Haugen and Senbet (1985) concluded that both the issuing of financial contracts and the production and public disclosure of accounting information can reduce agency costs. Jensen and Meckling (1976) suggested that firms with partial owner-managers should incur monitoring and bonding costs in order to reduce agency problems. Diamond (1985) and Hakansson (1981) argued that managers are first to know firm-specific developments which affect firm value, have the incentives to trade on the basis of their inside information rather than disclose firm-specific information. In addition, Hakansson pointed out that outside shareholders also have incentives to demand more firm-specific disclosure from management.

Alchian and Demsetz (1972), Barnea, Haugen and Senbet (1985) and Jensen and Meckling (1976) reported that the agency theory suggests that, since managers of a low-inside ownership firm have

stronger incentives than managers of a high-inside ownership firm to utilize inside information for personal gains, potential agency costs associated with asymmetric information will be more significant for low-inside ownership firms than for high-inside ownership firms. Therefore, the demand for discretionary disclosure (forecasts) will be greater for low-inside ownership firms than for high-inside ownership firms. The logic of this suggestion is that potential conflicts of interest exist between shareholders and managers. Therefore, shareholders should require significant monitoring and bonding activities to minimize agency problems.

Based on the above argument, a fifth factor that may motivate management to disclose its own forecasts could be the pressure from outside shareholders. Outside shareholders put pressure on management to release earnings forecasts to be used to monitor management and to make investment decisions. Accordingly, the demand for earnings forecasts will be greater for low-inside ownership firms than for high-inside ownership firms.

In summary, on average, firms that have a lower percentage of stock owned by directors and officers will be more likely to disclose management earnings forecasts, other factors being equal. Thus, the fifth hypothesis is:

H5: The lower the percentage of shares owned by managers of the firm, the more likely that the firm discloses earnings forecasts.

1.6 Announcement of good news

Evidence from Penman (1980), Patell (1976), Gonedes, Dopuch and Penman (1976), Hakansson (1977) and McDonald (1973) indicated that managements publish forecasts when they have good news. Therefore, investors generally receive forecast information about firms which are doing relatively well. However, Waymire (1984) and Ajinkya and Gift (1984) found that management issues both good news and bad news. Their results indicated that there are positive stock price reactions for good news forecasts and negative stock price reactions for bad news forecasts.

Ronen (1977) analyzed the incentives for management under the existing of insider trading rules to disseminate positive or negative information. The conclusion was that incentives exist for managers to supress, delay or eliminate the publication of information anticipated to be negative. Incentives, also exist to disseminate positive foreknowledge as early as possible.

Based on the above argument, the sixth motivation for management to disclose its own forecast could be to announce good news to investors in order to increase the stock price. On the other hand, management might wish to hide bad news temporarily by choosing not to issue a forecast, thus delaying any reduction in stock price until actual results come out later.

In summary, on average, firms having good news will have a

greater tendency to disclose earnings forecasts, other factors being equal. Thus, the sixth hypothesis is:

> H6: Firms which have good news are more likely to disclose earnings forecasts than firms which have bad news.

2. Management's Choice of Forecast Horizons

Firms differ in their choices of forecast horizon. Some firms report their annuual earnings forecasts over long horizons (early in their fiscal year), while others tend to do so over short horizons (late in their fiscal year). Many factors might influence the choice. The following factors are examined.

2.1 Type of news (good vs bad)

A first factor that might influence the forecast horizon is the type of news to be announced. Lurie and Pastena (1975) examined 8-K filing with the SEC. Of the 121 filings, they found that 59 percent of the filings with increasing earnings occurred in the first half of the year, compared to 22 percent of unfavorable effects on earnings. Pastena and Ronen (1979) concluded that good news was released early in the year (first and second quarters), while bad news was released late in the year (third and fourth quarters). However, Waymire (1984) found no association between good or bad news and management's choice of forecast horizon.

Penman (1984) provided an explanation for the delay in reporting bad earnings news. He pointed out that if the market does not fully reflect impending bad news when the news is

delayed, there may be an incentive for managers to delay disclosure of that news. Accordingly, the effect of the bad news on stock prices is delayed if disclosure is later.

Based on the above argument the first factor that might influence management's choice of the forecast horizon is the type of news. Management might issue a good news forecast earlier than they would otherwise to increase the stock price. However, management might delay a bad news forecast as much as possible until it becomes inevitable. Thus, the first hypothesis is:

H1: Good news forecasts and longer forecast horizons are positively correlated.

2.2 Percentage of analysts' forecast errors

Givoly and Lakonishok (1979) found that the market does react to analysts' forecasts. Ajinkya and Gift (1984) found that management issues forecasts to correct analysts' forecast errors.

A second factor that might influence the forecast horizon is the percentage of analysts' forecast errors. It is expected that the higher the percentage of errors, the sooner management will issue a forecast. Management is motivated to do so to correct analysts' forecast errors and thus reduce the swing in stock prices. The second hypothesis may be formulated as follows:

H2: Analysts' forecast errors and longer forecast horizons correlate positively.

2.3 Changes in earnings

Trueman (1986) suggested that forecast reports serve to indicate management's ability to anticipate and react to environmental changes. The sooner the forecast is released the more favorably investors will assess the manager's ability to recognize changes as they arise in future periods. Richardson (1982) and Holthausen and Verrecchia (1982) pointed out that more frequent disclosure of earnings leads to less 'surprise' in any given report and thus to lower contemporaneous security return variability. From the above argument, it is expected that the higher the percentage change in earnings, the earlier the forecast will be released for two reasons: (1) to show managerial ability to anticipate changes and (2) to reduce stock price reaction when actual results come out later. Accordingly, the third hypothesis may be formulated as follows:

H3: Large earnings changes and longer forecast horizons are positively correlated.

2.4 Followed by analysts or not

A fourth factor that might influence the choice of forecast horizon is whether or not a firm is followed by analysts. Lees (1981) pointed out that companies make special efforts to assist analysts in their forecasts. If these efforts are unsuccessful, management issues its own forecast to correct unrealistic analysts' forecasts. Accordingly, it is expected that firms which are followed by analysts issue forecasts early in their

fiscal years, if at all, in order to correct analysts' forecasts, and firms that are not followed by analysts issue forecasts late in their fiscal years (no correction needed). Thus, the fourth hypothesis is:

> H4: Firms which are followed by analysts are likely to report forecasts over longer horizons than firms which are not followed.

2.5 Capital changes

Lees (1981) reported that forecasts help in raising new capital. However, financial literature provides evidence that issuance of new capital has a negative market reaction. According to these findings, the current study expected that the larger the increases in capital, the earlier forecasts would be released (long horizon). Management is motivated to inform the market as early as possible before news comes out which could reduce the ability of firms to raise new capital. Thus, the fifth hypothesis is:

> H5: Large percentage increases in capital and longer forecast horizon are positively correlated.

2.6 Management ownership

As discussed previously, the percentage of shares owned by managers and directors of the firm and the forecast reporting choice are negatively correlated. When managers and directors own small portions of the firm's stock, there is greater pressure from outsiders to release information about future expectations

earlier than otherwise. Accordingly, there is a greater tendency to report forecasts early when insider stockholdings are low, than when managers and directors own large portions of the firm's stock. Thus, the sixth hypothesis may be formulated as follows:

> H6: The lower the percentage of shares owned by managers of the firm, the longer the forecast horizon choice by management.

In summary the study examined the ability of six factors to explain the forecast reporting choice and the forecast horizon choice. Those factors are:

1. Followed by analysts or not,
2. Analysts' forecast accuracy,
3. Earnings changes,
4. Capital changes,
5. Ownership structure and
6. Type of news (good vs bad).

CHAPTER IV

RESEARCH METHODOLOGY

Sample Selection

The study is designed to examine the ability of the six variables identified previously to classify samples of forecast reporting and nonreporting firms. The sample consists of a group of firms that reported forecasts and a group of randomly selected firms of comparable size that did not release forecasts. The following steps are used to collect the sample:

1. The initial sample of a group of forecast firms begins with all management earnings forecasts appearing in the Dow Jones News Retrieval Service (DJNRS) for the period between January 1980 and December 1985. The appendix shows samples of forecasts which were collected from the DJNRS. The DJNRS contains a constantly updated data base of articles published by Dow Jones & Company in The Wall Street Journal and Barron's, as well as unpublished announcements appearing on the Broad Tape. The key words used to query the data base are words that indicate that the article is reporting a management forecast of earnings or earnings per share. Articles between January 1980 and December 1985 are retrieved. Each article is examined to determine if it contained a useful annual earnings forecast. Forecasts are included in the sample if all the following criteria are met:

a. The forecast is a point or range estimate of annual earnings or EPS before extraordinary items. In the case of a range estimate, the midpoint was considered to be the forecast.

b. The forecast is for the current year, released during any month of the company's fiscal year.

c. The forecast is attributable to a company official.

d. The forecast is the first issued by the firm during the current fiscal year.

The following firms are excluded: (1) firms which issued forecasts in the first year of their life (no data available for comparisons) and (2) firms which did not file with the SEC in the years of their forecasts.

2. A sample of firms which did not disclose management forecasts was randomly selected to match the time and size profile of the forecasting sample. The time and size matched sample of firms with no management forecasts resulted from the following procedures:

a. Firms are randomly selected from the Directory of Companies Required to File Annual Reports with the SEC for each of the years 1980-1985. For each year the number of firms selected is equal to the number of forecast firms in that year.

b. Firms that issued management forecasts during the test period are excluded.

c. Each nonforecasting firm is matched with a forecasting

firm, using the size of the firm (assets). Nonforecasting firms that were unable to be matched with forecasting firms in terms of size are excluded.

Richardson (1984) found that larger firms tend to publish disclosures more frequently in the Wall Street Journal and have a heavier following among analysts. Ataise (1980) argued that the production and dissemination of private predisclosure information is an increasing function of firm size. This study has no reason to expect that size, per se, should influence the disclosure decision. Control for size differences compensates for the tendency of news service to publish information for larger and more important firms.

d. The process is continued for each year until the number of nonforecasting firms in the sample equals the number of forecasting firms in the sample.

3. For each firm in the forecast group and nonforecast group the study collects the analysts' forecasts from Standard and Poor's Earnings Forecaster-Cumulative Master List (EFCML). The Earnings Forecaster is a biweekly publication listing forecasts of annual EPS of the current year and (if available) the following year for about 3,000 firms. The forecasts are made by S & P itself and by about 70 other security analysts and brokerage houses. The Earnings Forecaster has been used by Barefield and Comiskey (1975), Gonedes, Dopuch and Penman (1976), Ruland (1978) and Fried and Givoly (1982) among others. The

study examined EFCML by year of disclosure for the forecast group, and for the corresponding year (resulting from the matching procedure) for the nonforecast group, to find out if the firm is or is not followed by analysts.

4. For each firm followed by analysts, the study collected the analyst's forecast issued for that year, such that the date of the forecast was less than two weeks prior to the date of the management forecast disclosure. For example, if the date of the management forecast was March 12, 1984 the study picked an analyst's forecast listed in EFCML within two weeks of March 12. For nonforecast firms, the date of the analyst's forecast for each firm is the same date as for the matched forecast firm. The study also collected analysts' forecasts for the year before and the year after the year of the management forecast during approximately the same time period as the management forecast. If more than one analyst's forecast was issued at the same date for the firm, the simple average of all the analysts' forecasts was used.

5. For firms which were not listed in EFCML, the study checked the Value Line Investment Survey (VL) to make sure that the firm was not followed. If the firm was listed in the VL, that firm was included among the followed firms.

6. Using microfiche, the study collected, from annual reports, 10-Ks, prospectus and proxy statements, the actual annual data for the year of management forecast and the eight

years prior to and the year following the year of forecast for forecast firms. The same data were collected for nonforecast firms.

Annual data rather than quarterly data were used to avoid the problem of the measurement of quarterly earnings and the random factors that affect reported results for such short periods. The final sample includes 234 qualifying forecasts and 234 comparison firms.

Table 1 shows selected characteristics of the forecasts and the forecast firms. Examining Table 1, the following points should be noted. First, as in prior studies on management forecast disclosure, the sample contains mostly good news, that is, forecasts which are positive compared to actual earnings in the previous year. Positive forecasts are about 70 percent (161 of 234) of the sample forecast firms. The sample of management forecasts are also positive compared to analysts' forecasts for about 57% (101 of 176) of the forecast firms which were followed by analysts. Second, as Pastena and Ronen (1979) noted, bad news forecasts are issued later in firms' fiscal years. The data in this sample indicate that more than 60 percent (45 of 73) of the bad news forecasts are issued in the third and fourth quarters. Third, the sample contains mostly firms which are followed by analysts, about 75 percent (176 of 234). Fourth, as Hassell and Jennings (1986) found that a significant number of forecasts were not reported in the Wall Street Journal Index, this study found

that 35 percent (82 of 234) of the management forecasts are not reported in the Wall Street Journal. Finally, as Hagerman and Ruland (1979) found that forecasts were issued by large firms, this study found that the mean asset size of firms issuing forecasts is $607 million. Table 2 shows forecasts classified by the year of forecast. Table 3 shows forecasts classified by the forecast horizon. In Table 4, forecasts are classified by the quarter of forecast reporting during the fiscal year. Table 5 shows selected characteristics of the forecast firms and the nonforecast firms.

Table 1

Selected Characteristics of Forecasts and Forecast Firms

Characteristic	Number of forecasts (n=234)			
Asset Size ($ millions)	Mean $607 Million	Less than $100 Million	$100 Million to $1 billion	Greater than $1 billion
		40	149	45
Fiscal Quarter of disclosure	first	second	third	fourth
	G[a] B[b]	G B	G B	G B
	40 11	38 17	36 19	47 26
Type of news (Compared to previous year)		Good news		Bad News
		161		73
Type of news (Compared to analysts' forecasts)		Good news		Bad News
(n=176)		101		75
Following by analysts		Followed		Not followed
		176		58
Source of Forecast	Wall Street Journal			Dow Jones Only
		152		82

a. Good news is management forecast > actual previous year.

b. Bad news is management forecast < actual previous year.

Table 2

Forecasts Classified by the Year in Which Forecasts Were Issued

Year	Number of Forecasts
1980	51
1981	53
1982	34
1983	23
1984	36
1985	37
Total	234

Table 3

Forecasts Classified by the Forecast Horizons

Year	Number of Forecasts	First six months of the fiscal year (Early)	Second six months of the fiscal year (Late)
1980	51	27	24
1981	53	22	31
1982	34	20	14
1983	23	9	14
1984	36	16	20
1985	37	12	25
Total	234	106	128

Table 4

Forecasts Classified by the Quarter of Reporting During the Fiscal Year

Year	Number of Forecasts	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
1980	51	16	11	9	15
1981	53	11	11	13	18
1982	34	7	13	5	9
1983	23	5	4	8	6
1984	36	7	9	8	12
1985	37	5	7	12	13
Total	234	51	55	55	73

Table 5

Selected Characteristics of Forecast Firms and Nonforecast Firms

Characteristics	Forecast Firms	Nonforecast Firms
Percentage of firms which have capital increases	68%	34%
Percentage of management ownership		
[0-10]	74%	29%
(10-25]	12%	27%
(25-50]	11%	24%
(50-75]	3%	12%
(75-100]	0%	8%
Percentage of firms which are followed by analysts	75%	56%
Percentage of firms which have changes in earnings (increases or decreases)	100%	100%
[0-25]	28%	79%
(25-50]	50%	16%
(50-100]	15%	5%
(100-200]	4%	0%
(200-300]	2%	0%
(300-500]	1%	0%

Measurement of Variables

1. The dependent variables

1.1 Forecast reporting/nonreporting choice

The dependent variable is a dummy variable which represents the management's choice to report a forecast or not to report a forecast. The dependent variable is 1 for a forecast report and 0 for the nonreporting firms.

1.2 Forecast horizon choice

The dependent variable is a dummy variable which represents the choice of the forecast horizon (long/short). Two measures were used for the dependent variable: (1) the dependent variable is 1 for a forecast report in the first or second quarter of the fiscal year and 0 for a forecast report in the third or fourth quarter of the fiscal year and (2) the dependent variable is 1 for a forecast report in the first, second or third quarter of the fiscal year and 0 for a forecast report in the fourth quarter of the fiscal year. The second measure was used because disclosure in the fourth quarter becomes inevitable.

2. The independent variables

The independent variables are the reasons that motivate managements to report their own forecasts. These independent variables are as follows:

1. Followed by analysts or not
2. Percentage error of analysts' forecasts

3. Percentage change in earnings
4. Percentage change in capital
5. Percentage of shares owned by management
6. Good news vs bad news

Explanations of the Independent Variables

1. FNF is a dummy variable which takes a value of 1 for nonfollowed firm and a value of 0 for the followed firm.

2. AFE is the analyst's forecast error which was computed on an ex-post basis measured as the absolute percent difference between the analyst's forecast and the actual EPS.

This measure of absolute forecast error disregards sign and gives equal weight to both positive and negative errors. That is,

$$AFE_{it} = | (AF_{it} - E_{it})/E_{it} |$$

Where: AFE_{it} is the analyst's forecast error as discussed previously,

AF_{it} is the analyst's forecast issued two weeks prior to the management forecast disclosure for firm i,

E_{it} is the actual annual EPS at time t for firm i.

Since management forecasts for nonreporting firms are not available and for the sake of consistency, actual EPS rather than management earnings forecasts were used to measure errors in analysts' forecasts.

3. ECH is the percentage change in earnings which was computed on an ex-post basis measured as the absolute percent

difference between EPS in the year of the management forecast and the prior year deflated by the coefficient of variation (to control for earnings variability).

Imhoff (1978) and Jaggi and Grier (1980) find that reporting firms have lower earnings variability than nonreporting firms.

This study separates the effect of the firm's one-time earnings changes from the effect of normal earnings variability by deflating earnings changes using the following measure:

$$ECH_{it} = \frac{| (E_{it} - E_{it-1}) / E_{it-1} |}{S_{it}/U_{it}}$$

Where for each firm:

ECH_{it} is the percentage change in earnings as discussed previously,

E_{it} is the actual annual EPS at time t for firm i,

E_{it-1} is the actual annual EPS at time t-1 for firm i,

S_{it} is the standard deviation of earnings for firm i measured over the period prior to the year of management forecast (eight years when data is available),

U_{it} is the mean earnings for firm i measured over the eight year period prior to the earnings forecast.

The coefficient of variation adjustment will tend to highlight unusual earnings changes for the particular forecast reporting period and does not merely identify firms with high earnings variability.

4. CCH is the percentage change in capital. It was computed on an ex-post basis measured as the percentage change in invested capital for the forecast year. That is,

$$CCH_{it} = (C_{it} - C_{it-1}) / C_{it-1}$$

Where for each firm:

CCH_{it} is the percentage change in capital as discussed previously,

C_{it} is the invested capital at end of the forecast year for firm i,

C_{it-1} is the invested capital at beginning of the forecast year for firm i.

In this study, capital includes long-term debt and paid-in capital only. Capital increases if the total paid-in capital plus long-term debt for the forecast year is greater than it was in the prior year.

5. MOW is the percentage of shares owned by management of the firm. It was measured as the number of shares owned by officers and directors as a group, divided by the total outstanding shares. This data is collected from the proxy statements filed with the SEC.

6. GB is a dummy variable which takes a value of 1 for good news and a value of 0 for bad news. The good news/bad news variable was computed on an ex-post basis. In this study four measures of GB variable were used as follows:

1. Good news is measured as the difference between the actual EPS for the current year and the actual EPS for the prior year.

2. Good news is measured as the difference between currently available analysts' forecasts and the actual EPS for the prior year.

Brown and Rozeff (1978) found that analysts' forecasts are a good measure for market expectations. Gonedes, Dopuch and Penman (1976) used analysts' forecasts as a surrogate for management expectations.

3. Good news is measured as the difference between the management forecast for the current year and actual EPS for the prior year.

Previous studies have found that management forecasts are more accurate than analysts' forecasts.

4. Good news is measured as the difference between the management forecast and currently available analysts' forecasts.

Waymire (1984) used this measure and he found that good news and forecast disclosure do not seem to be related.

Statistical Analysis

The purpose of the current study is to understand why and under what circumstances managements issue forecasts for a particular year. The primary concern was the factors that seem to influence the decision to issue an earnings forecast. In

addition, the study examines the factors influencing the choice of a forecast horizon.

Both univariate and multivariate analyses were used to assess the statistical significance of the variables discussed in the previous section and to test whether these variables can explain the forecast reporting choice and the forecast horizon choice.

Multivariate tests have been widely used in previous management's choice studies. It is expected that improved classifications may be achieved by combining the independent variables. In addition, multivariate tests were used as a check on the results of the univariate tests. Two multivariate models were used. The first is probit analysis and the second is multiple discriminant analysis.

1. **Probit Analysis**

Given a dichotomous dependent variable (managements' choices), ordinary least square regression (OLS) yields estimates of the parameters that are unbiased but inefficient, and the usual statistical tests are inappropriate. Accordingly, the classical multiple regression analysis was not used in this study for the following reasons:

(1) The homoscedasticity assumption would be violated because the errors vary with the magnitude of the independent variables.

(2) The predicted value of the dependent variable can be at

odds with the definition of the dummy dependent variable.

(3) Since the dependent variable is discrete, the error term is discrete and thus cannot be normally distributed.

An alternative statistical analysis is the probit analysis. Probit analysis was used to test the previously discussed factors that might motivate managements to release earnings forecasts and to choose the forecast horizons. Another alternative for this study is logit analysis. Logit analysis is a maximum likelihood estimating procedure which applies a logarithmic transformation to the nominal dependent variable. Probit and logit analyses deal with the problem of predicting and explaining the value of the dependent variable measured on a qualitative or ordinal scale. The difference between the two models is derived solely from alternative assumptions made regarding the underlying frequency distribution of the dependent variable. Chow (1982) used logit analysis and found that the results were almost identical to those obtained using probit analysis.

The probit rather than logit was used in this study for the following reasons: (1) as Neter and Wasserman (1974) pointed out, the interpretation of the logit coefficients is not as simple as the straightforward interpretation of the coefficients in the probit model. The logit coefficients represent incremental effects of X (the independent variable) on the log odds ratio (Ln(P/1-P), where P is the probability that the dependent variable = 1 and (1-P) is the probability that the

dependent variable = 0). (2) Probit analysis has been used in many accounting studies, especially in management's choice.

Therefore, using probit analysis in the current study gives results that can be compared to the results of previous studies. The objective of probit analysis is to estimate the maximum likelihood coefficients of the true underlying regression model. These estimates are asymptotically efficient and have a known asymptotic sampling distribution. Accordingly, tests can be performed on the significance of both the overall model and the individual independent variables. The Chi-Square test is used to test the overall model significance. The significance of the estimated coefficients of the independent variables is tested by using the asymptotic t-test.

The probit model is as follows:

$F_i = a + b_1FNF + b_2AFE + b_3ECH + b_4CCH + b_5MOW + b_6GB + e$

Where for each firm:

F is 1 for a forecast report firm and 0 for the nonreporting firm,

FNF, AFE, ECH, CCH, MOW and GB are as defined previously,

a and the terms b_1 through b_6 are the coefficients obtained by fitting the model and

e is the unexplained error term.

2. **Multiple Discriminant Analysis**

Discriminant analysis is a technique designed to examine differences between two or more groups using several independent

variables. There are some considerations, factors influencing the results of discriminant analysis. One of these is the normality assumption. However, the impact of non-normality is unclear. Previous research has found that non-normality does not affect overall classification rates. The second consideration is the choice of prior probabilities to reflect the relative occurrence of observations in the population from which the sample is drawn. To avoid this problem, this study used an average of the population proportion for 1980 to 1985. This approach was used by Eisenbeis (1977).

The general model using the discriminant analysis is similar to the one used in the probit. The general model is as follows:

$$Z = a_0 + a_1 x_1 + a_2 x_2 + \ldots + a_n X_n + e$$

Where: Z is the discriminant score from which each firm is classified into a group,

a_i are the discriminant coefficients,

X_i are the independent variable values for each firm and

e is the unexplained error term.

CHAPTER V

AN ANALYSIS OF EMPIRICAL RESULTS

In a previous chapter of this study, the hypotheses stated that the management forecast reporting choice and the forecast horizon choice are functions of whether the firm is followed by analysts or not, analysts' forecast errors, the percentage of shares owned by managers, the percentage change in earnings, the percentage change in capital, and the type of news.

To test these hypotheses, two sets of tests were conducted. Initially, the study starts with the entire sample of 234 management forecasts. The study then considers the subset of 176 reporting firms which are followed by analysts. This permits examination of the importance of analysts' forecast errors.

Descriptive Statistics

For the primary analysis, descriptive statistics for both the entire sample and the subset sample are reported. Table 6 (panel 1) shows summary statistics for each of the continuous independent variables for the entire sample. The data indicate that firms that report their earnings forecasts have higher mean values for the ECH and the CCH and lower mean value for the MOW than firms that do not report their forecasts. Table 6 (panel 2) presents summary statistics for each of the discrete independent

variables for the entire sample. The data show that the percentage of firms that are followed by analysts in the reporting group is higher than that percentage in the nonreporting group. In addition, the number of firms that have good news (measured as the difference between the actual EPS for forecast year and the actual for the prior year) in the reporting group is almost equal to that in the nonreporting group.

To examine the shape of the distribution of each continuous independent variable, a five-number-summary was examined. A five-number-summary consists of the smallest observation (X_1), the first quartile (Q1), the median, the third quartile (Q3), and the largest observation (X_n).

Table 6 (panel 3) presents the five-number-summary for the continuous independent variables. As shown in Table 6 (panel 3), the distance from Q1 to the median is not equal to that from the median to Q3. In addition, the distance from X_1 to Q1 is not equal to that from Q3 to X_n. Moreover, the mean and the median of each variable are not equal. These results show that the distributions of the variables are not symmetrical. This non-normality observation was confirmed with a Kolmogorov D test. For all variables the D statistic is significant at the level of 0.01.

Table 7 provides summary statistics for the independent variables for the subset of 176 forecasts issued by firms followed by analysts. In Table 7, good news is measured as the

Table 6

Summary Statistics of Independent Variables
for 234 Forecast Firms and Comparison Firms

Panel 1. Continuous Independent Variables

	Reporting Firms		Nonreporting Firms	
Variables	Mean	Standard Deviation	Mean	Standard Deviation
ECH	.447	.598	.099	.089
CCH	.126	.173	.019	.039
MOW	.092	.112	.251	.166

Panel 2. Discrete Independent Variables

	Reporting Firms		Nonreporting Firms	
Variables	Firms	%	Firms	%
Followed	176	75	130	56
Good News	161	70	152	65

Table 6 (continued)

Panel 3. Five-number-summary for continuous independent variables

Variables	Median		Q1[c]		Q3[d]		Min (X_1)		Max (X_n)		Kolmogorov D Statistic
	F[a]	NF[b]	F	NF	F	NF	F	NF	F	NF	
ECH	.27	.07	.16	.04	.50	.13	.02	0	5.6	.7	.25 (.01)
CCH	.08	0	.02	0	.16	.02	0	0	1.2	.25	.23 (.01)
MOW	.05	.23	.02	.11	.11	.35	0	0	.7	.76	.21 (.01)

ECH - percentage change in earnings as described previously.

CCH - percentage change in capital as described previously.

MOW - shared owned by officers and directors/total outstanding shares.

Good News - Actual EPS for forecast year is greater than actual EPS in the previous year.

a. Firms that disclosed earnings forecasts.

b. Firms that did not disclose earnings forecasts.

c. The first quartile.

d. The third quartile.

The probability is between ( ).

difference between the analyst's forecast and the actual EPS for the previous year. The results show that firms that report their forecasts have a higher mean value for the AFE than firms that do not report their forecasts. For other variables, the results for the subset sample are almost the same as for the entire sample. Table 7 (panel 3) contains the five-number-summary for the continuous independent variables. Through an examination of the distance from Q1 to the median and from the median to Q3 and from X_1 to Q1 and also from Q3 to X_n for each variable, the results show that the distribution of the variables are not symmetrical. This non-normality observation was confirmed with a Kolmogorov D test. These results are the same as the results for the entire sample.

In sum, the results of the five-number-summary and Kolmogorov D test suggest that the continuous independent variables are not symmetrically distributed, both for the entire sample and the subset sample.

Univariate as well as multivariate tests were used to assess the statistical significance of the differences between the two groups in each sample.

Univariate Tests

1. Univariate Tests for Discrete Independent Variables

1.1 Good news/ bad news

For the entire sample the news was considered good if the actual EPS for the forecast year is greater than the actual EPS

Table 7

Summary Statistics of Independent Variables for 176 Forecast Firms and Comparison Firms with Analysts' Forecasts

Panel 1. Continuous Independent Variables

	Reporting Firms		Nonreporting Firms	
Variables	Mean	Standard Deviation	Mean	Standard Deviation
AFE	.561	.824	.120	.121
ECH	.435	.647	.103	.093
CCH	.139	.172	.026	.046
MOW	.087	.111	.178	.130

Panel 2. Discrete Independent Variables

	Reporting Firms		Nonreporting Firms	
Variables	Firms	%	Firms	%
Good News	149	85	117	90

Table 7 (continued)

Panel 3. Five-number-summary for continuous independent variables

Variables	Median		Q1[c]		Q3[d]		Min (X_1)		Max (X_n)		Kolmogorov D Statistic
	F[a]	NF[b]	F	NF	F	NF	F	NF	F	NF	
AFE	.21	.08	.07	.05	.78	.16	0	0	6.31	.8	.25 (.01)
ECH	.25	.08	.15	.04	.41	.14	.03	.01	5.6	.7	.27 (.01)
CCH	.10	0	.03	0	.18	.03	0	0	1.0	.25	.21 (.01)
MOW	.05	.16	.01	.10	.11	.25	0	0	.7	.65	.22 (.01)

ECH, CCH, and MOW are as defined in Table 6.

AFE - percentage of analyst's forecast error as described previously

Good News is when the analyst's forecast is greater than actual EPS in the previous year.

a, b, c, and d are as defined in Table 6.

in the previous year. For the subset sample of 176 forecasts and comparison firms with analysts' forecasts, the news was considered good if the analyst's forecast is greater than the previous year's actual EPS. A chi-square test was used to test whether a significant difference exists between the observed and the expected frequencies. The chi-square with one degree of freedom was 1.803, which is insignificant. The results show that firms having good news are not more likely to report earnings forecasts than firms having bad news.

1.2 Firms followed or not followed by analysts

It was hypothesized that firms which are not followed by analysts have more incentive to report their own earnings forecasts than firms that are followed by analysts. For the entire sample, FNF was given a value of one for a firm that is not followed by analysts and a value of zero for a firm that is followed. The chi-square with one degree of freedom was 2.208, which is insignificant.

The results do not support the hypothesis that firms which are not followed by analysts are more likely to report their forecasts than firms that are followed by analysts.

2. Univariate Test for the Continuous Independent Variables

Since the results of the five-number-summary as well as the Kolmogorov D statistic provide evidence of the lack of symmetry in the distribution of the variables, the non-parametric Mann-Whitney U test was used to compare each continuous independent

variable for firms that reported their forecasts and those that did not report them.

2.1 Analysts' forecast errors

Ajinkya and Gift (1984) found that managements issue forecasts when analysts' forecasts are in error. The current study expectes that the larger the analysts' forecast errors, the more likely that firms would report their forecasts.

Table 8 shows that the mean rank of analysts' forecast errors for firms that reported their forecasts is larger than for firms which did not report their forecasts. Using the Mann-Whitney U test, the probability that the observed results could have occurred by chance is less than .001.

2.2 Changes in earnings

It was argued that managements would be more inclined to release forecasts related to large earnings changes. It was assumed that the importance of the message may motivate management to release forecasts. Therefore, firms that have large changes in earnings are more likely to report forecasts than firms that have small changes.

As shown in Table 8 (Panels 1 and 2) the mean rank of changes in earnings for firms that reported their forecasts is larger than for firms which did not report their forecasts. The significance level is .001 for the Mann-Whitney U test. This result supports the hypothesized relationship between percentage changes in earnings and management's decision to release its

earnings forecast.

2.3 Capital changes

Lees (1981) reported that management forecasts can assist firms in raising new capital. One of the hypotheses of this study is that the larger a firm's increases in capital, the more likely the firm is to report an earnings forecast.

As shown in Table 8 (Panels 1 and 2) the mean rank of capital changes for firms that reported their forecasts is larger than for firms which did not report their forecasts. The significance level is .001 for the Mann-Whitney U test. This result supports the hypothesized relationship between capital increases and management's decision to report its earnings forecast.

2.4 Management ownership

It was hypothesized that firms are more likely to report forecasts when insider stockholdings are low than when managers and directors own large portions of the firm's stock.

The results reported in Table 8 (Panels 1 and 2) show that the mean rank of management ownership is smaller for firms which reported their forecasts than for firms which did not report their forecasts. The significance level for the Mann-Whitney U test suggests that the percentage of shares owned by management seems to be an important determinant of the firm's decision to disclose its earnings forecast.

Table 8

Results of the Non-parametric Test

Panel 1. For 176 Forecast Firms and Comparison Firms with Analysts' Forecasts

Variables*	Forecast Mean Rank	Nonforecast Mean Rank	Z-score	Level of significance
AFE	180.33	117.17	6.18	.001
ECH	199.63	91.05	10.62	.001
CCH	191.89	101.52	9.07	.001
MOW	120.55	198.11	7.60	.001

Panel 2. For 234 Forecast Firms and Comparison Firms

Variables*	Forecast Mean Rank	Nonforecast Mean Rank	Z-score	Level of significance
ECH	322.70	146.30	14.11	.001
CCH	304.77	164.23	11.79	.001
MOW	161.26	207.74	11.72	.001

* Variables are as defined previously.

Summary of the Results of the Univariate Tests

The results of the univariate tests reported in this study support the hypothesized relationships between the AFE, ECH, CCH and MOW variables and the firm's decision to report its earnings forecast. On the other hand, the results do not support the hypothesized relationship between either the followed by analysts or not, or the good news variables, and the firm's decision to disclose its earnings forecast.

In addition to the above univariate tests, the F test was used to test the equality of the group means of the continuous independent variables. The F values are significant at the .001 level for the AFE, ECH, CCH and MOW variables. This result shows that the means of continuous independent variables for forecast firms are not equal to those for nonforecast firms.

To find out which variables caused the rejection of the equality of group means hypothesis, the univariate t-statistics of the independent variables were examined. The results indicate that analysts' forecast errors, changes in earnings and capital changes have positive and significant t values at the .01 level. This result supports the argument that firms having large analysts' errors, large changes in earnings and large increases in capital are more likely to report their forecasts than firms having small analysts' forecast errors, small changes in earnings and no increase in capital. The t-statistic for management ownership is negative and significant at the .01 level. This

supports the argument that firms having low insider stockholdings are more likely to report their forecasts than firms having a large percentage of stock owned by management. In summary, these results are consistent with those of the Mann-Whitney U tests.

Multivariate Tests

Multivariate tests have been widely used to determine the impact of various independent variables on the decisions that managements make. It is expected that better explanations may be found by combining the independent variables in a multivariate model. Moreover, multivariate tests were used as a check on the results of the univariate tests. The univariate tests may be misleading if the independent variables are highly correlated. Accordingly, the correlations among the independent variables were examined.

As reported in Table 9 (Panel 1) the correlation coefficient that relates analysts' forecast errors and earnings changes is 0.238. As expected, analysts tend to have increased difficulty in forecasting when earnings changes are large. However, the correlation is small, which suggests that analysts may forecast a large earnings change that fails to materialize. In addition, the positive correlation suggests that failure to predict the larger earnings changes is more common. The correlation coefficient relating earnings changes and capital changes is 0.282. This suggests that growing firms require additional

capital to finance the growth. The significance of these correlations was confirmed with the Spearman Correlation test. The Spearman Rank Correlation between analysts' forecast errors and earnings changes is 0.458 and between earnings changes and capital changes is 0.394. Both correlations are significant at the .001 level.

Table 9 (panel 2) presents the cross-correlations between the followed by analysts or not variable and the other variables (except AFE) previously reported in panel 1 (Table 9). The correlation coefficient relating the followed or not and management ownership variables is -0.407. This correlation seems reasonable, since high inside ownership firms are less likely to be followed by analysts than low inside ownership firms. Earnings changes are also highly correlated with capital changes with a correlation coefficient of 0.364.

In the next section the results of the probit analysis and discriminant analysis are reported.

1. The Probit Analysis Results

Probit analysis was used to examine the joint ability of the independent variables discussed previously to explain the report/nonreport choice and the long/short forecast horizon choice.

1.1 Management Forecast Reporting Choice

The forecast reporting choice was tested using probit analysis for the entire sample and for the subset sample.

Table 9

Correlation Matrix of Independent Variables

Panel 1. For 176 Forecast Firms and Comparison Firms with Analysts' Forecasts					
Variables *	AFE	ECH	CCH	MOW	G/B
AFE	1.000	0.238	0.079	-0.108	0.127
ECH		1.000	0.282	-0.176	0.020
CCH			1.000	-0.071	0.088
MOW				1.000	-0.070
G/B					1.000
Panel 2. For 234 Forecast Firms and Comparison Firms					
Variables *	FNF	ECH	CCH	MOW	G/B
FNF	1.000	0.059	0.137	-0.407	0.031
ECH		1.000	0.364	-0.213	0.069
CCH			1.000	-0.136	0.156
MOW				1.000	-0.113
G/B					1.000

* Variables are as defined previously.

Table 10 contains the probit model results for the entire sample. The results indicate that the signs of the coefficients of all the independent variables (except FNF) are as predicted. The coefficient of earnings changes is significant at the .001 level. This is consistent with the argument that large changes in earnings motivate managements to release earnings forecasts. The coefficient associated with capital changes is significant at the 0.001 level. This is consistent with the argument that firms which raise new capital are more likely to report their forecasts than firms that do not raise new capital. The relationship between management ownership and the decision to report forecasts is significant at the .001 level. This supports the argument that when insider stockholdings are low, firms are likelier to report their forecasts than when insider stockholdings are large. The coefficient associated with good news is insignificant. This result is inconsistent with the argument that firms which have good news are more likely to report their forecasts than firms that have bad news. The sign of the coefficient for the followed/not followed by analysts variable is negative. Although the study expectes that firms which are not followed by analysts would be more inclined to release their earnings forecasts, resulting in a positive correlation, the results indicated that followed/not followed variable is not an important variable for the management's decision to report its forecast.

Table 10

Probit Analysis of Forecast Reporting Model
for 234 Forecast Firms and Comparison Firms

Adjusted R^2	92.51 percent				
Percent of Cases Predicted Correctly	86.97 percent				
Chi-square statistic (5 d.f.)	344.20 (.001 significance)				
Independent Variables*	**FNF**	**ECH**	**CCH**	**MOW**	**Good** News**
Expected sign of Independent Variables	POS	POS	POS	NEG	POS
Maximum Likelihood Estimate	-0.093	6.069	7.300	-4.063	0.016
t-statistic	-0.477	8.217	5.178	-6.398	0.090
Significance level	___	.001	.001	.001	___

* Variables are as defined previously.
** Good news is $EPS_t > EPS_{t-1}$

To test the overall model, the log of the likelihood ratio is multiplied by -2 to produce a statistic that follows, approximately, a chi-square distribution with k-1 degree of freedom. The chi-square statistic of 344.20 with five degrees of freedom is significant at the .001 level. The percentage of variance explained by the model (adjusted R-square) is 92.51 percent. The model correctly classifies 86.97 percent of the cases. The accuracy of the probit model classification was compared to the accuracy of the best naive model using a standard test of proportions. This test reveals that the classification results are significant at the .05 level.

Table 11 shows the probit model results for the subset sample. The signs of the coefficients of all the independent variables are as predicted. The coefficient associated with analysts' forecast errors is significant at the .001 level. This supports the previous findings of Ajinkya and Gift (1984) that a management reports a forecast to correct an analyst's inaccurate forecast. The coefficients associated with earnings changes, capital changes and management ownership are significant at the 0.001 level. The coefficient associated with the good news variable is insignificant.

To test the overall model, the percentage of variance explained by the model (adjusted R-square) is 92.60 percent. The model correctly classifies 84.96 percent of the cases. The accuracy of the probit model classification was compared to the

Table 11

Probit Analysis of Forecast Reporting Model
for 176 Forecast Firms and Comparison Firms
with Analysts' Forecasts

Adjusted R^2	92.60 percent				
Percent of Cases Predicted Correctly	84.96 percent				
Chi-square statistic (5 d.f.)	209.56 (.001 significance)				
Independent Variables*	**AFE**	**ECH**	**CCH**	**MOW**	**Good** News**
Expected sign of Independent Variables	POS	POS	POS	NEG	POS
Maximum Likelihood Estimate	2.321	4.110	6.998	-3.362	0.047
t-statistic	4.311	4.681	3.450	-4.173	0.196
Significance level	.001	.001	.001	.001	___

* Variables are as defined previously.
** Good news is analysts' forecast > EPS_{t-1}.

accuracy of the best naive model using a standard test of proportions. This test reveals that the classification results are significant at the .05 level. The chi-square statistic of 209.56 with five degrees of freedom is significant at the .001 level.

In general, the results of the probit tests support the univariate findings. As expected, analysts' forecast errors, earnings changes and capital changes are positively and significantly associated with the firm's decision to report its earnings forecast. In addition, management ownership is negatively and significantly associated with such a decision. The sign of the good news variable is in the same direction as expected but it is insignificant in making such a decision. The sign of followed/not followed variable is in the opposite direction. However, it is also insignificant.

To assess the impact of the correlated independent variables on the results, additional tests were run without including the correlated variables together in the same test. Tables 12 and 13 report the results of these tests.

Table 12 presents the results of the two runs for the subset sample. In the first run the analysts' forecast errors variable was omitted; then in the second run the earnings change variable was omitted, in order to examine the effect of the high cross correlations shown in Table 9 (panel 1). The results of the first run show that the coefficient of earnings changes, the

Table 12

Probit Analysis of Forecast Reporting Model
for 176 Forecast Firms and Comparison Firms
with Analysts' Forecasts

First Run:				
R^2 Adjusted	92.49 percent			
Percent of Cases Predicted Correctly	86.33 percent			
Chi-square statistic (4 d.f.)	343.97 (.001 significance)			
Independent Variables*	ECH	CCH	MOW	Good News
Expected sign of Independent Variables	POS	POS	NEG	POS
Maximum Likelihood Estimate	6.046	7.387	-4.157	0.038
t-statistic	8.194	5.273	-6.890	0.080
Significance level	.001	.001	.001	___
Second Run:				
R^2 Adjusted	81.84 percent			
Percent of Cases Predicted Correctly	86.98 percent			
Chi-square statistic (4 d.f.)	230.47 (.001 significance)			
Independent Variables*	AFE	CCH	MOW	Good News
Expected sign of Independent Variables	POS	POS	NEG	POS
Maximum Likelihood Estimate	7.295	10.075	-4.409	0.025
t-statistic	5.170	7.851	-6.950	0.170
Significance level	.001	.001	.001	___

* Variables are defined as in Table 11.

coefficient of management ownership and the coefficient of capital changes became more significant than when analysts' forecast errors variable was in the test. However, the coefficient of good news variable is still as insignificant as when the analysts' forecast errors variable was in the test. In the second run, the earnings change variable was omitted. The results show that the coefficient of good news and the coefficient of MOW are almost the same as when the earnings change variable was in the test. However, the coefficients of both analysts' forecast errors and capital changes became more significant than when the earnings change variable was in the test. In addition, the significance of the overall model, as measured by the Chi-square value and the percent correctly classified, were improved in both the first and second runs.

Table 13 shows the results of the two runs for the entire sample. The test was first run without the capital changes variable. The results show that the coefficient of the earnings change variable and the coefficient of the management ownership variable became more significant than when the capital changes variable was in the test. However, the followed/not followed by analysts and the good news variables are still insignificant. In the second run, the management ownership variable was dropped from the test. The results show that the coefficient of the followed/not followed by analysts variable became significant at the 0.05 level. This result is to be expected since management

Table 13

Probit Analysis of Forecast Reporting Model
for 234 Forecast Firms and Comparison Firms

First Run:				
R^2 Adjusted	92.25 percent			
Percent of Cases Predicted Correctly	85.26 percent			
Chi-square statistic (4 d.f.)	302.92 (.001 significance)			
Independent Variables*	FNF	ECH	MOW	Good News
Expected sign of Independent Variables	POS	POS	NEG	POS
Maximum Likelihood Estimate	-0.273	6.972	-4.237	0.179
t-statistic	-1.506	9.675	-7.109	1.099
Significance level	___	.001	.001	___
Second Run:				
R^2 Adjusted	92.11 percent			
Percent of Cases Predicted Correctly	83.55 percent			
Chi-square statistic (4 d.f.)	296.69 (.001 significance)			
Independent Variables*	FNF	ECH	CCH	Good News
Expected sign of Independent Variables	POS	POS	POS	POS
Maximum Likelihood Estimate	-0.535	6.113	8.126	0.085
t-statistic	-3.197	8.968	6.152	0.522
Significance level	.050	.001	.001	___

* Independent variables are defined as in Table 10.

ownership and followed or not followed are highly correlated. In addition, the coefficients of earnings changes, capital changes and good news have the same level of significance as when the management ownership variable was in the test. However, the significance of the overall model, as measured by the Chi-square value and the percent correctly classified, was less in both the first and second runs than when all variables were included.

In general, the results of the probit analysis for management forecast reporting choice suggest that firms seem to issue forecasts when analysts' forecast errors are large, earnings changes are substantial, capital increases are taking place and outsiders own a large percentage of the firm's stocks.

1.2 Forecast Horizon Choice

As discussed previously, firms differ in the choice of their forecast horizon. Some firms report their forecasts at the beginning (long horizon) of their fiscal years while other firms report their forecasts late (short horizon) in their fiscal years.

Probit analysis was used to test the ability of the independent variables discussed previously to explain the forecast horizon choice for both the entire sample and the subset sample. Two runs were performed for each sample. In the first run, the dependent variable (the forecast horizon) takes a value of 1 for a forecast report in the first six months of the fiscal year and 0 for a forecast report in the second six months

of the fiscal year. In the second run, the dependent variable (the forecast horizon) takes a value of 1 for a forecast report in the first three quarters of the fiscal year and 0 for a forecast report in the last quarter of the fiscal year.

Table 14 shows the results of the probit analysis (two runs) for the entire sample. The good news variable is measured as the difference between the management forecast and the actual EPS for the prior year. The results of the first run indicate that the signs of all coefficients are as predicted. Both the followed/not followed and the good news variables are significant at the .05 level. The Chi-square statistic of 209.25 with five degrees of freedom is significant at .001 level. The percentage of variance explained by the model (the adjusted R-square) is 25.49 percent. The model correctly classifies 38.45 percent of the cases. The results suggest that firms which are followed by analysts and firms which have good news report their forecasts over longer horizons than firms that are not followed by analysts and firms which have bad news. The other three variables in the model do not contribute to the ability of the model to explain the forecast horizon choice. In the second run, the results indicate that the signs of all coefficients are as predicted and the coefficient of the good news variable is significant at the 0.05 level. The Chi-square statistic of 202.05 with five degrees of freedom is significant at the .001 level. The percentage of variance explained by the model (adjusted R-square) is 20.55

Table 14

Probit Analysis of Forecast Horizon Choice Model
for 234 Forecast Firms

First Run:					
Adjusted R^2	25.49 percent				
Percent of Cases Predicted Correctly	38.45 percent				
Chi-square statistic (5 d.f.)	209.25 (.001 significance)				
Independent Variables	FNF	ECH	CCH	MOW	Good * News
Expected sign of Independent Variables	POS	POS	POS	NEG	POS
Maximum Likelihood Estimate	0.318	0.070	0.554	-0.032	0.452
t-statistic	1.645	0.489	-0.696	-0.042	1.818
Significance level	.05	___	___	___	.05
Second Run:					
Adjusted R^2	20.55 percent				
Percent of Cases Predicted Correctly	35.25 percent				
Chi-square statistic (5 d.f.)	202.05 (.001 significance)				
Independent Variables	FNF	ECH	CCH	MOW	Good * News
Expected sign of Independent Variables	POS	POS	POS	NEG	POS
Maximum Likelihood Estimate	0.118	0.094	0.356	-0.051	0.338
t-statistic	0.593	0.659	0.657	-0.064	1.832
Significance level	___	___	___	___	.05

* Good news is management forecast > EPS_{t-1}.

percent. The model correctly classifies 35.25 percent of the cases. The results of this test suggest that good news forecasts are reported in the first nine months of the fiscal year and bad news forecasts are reported in the last quarter of the fiscal year.

Table 15 shows the results of the probit analysis (two runs) for 176 forecast firms with analysts' forecasts. The good news variable is measured as the difference between the management forecast and the currently available analyst's forecast. The results of the first run indicate that the signs of coefficients are as predicted and all variables (except CCH) are insignificant. The coefficient of capital changes is significant at the .05 level. The Chi-square statistic of 211.05 with five degrees of freedom is significant at the .001 level. The percentage of variance explained by the model (the adjusted R-square) is 28.15 percent. The model correctly classifies only 43.25 percent of the cases. The results of the first run support the argument that firms which plan to issue large amounts of new capital, release forecasts earlier than firms which plan to issue small amounts of new capital. The results of the second run are the same as the results of the first run. The Chi-square statistic of 203.11 with five degrees of freedom is significant at the .001 level. The percentage of variance explained by the model (the adjusted R-square) is 38.50 percent. The model correctly classifies only 64.09 percent of the cases. The good

Table 15

Probit Analysis of Forecast Horizon Choice Model
for 176 Forecast Firms
with Analysts' Forecasts

First Run:					
R^2 Adjusted			28.15 percent		
Percent of Cases Predicted Correctly			43.25 percent		
Chi-square statistic (5 d.f.)			211.05 (.001 significance)		
Independent Variables	AFE	ECH	CCH	MOW	Good * News
Expected sign of Independent Variables	POS	POS	POS	NEG	POS
Maximum Likelihood Estimate	0.001	0.072	1.232	-0.549	0.072
t-statistic	0.010	0.471	1.736	-0.609	0.349
Significance level	___	___	.05	___	___
Second Run:					
R^2 Adjusted			38.50 percent		
Percent of Cases Predicted Correctly			64.09 percent		
Chi-square statistic (5 d.f.)			203.11 (.001 significance)		
Independent Variables	AFE	ECH	CCH	MOW	Good * News
Expected sign of Independent Variables	POS	POS	POS	NEG	POS
Maximum Likelihood Estimate	0.019	0.056	0.820	-0.374	0.307
t-statistic	0.149	0.363	1.274	-0.411	1.156
Significance level	___	___	.06	___	___

* Good news is management forecast > analyst's forecast.

news variable measured as the difference between management forecast and analyst's forecast becomes insignificant. In general, the results of the probit analysis for forecast horizon choice suggest that analysts' forecast errors, earnings changes and management ownership variables are not associated with the forecast horizon choice. However, the followed by analysts or not, good news and capital changes variables are important in the forecast horizon decision.

2. The Discriminant Analysis Results

The study also conducted a multiple discriminant analysis to test the predictive power of the variables considered in the forecast reporting decision and forecast horizon decision.

2.1 Management forecast reporting choice

The forecast reporting choice was tested using multiple discriminant analysis. This model was used first to classify observations and then to make predictions for both the entire and the subset samples.

Table 16 contains the classification matrix for the entire sample of 234 forecast firms and the comparison firms. The results indicate that 206 out of 234 forecast firms were correctly classified, while of the 234 nonforecast firms, there were 186 firms correctly classified.

In general, the results reveal that the discriminant function correctly classified 88 percent of the reporting firms and 79.5 percent of the nonreporting firms. The overall

Table 16

Multiple Discriminant Analysis
of Forecast Reporting Choice Model
for 234 Forecast Firms and Comparison Firms

Standard Multiple Discriminant Analysis:

		Classification	
Group	Percent correct	Reporting	Nonreporting
Reporting	88.0	206	28
Nonreporting	79.5	48	186
Total	____	254	214
Average	83.8	____	____

Lachenbruch Holdout Sample Technique:

		Classification	
Group	Percent correct	Reporting	Nonreporting
Reporting	88.0	206	28
Nonreporting	79.9	47	187
Total	____	253	215
Average	83.8	____	____

classification rate is 83.8 percent.

To test the predictive accuracy of the multiple discriminant function, the Lachenbruch jackknife holdout sample procedure was applied. The jackknife technique avoids the problem of testing the model on the same data used to fit the model. The results reported in Table 16 reveal that this approach correctly predicted 88 percent of the forecast firms and 79.9 percent of the nonforecast firms for an overall prediction rate of 83.8 percent. The jackknife model predictions exceeded those achieved by the best naive model at the 0.05 significance level.

Table 17 reports the results of the multiple discriminant analysis for the subset sample of 176 forecast firms and the comparison firms with analysts' forecasts. The results reveal that the discriminant function correctly classified 79 percent of the reporting firms and 86.9 percent of the nonreporting firms. The overall classification rate is 82.4 percent. Then, the Lachenbruch jackknife holdout sample procedure was applied. The results show that this approach correctly predicted 80.6 percent of the forecast reporting firms and 88.4 percent of the nonreporting firms for an overall prediction rate of 84.0 percent. The jackknife model prediction exceeded those achieved by the best naive model at 0.05 significance level.

Table 17

Multiple Discriminant Analysis of Forecast Reporting Choice Model for 176 Forecast Firms and Comparison Firms with Analysts' Forecasts

Standard Multiple Discriminant Analysis:

		Classification	
Group	Percent correct	Reporting	Nonreporting
Reporting	79.0	139	37
Nonreporting	86.9	17	113
Total	____	156	150
Average	82.4	____	____

Lachenbruch Holdout Sample Technique:

		Classification	
Group	Percent correct	Reporting	Nonreporting
Reporting	80.6	142	34
Nonreporting	88.4	15	115
Total	____	157	149
Average	84.0	____	____

2.2 Forecast Horizon Choice

The multiple discriminant analysis was used to test the predictive power of the variables considered in the forecast horizon choice for both the entire and the subset samples.

Two runs were performed for each sample. In the first run, the dependent variable (forecast horizon) takes the value of 1 for a forecast issued early (first six months of the fiscal year) and a value of 0 for a forecast issued late (second six months of the fiscal year). In the second run, the dependent variable takes the value of 1 for a forecast issued in the first three quarters of the fiscal year and a value of 0 for a forecast issued in the last quarter of the fiscal year.

Table 18 contains the results of the first run for 234 forecast firms. The results indicate that the discriminant function correctly classified 59.6 percent of the early forecasts and 59.2 percent of the late forecasts. The overall classification rate is 59.4 percent.

The Lachenbruch jackknife holdout sample procedure was used to test the predictive accuracy of the discriminant function. The jackknife correctly predicted 62.4 percent of the early forecasts and 60.7 percent of the late forecasts for an overall prediction rate of 61.1 percent. The jackknife model predictions exceeded those achieved by the best naive model at the 0.05 significance level.

Table 19 presents the results of the first run for 176

Table 18

Multiple Discriminant Analysis
of Forecast Horizon Choice Model
for 234 Forecast Firms

Standard Multiple Discriminant Analysis:

Group	Percent Correct	Classification	
		First 6 months (Early)	Second 6 months (Late)
First 6 months (Early)	59.6	62	42
Second 6 months (Late)	59.2	53	77
Total	——	115	119
Average	59.4	——	——

Lachenbruch Holdout Sample Technique

Group	Percent Correct	Classification	
		First 6 months (Early)	Second 6 months (Late)
First 6 months (Early)	62.4	65	39
Second 6 months (Late)	60.7	51	79
Total	——	116	118
Average	61.1	——	——

forecast firms with analysts' forecasts. The results indicate that the discriminant function correctly classified 70.2 percent of the early forecasts and 44.6 percent of the late forecasts. The overall classification rate is 56.8 percent. The jackknife correctly predicted 73.8 percent of the early forecasts and 47.8 percent of the late forecasts for an overall prediction rate of 59.6 percent. The jackknife model predictions exceeded those achieved by the best naive model at the 0.05 significance level.

Tables 20 and 21 show the results of the second run for the entire sample and the subset sample respectively. The results indicate that the overall classification rates became higher than they were in Tables 18 and 19 for both the entire sample and the subset sample. Using the jackknife procedure, the overall classification rates were improved for both the entire and the subset samples. The jackknife model predictions exceeded those achieved by the best naive model at the .05 level of significance.

In general, the results of both univariate and multivariate tests support the hypothesized effect of analysts' forecast errors, earnings changes, capital increases and management ownership on the decision to report forecasts. The followed/not followed by analysts and good news variables were not important in this decision. However, the good news, followed/not followed and capital changes variables were important in the choice of the forecast horizon.

Table 19

Multiple Discriminant Analysis
of Forecast Horizon Choice Model
for 176 Forecast Firms with Analysts' Forecasts

Standard Multiple Discriminant Analysis:

Group	Percent Correct	Classification	
		First 6 months (Early)	Second 6 months (Late)
First 6 months (Early)	70.2	59	25
Second 6 months (Late)	44.6	51	41
Total	——	110	66
Average	56.8	——	——

Lachenbruch Holdout Sample Technique

Group	Percent Correct	Classification	
		First 6 months (Early)	Second 6 months (Late)
First 6 months (Early)	73.8	61	23
Second 6 months (Late)	47.8	48	44
Total	——	109	67
Average	59.6	——	——

Table 20

Multiple Discriminant Analysis
of Forecast Horizon Choice Model
for 234 Forecast Firms

Standard Multiple Discriminant Analysis:

Group	Percent Correct	Classification	
		First 3 quarters (Early)	Last quarter (Late)
First 3 quarters (Early)	60.8	98	63
Last quarter (Late)	60.3	30	43
Total	——	128	106
Average	60.0	——	——

Lachenbruch Holdout Sample Technique

Group	Percent Correct	Classification	
		First 3 quarters (Early)	Last quarter (Late)
First 3 quarters (Early)	62.7	100	61
Last quarter (Late)	61.6	28	45
Total	——	127	107
Average	61.9	——	——

Table 21

Multiple Discriminant Analysis
of Forecast Horizon Choice Model
for 176 Forecast Firms with Analysts' Forecasts

Standard Multiple Discriminant Analysis:

Group	Percent Correct	Classification	
		First 3 quarters (Early)	Last quarter (Late)
First 3 quarters (Early)	71.2	89	36
Last quarter (Late)	49.0	26	25
Total	——	115	61
Average	64.8	——	——

Lachenbruch Holdout Sample Technique

Group	Percent Correct	Classification	
		First 3 quarters (Early)	Last quarter (Late)
First 3 quarters (Early)	72.0	90	35
Last quarter (Late)	54.0	23	27
Total	——	113	62
Average	66.8	——	——

CHAPTER VI

ANALYSTS' FORECAST ACCURACY

Introduction

Ajinkya and Gift (1984) examined the possibility that firms normally communicate expectations via financial analysts and that managements release forecasts when analysts' forecasts are believed to be erroneous. Their evidence is consistent with this notion and suggests that the analyst's forecast error may be a major factor motivating management to disclose forecasts. Their tests, however, examined only forecast firms and forecast years.

In the previous chapters of this study, the evidence confirms that firms seem more likely to issue forecasts when analysts' forecast errors are large. Management apparently considers forecasts to be especially necessary when it believes that analysts' forecasts are incorrect. However, the tests analyzed earlier in the study were applied only for the forecast years. As an extension of the previous tests, the study used an alternative methodology to test the importance of the analyst's forecast error variable.

Hypotheses

From the previous findings, it is expected that analysts' forecast errors are larger in the years when managements issue their forecasts than in the years when managements do not issue

their forecasts (using the same analyst's forecast horizon). In addition, it is expected that analysts' forecast errors for forecast firms are larger than that for nonforecast firms (using the same forecast horizon). Thus, the following hypotheses may be formulated:

H1: The mean of analysts' forecast errors in management forecast years is higher than in years preceding and following management forecasts.

H2: The mean of analysts' forecast errors in management forecast years is higher than in the corresponding years for nonforecast firms.

H3: The mean of analysts' forecast errors for forecast firms equals that for nonforecast firms in years preceding and following management forecasts.

Sample Selection

The forecast firms and nonforecast firms' samples which were used in the previous part of this study were also used for this chapter. The following criteria were imposed:

1. The firm is followed by analysts in (EFCML or VL) in the year of the management forecast and in the prior and the following years to the year of management forecast.

2. Actual EPS data are available for the year of the management forecast and for the prior and the following years.

Through the application of the above criteria to the forecast firms and the nonforecast firms, the final sample was composed of 176 forecast firms with analysts' forecasts and 176 nonforecast firms with analysts' forecasts.

For each firm in the sample, the study collected analyst's forecasts of EPS and actual EPS for the years of the management forecasts or the corresponding years and the previous and following years.

Definition of Variables

In order to compare analysts' forecast errors in the year of management forecasts to analysts' forecast errors in the prior and following years and also to compare the analysts' forecast errors for forecast firms to that for nonforecast firms, the cross-sectional average of analysts' forecast errors was used. The cross-sectional averages were computed for the years of the management forecasts or the corresponding years, and for the years preceding and following management forecast years (or corresponding years), for both forecast firms and nonforecast firms.

The analyst's forecast error is defined as the absolute percent difference between the forecast and the actual EPS. That is,

$$AFE_{it} = |(AF_{it} - E_{it}) / E_{it}|$$

Where for each firm:

AFE_{it} is the analyst's forecast error as discussed previously,

AF_{it} is the analyst's forecast issued within two weeks prior to the management forecast disclosure,

E_{it} is the actual annual EPS at time t for firm i.

Statistical Analysis

The purpose of the current chapter is to compare the relative accuracy of analysts' forecasts in the year of management forecast with their accuracy in the years before and after the management forecast. In addition, this chapter compares analysts' forecast errors for forecast firms to analysts' forecast errors for nonforecast firms.

Both parametric and non-parametric tests were used to assess the accuracy of analysts' forecasts. The first test is a parametric t-test which requires that the observations be a random sample and that they be selected from normally distributed populations with equal variances. The t-test was used to test the equality between the mean of analysts' forecast errors in the year of management forecast and that in the years preceding and following the management forecast. In addition, it was used to test the equality between the mean of analysts' forecast errors for forecast firms and that for nonforecast firms.

The second test is a non-parametric Mann-Whitney U test also known as the Wilcoxon test. It does not require assumptions about the shape of the underlying distributions. It tests the hypothesis that two independent samples come from populations having the same distribution. The form of the distribution need not be specified. The test does not require that the variable be measured on an interval scale; an ordinal scale is sufficient. The statistic for testing whether the two distributions are equal

is the sum of the ranks for each of the two groups. If the two groups have the same distribution, their sample distributions of ranks should be similar. If one of the groups has more than its share of small or large ranks, there is reason to suspect that the two underlying distributions are different.

Empirical Results

Using both parametric and non-parametric tests, two sets of tests were conducted. The first set of tests compared the analysts' forecast errors in the year of management forecast disclosure to the analysts' forecast errors in the year before and in the year following the year of management forecast. For example, if management issued a forecast in 1984, the study compared the mean of analysts' forecast errors for 1984 to those for 1983 and 1985 for forecast firms. The same comparisons were conducted for nonforecast firms using the corresponding year (which resulted from the matching procedure explained previously) instead of the year of management forecast. The second set of tests compared the mean of analysts' forecast errors for forecast firms to that for nonforecast firms in three different years (the year of forecast or corresponding year, the previous year and the following year).

1. Results of the Parametric Test

Table 22 shows the results of the t-test for the first set of tests for forecast firms and nonforecast firms. In Table 22 (panel 1) the results for forecast firms are reported. The results indicate that the mean of analysts' forecast errors for the year of management forecasts is larger than that for the previous year and for the following year. The differences are statistically significant at the .001 level. However, the difference between the mean of analysts' forecast errors for the previous year and for the following year is statistically insignificant. Table 22 (Panel 2) shows the results for nonforecast firms. The results indicate that the means of analysts' forecast errors for the three years are almost the same and the differences are statistically insignificant.

Table 23 contains the results of the t-test for the second set of tests. In Table 23 (panel 1) the results for the year of management forecasts are reported. The results indicate that the mean of analysts' forecast errors for forecast firms is larger than for nonforecast firms. The difference is statistically significant at the .001 level. In Table 23 (Panels 2 and 3) the results for the prior year and the following year are reported. The results indicate that the differences between the two means are statistically insignificant.

Table 22

Analysts' Forecast Errors in Three Different Years
for 176 Forecast Firms and Comparison Firms
A Parametric Test

Panel 1: Forecast Firms				
Year	Statistics Values			
	Mean	Standard Deviation	t-statistic	Significance Level
Forecast Year	0.563	0.828		
Prior Year	0.097	0.129	7.34	0.001
Following Year	0.095	0.094	7.44	0.001
Panel 2: Comparison Firms				
Year	Statistics Values			
	Mean	Standard Deviation	t-statistic	Significance Level
Forecast Year	0.109	0.102		
Prior Year	0.093	0.075	1.03	___
Following Year	0.101	0.070	0.86	___

Table 23

Analysts' Forecast Errors
for Forecast Firms and Comparison Firms
A Parametric Test

Panel 1: Forecast Year or Corresponding Year

	Statistics Values			
	Mean	Standard Deviation	t-statistic	Significance Level
Forecast Firms	0.563	0.828		
Nonforecast Firms	0.110	0.102	7.158	0.001

Panel 2: Prior Year to Forecast or Corresponding Year

	Statistics Values			
	Mean	Standard Deviation	t-statistic	Significance Level
Forecast Firms	0.097	0.129		
Nonforecast Firms	0.093	0.075	0.381	___

Panel 3: Following Year to Forecast or Corresponding Year

	Statistics Values			
	Mean	Standard Deviation	t-statistic	Significance Level
Forecast Firms	0.095	0.094		
Nonforecast Firms	0.101	0.070	0.589	___

Normality Test

To find out the shape of the distribution of analysts' forecast errors, a five-number-summary was examined. Table 24 provides the five-number-summary for the analysts' forecast errors. Row one represents the distribution of analysts' forecast errors for the year of management forecast for forecast firms. Row two describes the distribution of analysts' forecast errors for the year corresponding to the year of management forecast for nonforecast firms. The third and fourth rows represent the distribution of analysts' forecast errors for forecast firms for the years that precede and follow the year of management forecast respectively. The fifth and the sixth rows contain the distribution of analysts' forecast errors for nonforecast firms for years that precede and follow the year corresponding to management forecast respectively.

As shown in Table 24 for all variables, the distance from Q1 to the median is not equal to that from the median to Q3. In addition, the distance from X_1 to Q1 is not equal to that from Q3 to X_n. Moreover, the mean and the median of each variable are not equal. These results show that the distribution of the variables are not symmetrical. This non-normality observation was confirmed with a Kolmogorov D test. For all variables the D statistic was significant at the .01 level.

Since the results of the five-number-summary as well as the Kolmogorov D test provide evidence of the non-normality of the

Table 24

Five-Number-Summary for Analysts' Forecast Errors

Variables*	Median	Q1[c]	Q3[d]	Min (X_1)	Max (X_n)	Kolmogorov D Statistic
AFEYFF	0.21	0.07	0.78	0	6.31	.25 (.01)
AFECYNF	0.08	0.05	0.16	0	0.80	.18 (.01)
AFEPYF	0.06	0.03	0.11	0	1.00	.24 (.01)
AFEFYF	0.08	0.03	0.12	.01	0.37	.19 (.01)
AFEPYNF	0.07	0.04	0.11	0	0.54	.22 (.01)
AFEFYNF	0.09	0.03	0.13	.01	0.35	.15 (.01)

* Variables are defined as follows:

1. AFEYFF is the mean analysts' forecast errors in the management forecast year for forecast firms.
2. AFECYNF is the mean analysts' forecast errors in the corresponding year for nonforecast firms.
3. AFEPYF is the same as number one but for the year prior to the year of management forecast.
4. AFEFYF is the same as number one but for the year following the year of management forecast.
5. AFEPYNF is the same as number two but for the prior year.
6. AFEFYNF is the same as number two but for the following year.

a. The first quartile.
b. The third quartile.

Probability is between ( ).

distributions of analysts' forecast errors, a parametric t-test for the mean differences is inappropriate.

2. **Results of the Non-Parametric Test**

The non-parametric Mann-Whitney U test was used to assess the significant differences between the means of analysts' forecast errors for the three years for both forecast firms and nonforecast firms. This test has been used previously in accuracy studies [Lorek, McDonald and Patz (1976), Ruland (1978) and Jaggi (1980)]. In addition, this test does not require that analysts' forecast errors and management forecasts be assumed to be independent of each other.

Table 25 shows the comparison between the means of analysts' forecast errors for forecast firms and nonforecast firms for three years. The results reported in Table 25 (panel 1) indicate that the mean rank of analysts' forecast errors for forecast firms is larger than that for nonforecast firms in the management forecast year. This difference is significant at the .001 level. The result supports the argument that analysts' forecast errors for forecast firms are larger than that for nonforecast firms.

Table 25 (panels 2 and 3) reports the results for both forecast and nonforecast firms in the year preceding and the year following the management forecasts. The results indicate that the mean ranks of analysts' forecast errors for forecast firms and nonforecast firms for the prior year and the

Table 25

Analysts' Forecast Errors
for 176 Forecast Firms and Comparison Firms
A Non-parametric Test

Panel 1: Forecast Year or Corresponding Year

	Mean Rank	Statistics Values Z-score	Level of significance
Forecast Firms	180.73		
Nonforecast Firms	117.17	6.18	0.001

Panel 2: Prior Year to Forecast or Corresponding Year

	Mean Rank	Statistics Values Z-score	Level of significance
Forecast Firms	131.46		
Nonforecast Firms	126.70	1.24	___

Panel 3: Following Year to Forecast or Corresponding Year

	Mean Rank	Statistics Values Z-score	Level of significance
Forecast Firms	133.85		
Nonforecast Firms	132.28	1.12	___

following year are almost the same and the differences are statistically insignificant.

Table 26 (panel 1) shows the results of the comparisons between the mean of analysts' forecast errors for forecast year, the prior year and the following year for forecast firms. The results indicate that the mean rank of analysts' forecast errors for the year of the management forecast is larger than for the previous year and for the following year. The differences are statistically significant at the .001 level. In Table 26 (panel 2) the results for nonforecast firms are reported. The results indicate that the mean rank of analysts' forecast errors for the corresponding year is smaller than those for the prior year and the following year. However, the differences between the means are statistically insignificant. In general, the results reported in this table support the argument that analysts' forecasts for the year of the management forecasts are less accurate than for the year preceding and following the year of management forecast. There were no differences in the accuracy of analysts' forecasts for the three years examined for nonforecast firms.

Summary of the Results of Analysts' Forecast Accuracy

Using both parametric and non-parametric tests, the results reported in this chapter support the hypothesis that analysts' forecast errors for the year of management forecasts for forecast firms are larger than those for nonforecast firms. The

Table 26

Analysts' Forecast Errors in Three Different Years
for 176 Forecast Firms and Comparison Firms
A Non-parametric Test

Panel 1: Forecast Firms			
	Mean Rank	Statistics Values Z-score	Level of significance
Forecast Year	180.73		
Prior Year	131.46	8.15	0.001
Following Year	133.85	7.81	0.001
Panel 2: Nonforecast Firms			
	Mean Rank	Statistics Values Z-score	Level of significance
Forecast Year	117.17		
Prior Year	126.70	0.599	___
Following Year	132.28	0.405	___

difference is statistically significant. In addition, the results show that analysts' forecast errors for the year of management forecast are larger and significantly different from the prior and the following years. On the other hand, analysts' forecast errors for the corresponding year are not significantly different from those for the years preceding and following that which corresponds to the year of management forecast.

In general, the results of this chapter support the argument of the previous chapter that managements might issue earnings forecasts when analysts' forecasts are inaccurate.

CHAPTER VII

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Public reporting of earnings forecasts by management is at present voluntary. Some managements publicly report forecasts, but most firms do not release such information. The reluctance to report forecasts persists despite evidence of the relative accuracy of published management forecasts [Ruland (1978) and Jaggi (1980)] and evidence of significant favorable market reaction to these forecast announcements [Patell (1976) and Penman (1980)]. Previous research also reveals that those firms that do release forecasts do so only occasionally [Patell (1976) and Waymire (1984)]. Although a large body of research has been directed toward an understanding of forecasts, the disclosure decision is still not well understood.

Recently, Ajinkya and Gift (1984) tested the possibility that firms release forecasts when analysts' forecasts are incorrect. They found this to be true for both incorrect good news and incorrect bad news. However, since the study was limited to management forecasts that were released immediately after analysts' forecasts were released, there was no way to tell if a causal relationship exists between the two types of

forecasts. Although they observed both good news and bad news, they did not examine the forecast horizon. Good news might have been released early in the year and bad news have been released late in the year, as suggested by Pastena and Ronen (1979).

The major objective of the current study was to develop and test more reasons that motivate managements to disclose earnings forecasts and to choose between long or short forecast horizons. In addition, the study examined the analysts' forecast errors for forecast firms and nonforecast firms for three years.

A sample of 234 forecast firms was compared to a sample of 234 nonforecasts firms. Each of these forecast firms was matched with a nonforecast firm in terms of size of the firm.

Both univariate and multivariate statistical analyses were used to assess the statistical significance of the hypothesized relationships between the reasons (the independent variables) and the management choices (the dependent variables). The results show that firms releasing forecasts tend to have a high percentage of analysts' forecast errors in the forecast year, large earnings changes, low management ownership and large changes in invested capital in the reporting year. High significance levels are observed for all four variables.

On the other hand, whether or not the firms were followed by analysts and whether they had good or bad news do not seem to be particularly relevant to the forecast reporting choice. However, the followed/not followed by analysts and good news variables are

important factors in the choice of the forecast horizon. Earnings changes, management ownership and analysts' forecast errors do not seem to be important in deciding on the forecast horizon.

Examining the analysts' forecast errors for three years, the results indicate that analysts' forecast errors are larger for the year of management forecast than for the year preceding and following the year of management forecast, with a high level of significance. In addition, the results indicate that analysts' forecast errors for forecast firms in the year of management forecast are larger than that for nonforecast firms for the corresponding year. In general, these results support the hypothesis that one of the reasons that managements issue a forecast is to correct analysts' forecasts.

With respect to policy implications, one interpretation is that the status quo may be fairly reasonable from a user's point of view. The evidence suggests that firms tend to issue forecasts when these forecasts are most needed. One exception relates to the study's finding that firms not followed by analysts are not more likely to release forecasts. Other factors being equal, management forecasts would appear to be more important when analysts' forecasts are not available. Possibly, nonfollowed firms do not report forecasts because the demand for information is low (as evidenced by the low analysts interest). Another possibility is that nonfollowed firms do disclose

forecasts that are not reported on the Dow Jones News Service.

The current study contributes to the literature in the following ways:

1. It examined more possible reasons that motivate management to release earnings forecasts. Ajinkya and Gift (1984) examined only one reason, which is inaccuracy of analysts' forecasts. The current study examined six reasons: (a) Firms are not followed by analysts, (b) substantial changes in earnings, (c) percentage of management ownership, (d) errors in analysts' forecasts, (e) obtaining new capital and (f) announcing good news.

2. The current study examined the factors influencing the forecast horizon choice. Ajinkya and Gift (1984) did not examine the forecast horizon choice.

3. All prior studies in this area, except Hassell and Jennings (1986), used the Wall Street Journal Index to collect management forecasts. The current study used the Dow Jones News Retrieval Service (DJNRS) as a source of management earnings forecasts. Hassell and Jennings (1986) found that a significant number (42 of 124) of management forecasts were not reported in the Wall Street Journal Index.

4. This study examined, in greater depth, the reason suggested by Ajinkya and Gift (1984) for the release of management forecasts. This was accomplished by comparing the accuracy of analysts' forecasts for the year of the management

forecast to those for the year prior to and year following the year of management forecast for the same firm. In addition, the study compared the accuracy of analysts' forecasts for forecast firms to the accuracy of analysts' forecasts for nonforecast firms.

5. The current study includes all management forecasts released during the fiscal year from January 1980 through December 1985, not only the ones issued three weeks after analysts' forecasts.

6. The current study was not limited to NYSE firms with December 31 fiscal year-ends, as were most previous studies.

Future research may examine more reasons for forecast disclosure in a particular year. In addition, an interesting extension to this study would be an examination of the independent variables discussed previously for the years following the year of management forecast.

APPENDIX

The appendix shows samples of forecasts which appeared in the Dow Jones News Retrieval Service during the period from January 1980 through December 1985.

DOCUMENT= 291
080129-0267.
STAUFFER CHEMICAL EXPECTS 1980 NET OF $3.13 A SHARE VS $3.-
01/28/80
WALL STREET JOURNAL AND DOW JONES NEWS WIRE (DW)
STF
O
WESTPORT CONN -DJ- STAUFFER CHEMICAL CO EXPECTS 1980 EARNINGS TO BE ABOUT $137 MILLION OR $3.13 A SHARE RELATIVELY FLAT WITH THE ABOUT $136 MILLION OR $3.10 A SHARE

EARNED IN 1979 H BARCLAY MORELY CHAIRMAN TOLD SECURITIES ANALYSTS.

MORLEY SAID STAUFFER CHEMICAL IS 'BASING MOST OF OUR PLANS ON THE FLAT NUMBER' ALTHOUGH HE SAID THAT DEPENDING ON THE ECONOMY EARNINGS COULD RANGE FROM $120 MILLION OR $2.74 A SHARE TO $150 MILLION OR $3.42 A SHARE.

HE SAID THE FLAT EARNINGS FORECAST ASSUMES SALES OF ABOUT $1.75 BILLION COMPARED WITH $1.54 BILLION IN 1979.

STAUFFER CHEMICAL EXPECTS TO SPEND $270 MILLION ON CAPITAL PROJECTS IN 1980 COMPARED WITH $226.7 MILLION SPENT IN 1979 MORLEY SAID.

MORLEY SAID THE AREAS OF STAUFFER CHEMICAL'S BUSINESS EXPECTED TO DO PARTICULARLY WELL THIS YEAR ARE AGRICULTURE CHEMICALS CERTAIN SPECIALTY CHEMICALS AND PARTS OF THE INDUSTRIAL CHEMICAL BUSINESS. IN ADDITION HE SAID THE PLASTICS BUSINESS IS EXPECTED TO REPORT A VERY MUCH SMALLER LOSS IN 1980 THAN IN 1979.

THE STAUFFER OFFICIAL ALSO DISCLOSED FOR THE FIRST TIME THAT A POSSIBLE EUROPEAN DEAL DISCUSSED WITH ANALYSTS LAST YEAR WHICH WAS NEVER CONSUMMATED WAS A COUNTER TRADE AGREEMENT WITH THE SOVIET UNION UNDER WHICH STAUFFER WOULD HAVE SUPPLIED CERTAIN AGRICULTURAL CHEMICAL PRODUCTS. 'WE DON'T KNOW WHY THE DEAL DIDN'T COMPLETE' MORLEY SAID. 'THEY CLAIM THEY'RE STILL INTERESTED AND WANT TO CONTINUE NEGOTIATIONS. WE'RE SKEPTICAL BUT WE WILL KEEP NEGOTIATING ANY TIME THEY WANT.'

MEANWHILE HE SAID THE SOVIETS ARE PURCHASING SOME OF STAUFFER'S AGRICULTURAL PRODUCTS FOR CASH.

2 48 PM
-0-
MORLEY SAID THAT STAUFFER ALWAYS IS LOOKING FOR NEW

BUSINESSES THAT ARE "ASSOCIATED WITH THE CHEMICAL BUSINESS AND WITHIN OUR ABILITY TO MANAGE." HE SAID THE COMPANY IS LOOKING AT SEVERAL NEW VENTURES, INCLUDING A TANK TRUCK CLEANING BUSINESS. A FULLY CONTAINED PLANT FOR TANK TRUCK CLEANING IS EXPECTED TO BE COMPLETED BY THE END OF THIS YEAR, MORLEY SAID, ALTHOUGH HE ADDED THAT THE START UP OF COMMERCIAL OPERATIONS WILL BE "LONG AND SLOW."

END OF DOCUMENT

03/13/80
WALL STREET JOURNAL AND DOW JONES NEWS WIRE (DW)
ALN

MELVILLE NY -DJ- ALLEN GROUP INC PROJECTED THAT 1980 WOULD BE A YEAR OF RECORD RESULTS. EARNINGS ARE EXPECTED IN THE RANGE OF $2.70 TO $3.00 A SHARE COMPARED WITH $2.44 IN 1979. SALES ARE EXPECTED TO INCREASE TO $370 MILLION TO $400 MILLION UP FROM $343 MILLION LAST YEAR WALTER B KISSINGER CHAIRMAN AND CHIEF EXECUTIVE SAID.

HE SAID HE EXPECTS EARNINGS TO INCREASE IN EACH QUARTER OF THE YEAR WITH THE MOST FAVORABLE COMPARISONS IN THE SECOND HALF.

THE DECLINE IN AUTO SALES WON'T HAVE A MAJOR IMPACT HE SAID. THE COMPANY'S TEST AND SERVICE GROUP PRINCIPALLY RELATING TO AUTOMOTIVE TEST EQUIPMENT WILL CONTINUE TO GENERATE THE FASTEST GROWTH KISSINGER SAID.

KISSINGER SAID 'ISSUING AN EARNINGS FORECAST FOR 1980 IS CONSIDERABLY MORE DIFFICULT THAN FOR THE LAST SEVERAL YEARS.

A WIDE RANGE OF UNUSUALLY COMPLEX EXTERNAL VARIABLES - BOTH POLITICAL AND ECONOMIC - MAY AFFECT BUSINESS CONDITIONS IN GENERAL AS WELL AS SPECIFIC INDUSTRIES.

'WE SEE CLEAR-CUT TRENDS IN PARTS OF OUR BUSINESS ACCOMPANIED BY SUBSTANTIAL OPPORTUNITIES IN OTHERS THAT ENCOURAGE A POSITIVE ASSESSMENT OF OUR OUTLOOK.'

11 19 AM

DOCUMENT= 232
091001-0179.
NORTHERN TELECOM SEES 1981 OPERATING NET OF $3.25 A SHARE
09/30/81
WALL STREET JOURNAL AND DOW JONES NEWS WIRE (DW)
NT

TORONTO -DJ- NORTHERN TELECOM LTD., CANADIAN TELECOMMUNICATIONS EQUIPMENT MAKER, EXPECTS OPERATING EARNINGS TO BE "AT LEAST $3.25 (CANADIAN)" A SHARE, EXCLUDING A SPECIAL GAIN OF 47 CENTS A SHARE RECORDED IN THE FIRST QUARTER, WALTER F. LIGHT, PRESIDENT AND CHIEF EXECUTIVE OFFICER, SAID.

THE PREDICTION, MADE TO FINANCIAL ANALYSTS HERE, COMPARES WITH AN EARNINGS FORECAST OF $3 A SHARE MADE IN JUNE AND REFLECTS THE COMPANY'S CONTINUED RECOVERY FROM ITS 1980 LOSS OF $185.2 MILLION.

ROBERT A. FERCHAT, NORTHERN'S EXECUTIVE VICE PRESIDENT, FINANCE AND ADMINISTRATION, SAID NINE-MONTH EARNING SHOULD EXCEED $2.40 A SHARE, OR ABOUT $2.90 IF THE SPECIAL GAIN IS INCLUDED, ADDING, "THAT PUTS US WITHIN STRIKING DISTANCE OF THE RECORD $3.70 PER SHARE THAT NORTHERN TELECOM EARNED IN 1979."

LIGHT SAID HE EXPECTS 1981 SALES TO TOTA ABOUT $2.5 BILLION, COMPARED WITH $2.05 BILLION IN 1980.

REVENUE FROM SALES OF DIGITAL SWITCHING EQUIPMENT WILL APPROACH $500 MILLION IN 1981 AND SHOULD INCREASE TO ABOUT $900 MILLION BY 1985, LIGHT SAID. THE TARGET THAT YEAR IS FOR SALES OF $5 BILLION.

EDMUND B. FITZGERALD, PRESIDENT OF NORTHERN TELECOM INC.,

4
100104-0378.
NEWS & VIEWS: PEOPLES DRUG NET TO RISE 15% YEARLY
01/04/82
BARRON'S (B)
PDG BRRNS

BETWEEN 1976 AND 1981, PEOPLES DRUG STORES UNITS INCREASED FROM 378 TO 527. AND ITS HAD A 21% ANNUAL GROWTH RATE IN EARNINGS AND A 13% ANNUAL GROWTH IN SALES.

SHELDON FANTLE, PEOPLES' CHAIRMAN AND CHIEF EXECUTIVE OFFICER, FORECASTS NET INCOME WILL INCREASE AT A 15% COUMPOUND RATE OVER THE NEXT FEW YEARS, AND THE NUMBER OF STORES SHOULD EXPAND BY NEARLY 10% ANNUALLY THROUGH ACQUISITIONS AND NEW UNITS.

THE VIRGINIA-BASED CHAIN HAS UNITS IN 14 STATES IN THE SOUTH, MIDWEST AND EAST.

FOR THE YEAR ENDED SEPT. 26, 1981, THE COMPANY RANG UP $634.3 MILLION IN SALES,UP 12.9% FROM THE $561.8 MILLION IN THE PRIOR FISCAL YEAR. INCOME BEFORE TAXES, HOWEVER, ROSE ONLY 8.4% TO $15.6 MILLION FROM $14.4 MILLION, PRIMARILY BECAUSE OF INCREASES IN INVENTORY COSTS AND MARKDOWNS AT ITS

HAAG DRUG CHAIN ACQUISITION TO ALTER THE OPERATION'S MERCHANDISE MIX. RESULTS ALSO REFLECTED THE CLOSING OF TWO SMALL WAREHOUSES IN THE HAAG DIVISION AND REPLACING THEM WITH A 255,000-SQUARE-FOOT FACILITY THAT COST $2.5 MILLION TO EQUIP.

BECAUSE INVESTMENT TAX CREDITS AND JOB TAX CREDITS PULLED THE FIRM'S TAX RATE DOWN TO 40.3% FROM 43.1% IN 1980, PEOPLES NETTED $9.3 MILLION AGAINST $8.2 MILLION, UP 13.8%. INCOME PER SHARE WAS AHEAD ONLY 10.1%, HOWEVER, TO $2.39 FROM $2.17, BECAUSE OF STOCK ISSUED IN CONNECTION WITH AN ACQUISITION AND PEOPLES' EMPLOYE STOCK OPTION PLAN. SAME-STORE SALES WERE AHEAD 6%, OR ABOUT 1.5% DISCOUNTING INFLATION.

FOR FISCAL 1982, SALES ARE EXPECTED TO INCREASE BY 10-12%, TO $697.7-$710.4 MILLION. EARNINGS ARE EXPECTED TO RISE ROUGHLY 15% TO $10.7 MILLION, OR $2.65 TO $2.70 A SHARE ON 4 MILLION SHARES OUTSTANDING.

FANTLE SAYS THAT THERE WLL BE NO EROSION FOR THE FIRST QUARTER ENDING JAN. 16 FROM LAST YEAR'S EARNINGS PER SHARE OF $1.06, BUT HE IS UNCERTAIN WHETHER THE FIRM WILL REACH ITS

THE COMPANY IS ATTEMPTING TO ELIMINATE ITS $1-MILLION EMPLOYE TRAINING BUDGET AND ITS AUDIO VISUAL DEPARTMENT. IT ALSO PLANS HEAVIER STRESS ON ITS PROFITABLE PRIVATE-LABEL PRODUCTS TO BOOST ITS SHARE OF SALES TO 5% FROM 7-8%.

THE COMPANY HAD LONG-TERM DEBT OF $38.9 MILLION AT YEAR-END, OR 58% OF CAPITALIZATION. IT ALSO HAD AVAILABLE $19.5 MILLION IN SHORT-TERM CREDIT. PEOPLES HAS TRIMMED INVENTORY TO $103 MILLION FROM $111 MILLION THE YEAR BEFORE DESPITE 42 MORE UNITS.

LAST YEAR, PEOPLES BOUGHT 21 RETAIL DRUG STORES FROM DRUG FAIR IN IOWA CITY, IOWA, AND 13 MARSH DRUG STORES FROM MARSH SUPERMARKETS. THE 34 UNITS GEERATE ABOUT $25 MILLION IN ANNUAL VOLUME.

PEOPLES HAS OPENED 10 NEW UNITS IN SCATTERED LOCATONS IN FISCAL 1982, BRINGING ITS TOTAL TO 537. NEW LEASES HAVE BEEN SIGNED FOR ANOTHER 25-30 UNITS.

PEOPLES NOW RANKS SEVENTH AMONG DRUG CHAINS IN UNITS, ELEVENTH IN PROFITABILITY AND 12TH IN SALES. IT IS EITHER THE

108-0272.
SHARP CORP. UNCONSOLIDATED HALF-YEAR NET UP 13.4%
11/07/83
WALL STREET JOURNAL AND DOW JONES NEWS WIRE (DW)
JAPAN
ELECTRIC, ELECTRONICS, APPLIANCES (ELE)

TOKYO -DJ- SHARP CORP. SAID ITS UNCONSOLIDATED NET FOR THE SIX MONTHS ENDED SEPT. 30 ROSE 13.4 PC TO 14.280 MILLION YEN FROM 12.588 BILLION A YEAR EARLIER. THE COMPANY ALSO RAISED ITS INTERIM DIVIDEND.

SALES ROSE 15.6 PC TO 366.621 BILLION YEN FROM 317.148 BILLION A YEAR EARLIER.

EARNINGS PER SHARE ROSE TO 20.33 YEN FROM 18.37.

THE DIVERSIFIED ELECTRONIC-GOODS MAKER RAISED ITS INTERIM DIVIDEND TO FIVE YEN A SHARE FROM 4.5 YEN.

FOR THE FULL FISCAL YEAR SHARP FORECAST NET WILL COME TO 29 BILLION YEN UP 10 PC FROM 26.350 BILLION A YEAR EARLIER. SALES WILL BE 750 BILLION YEN UP 15.5 PC FROM 649.332 BILLION A YEAR EARLIER SHARP SAID.

THE EARNINGS FORECAST WAS UNCHANGFROM THE PROJECTION MADE MAY 25 WITH THE RELEASE OF THE FISCAL 1982 FIGURES BUT THE SALES FORECAST WAS REVISED UPWARD FROM THE EARLIER FORECAST OF 730 BILLION YEN.

9 50 AM

END OF DOCUMENT

1
121128-0282.
NORTHERN TELECOM SAYS '84 NET MAY EXCEED $2.65-A-SHR-TARGET
11/27/84
DOW JONES NEWS WIRE (T)
NT

RALEIGH N.C. -DJ- NORTHERN TELECOM LTD 'SHOULD MEET OR SLIGHTLY EXCEED' ITS 1984 EXPECTATIONS FOR REVENUES OF $4.2 BILLION AND EARNINGS PER COMMON SHARE OF $2.65 EDMUND B. FITZGERALD PRESIDENT AND CHIEF EXECUTIVE TOLD ANALYSTS HERE.

A SUMMARY OF HIS REMARKS WAS MADE AVAILABLE IN TORONTO.

'OUR TARGETS FOR 1985 WILL BE TO ACHIEVE ABOUT 20-TO-25 PC GROWTH IN CONSOLIDATED REVENUES AND NET EARNINGS PER COMMON SHARE' HE SAID. 'I EMPHASIZE THAT THESE ARE TARGETS NOT FORECASTS. HOWEVER WE FEEL THAT BASED ON THE STRENGTH OF OUR KEY BUSINESSES THEY SHOULD BE ACHIEVABLE.'

9 46 AM

Borden Inc. Sees Net
For '84 Rising 2% to 3%
11/08/84
WALL STREET JOURNAL (J)
BN

NEW YORK -- Borden Inc. said it expects net income this year to increase 2% to 3% from the $189.1 million reported for 1983. The chemicals and consumer products company added that it expects a further profit climb in 1985.

Per-share earnings will increase more sharply, by 9% to 11%, from the $6.56 reported in 1983 because of fewer shares outstanding this year, the company said. Borden said it expects a further increase of 12% to 15% in per-share earnings for 1985, but didn't give a specific net figure.

Borden last month reported net rose 1.6% to $138.8 million, or $5.13 a share, for the 1984 nine months. Profit growth in the fourth quarter would be hampered by weak prices for poly-vinyl chloride resins, Borden said, but it didn't previously give an earnings forecast. In the 1983 fourth quarter, the company earned $52.5 million, or $1.83 a share, on sales of $1.17 billion.

In New York Stock Exchange composite trading yesterday, Borden stock fell $1 a share to $59.50.

Eugene J. Sullivan, chairman and chief executive officer, said the expected 1985 earnings would result in a return on holders equity of 15%, a goal set for next year under a development program announced in 1980.

Under the program, sales of assets have generated $550 million, the executive said. Borden also has acquired 25 companies for a total of more than $168 million, and purchased 7.7 million of its shares for $317.5 million under the program.

END OF DOCUMENT

09/05/84
WALL STREET JOURNAL (J)
DR

NEW YORK -- National Distillers & Chemical Corp. reduced its estimate of 1984 per-share earnings by about $1, citing poor results in the property-casualty insurance business that it is trying to sell.

National Distillers estimated that earnings would be $2.25 to $2.45 a share, compared with an April estimate of $3.25 to $3.50 a share. The company didn't release estimates of net income or sales.

The reduction was attributed to higher-than-anticipated underwriting losses and inadequate premium rate levels. "When the estimate was made, we did not anticipate the poor performance of the insurance business," said Richard A. Tilghman, vice president for corporate relations.

National Distillers has said it plans to sell its insurance operation, Indiana Group Inc. It has been talking with several potential buyers, but couldn't say when it might complete a sale.

In 1983, National Distillers earned $66.7 million, or $1.77 a share, on sales of $2.59 billion.

For the first six months of this year, the company reported earnings from continuing operations of $47.6 million, or $1.40 a share, on sales of $1.13 billion. After a $13.7 million loss on discontinued operations, net income was $33.9 million, or 96 cents a share.

Earnings forecasts for National Distillers' chemical, propane and wine and spirits operations are essentially unchanged from the company's April estimate, although the wine business isn't profitable currently and the liquor business is off slightly from anticipated levels, Mr. Tilghman said.

National Distillers sold most of the business and assets of its Bridgeport Brass Co. metals unit in August. It also agreed in principle to sell the petroleum refining and marketing operations of its Suburban Propane Gas Corp. subsidiary, and it expects to complete that agreement this month. Terms of the sales weren't disclosed.

National Distillers said it has received about $100 million from the properties already sold. It didn't elaborate.

As reported, National Distillers said in July that it ended a common stock purchase program after buying 2.6 million of its shares for $71 million.
In New York Stock Exchange composite trading yesterday, National Distillers closed at $25.375, up 12.5 cents.

END OF DOCUMENT

DOCUMENT= 124
840905-0022.

DOCUMENT= 13 OF 37 PAGE = 1 OF 2
120918-0357.
CHEMED SEES '84 SHR NET $2.45-$2.50 VS YEAR AGO $2.28
09/17/84
DOW JONES NEWS WIRE (T)
CHE
CINTI -DJ- CHEMED CORP SAID IT EXPECTS 1984 PROFITS TO BE BETWEEN $2.45 AND $2.50 A SHARE WHICH IS LOWER THAN PREVIOUS FORECASTS BUT STILL HIGHER THAN THE $2.28 A SHARE EARNED A YEAR EARLIER.
THE COMPANY SAID THAT A REDUCED EARNINGS FORECAST BY OMNICARE INC IN WHICH CHEMED HOLD A 25 PC INTEREST CAUSED CHEMED TO REDUCE ITS EARNINGS PROJECTION FOR 1984 BY 15 CENTS TO 20 CENTS A SHARE FROM ITS PREVIOUS INTERNAL ESTIMATES.
CONVERSION OF $20 MILLION OF CONVERTIBLE NOTES INTO 875 000 SHARES AT THE END OF 1983 WILL REDUCE EARNINGS PER SHARE BY ABOUT 6 PC THE COMPANY SAID.
WITHOUT THAT CONVERSION PRIMARY EARNINGS PER SHARE WOULD RISE 13 PC TO 16 PC FROM A YEAR EARLIER INSTEAD OF THE 7 PC TO 10 PC THAT MANAGEMENT NOW PROJECTS.
3 25 PM

DOCUMENT= 1 OF 37 PAGE = 1 OF 3
130910-0022.
COCA-COLA CO. SEES 8% TO 10% RISE IN 1985 NET
09/09/85
WALL STREET JOURNAL AND DOW JONES NEWS WIRE (W)
KO
FOOD & BEVERAGE, HOUSEHOLD GOODS, SUPERMARKETS, TOBACCO (FAB)

ATLANTA -DJ- COCA-COLA CO. SAID NET INCOME AND EARNINGS PER SHARE 'ARE EXPECTED TO INCREASE 8% TO 10%' IN 1985.

'HOWEVER OPERATING INCOME IS LIKELY TO BE UP SLIGHTLY OR FLAT FOR THE YEAR PRIMARILY AS A RESULT OF THE INCREASED INVESTMENT' IN MARKETING THE COMPANY'S MANY BRANDS OF COLA DRINKS COCA-COLA SAID.

IN 1984 COCA-COLA EARNED $628.8 MILLION OR $4.76 A SHARE ON AN AVERAGE OF 132.2 MILLION SHARES WITH REVENUE OF $7.36 BILLION.

COCA-COLA SAID THAT UNIT VOLUME FOR THE SUGAR COLA SEGMENT OF ITS COLA PRODUCT LINE INCREASED MORE THAN 10% IN THE FIRST

PREVIOUS FORECAST OF 330 BILLION YEN. THE NEW PREDICTION REPRESENTS A RISE OF 17.4 PC FROM A YEAR EARLIER.
8 53 AM

END OF DOCUMENT

DOCUMENT= 76
850328-0015.
GE Cites Big Backlog
Of Work in Forecast
Of Profit Rise for '85
03/28/85
WALL STREET JOURNAL (J)
GE
ELECTRIC, ELECTRONICS, APPLIANCES (ELE)

HOUSTON -- General Electric Co., citing huge backlogs for aircraft engines and aerospace products, expects 1985 profit to increase to between $5.50 and $5.75 a share.

In an address to securities analysts here, Dennis Dammerman, GE's senior vice president, finance, said the increase from 1984's earnings of $2.28 billion, or $5.03 a share, would come despite lower-than-expected earnings for the first quarter. Mr. Dammerman said GE expects first-quarter earnings of between $1.10 and $1.15 a share. In the year-earlier first quarter, the company had net income of $485 million, or $1.07 a share, on sales of $6.58 billion.

Mr. Dammerman's address was the first by a senior GE executive since the company was indicted Tuesday on charges of defrauding the government by claiming more than $800,000 of labor-cost overruns on Minuteman missile contracts. Mr. Dammerman reiterated GE's denial of any criminal wrongdoing. The charges center on time cards that allegedly were altered without the knowledge of employees and on labors costs that were charged to other contracts. Given the hundreds of thousands of time cards handled by GE, errors could have been made on some, Mr. Dammerman indicated.

The earnings forecast is in line with Wall Street estimates. "Even though the economy isn't as strong as expected, GE is going to have up earnings because of its diversity," said Robert W. McCoy Jr., vice president, Kidder, Peabody & Co. "That's a tribute to its management."

The aircraft-engine backlog includes engines for the F-16

approval to construct a $17 million, 100-bed osteopathic hospital in Missouri, scheduled for completion in late 1986.

HEI has $35 to $40 million slated for capital improvements over the next three years, including the construction of the new hospital in Missouri, Mr. Hux said in an interview. Initially, the spending will be financed with borrowings and, later, possibly with stock offerings or convertible debt issues, Mr. Hux said.

Medicare, the federal government's insurance program for the elderly, has established a fixed cost per-case reimbursement system that provides hospitals with an "incentive" to discharge patients faster, Mr. Hux said. The average length of hospital stay for Medicare patients, who make up about 35% of HEI's patient load, is six to seven days, down from 12 to 13 days four years ago, Mr. Hux added.

Reflecting an industry trend, occupancy rates are down to 45% to 50% this year from 50% to 55% last year. But outpatient services are up, Mr. Hux said.

HEI also plans to add another two or three stores this year to its five-store chain of hobby and craft stores in the Houston area, which operate under the name of Heidy's.

END OF DOCUMENT

DOCUMENT= 2
140613-0184.
FIRST UNION CORP, SEES 1986 SHR NET RISING TO $2.53-$2.57
06/12/86
DOW JONES NEWS WIRE (DJ)
FUNC

CHARLOTTE, N.C. -DJ- FIRST UNION CORP. SAID THAT IN A PRESENTATION TO SECURITY ANALYSTS IN NEW YORK, EDWARD E. CRUTCHFIELD JR., ITS CHAIRMAN AND CHIEF EXECUTIVE, SAID FIRST UNION'S 1986 CONSOLIDATED EARNINGS SHOULD BE ABOUT $2.53 TO $2.57 PER SHARE, AFTER ADJUSTMENT FOR A 2-FOR-1 STOCK SPLIT TO BE PAID TOMORROW.

''WE FEEL WE CAN ACHIEVE BASIC EARNINGS BETWEEN $2.53 AND $2.57 PER SHARE IN 1986, CLOSE TO THE $2.55 TO $2.60 ANALYSTS ARE PREDICTING, DESPITE THE ANTICIPATED 6 PC EARNINGS DILUTION FROM THE FIRST RAILROAD ACQUISITION,'' CRUTCHFIELD SAID. THE COMPANY YESTERDAY ANNOUNCED AN AGREEMENT TO ACQUIRE FIRST RAILROAD & BANKING CO. OF GEORGIA, SUBJECT TO SHAREHOLDER AND REGULATORY APPROVALS. THE TRANSACTION IS EXPECTED TO BE ACCOUNTED FOR AS A POOLING OF INTEREST. ACHIEVED UNDER CURRENT ECONOMIC CONDITIONS WITHOUT THE BENEFIT OF INVESTMENT SECURITY GAINS, REAL ESTATE SALES, OR THE SALE OF MORTGAGE SERVICING,'' CRUTCHFIELD SAID.

FIRST UNION SAID THE BASIC EARNINGS FORECAST EXCLUDES FIRST RAILROAD'S GAIN FROM THE SALE OF A DATA PROCESSING SUBSIDIARY WHICH WAS COMPLETED APRIL 4. IT SAID THIS GAIN IS EXPECTED TO BE $25 MILLION, OR 23 CENTS PER SHARE FOR THE COMBINED COMPANY. FIRST UNION SAID IT MAY OFFSET ALL OR A PORTION OF THIS GAIN WITH ACTIONS THAT WILL BENEFIT THE FUTURE.

IN 1985, FIRST UNION CORP. EARNED $173.6 MILLION OR $2.16 A SHARE, ADJUSTED TO REFLECT THE 2-FOR-1 STOCK SPLIT.

2:15 PM

DOCUMENT= 8
140424-0326.
FIRST BANK SYSTEM EXPECTS 20% GAIN IN YEAR NET
04/23/86
WALL STREET JOURNAL AND DOW JONES NEWS WIRE (DW)
FBS

MINNEAPOLIS -DJ- FIRST BANK SYSTEM INC. SAID ITS EARNINGS SHOULD INCREASE BY ABOUT 20% TO NEARLY $200 MILLION THIS YEAR.

DENNIS E. EVANS, PRESIDENT, TOLD THE ANNUAL MEETING THAT INCREASED NET IS EXPECTED TO COME FROM GROWTH IN EARNING ASSETS, AN IMPROVED NET INTEREST MARGIN AND HIGHER NON-INTEREST INCOME.

HE SAID LOANS AND TOTAL ASSETS SHOULD INCREASE BY ABOUT 6% BY YEAR-END AND THAT THE BANK HOLDING COMPANY IS INTENTIONALLY TRYING TO SLOW ITS LOAN GROWTH. EVANS SAID THAT SHOULDN'T HURT EARNINGS SINCE IT REPRESENTS A SHIFT AWAY FROM NARROW-MARGINED MONEY MARKET LOANS TOWARD LOANS TO MEDIUM-SIZED COMPANIES.
MILLION SPECIAL ADDITION TO THE BANK HOLDING COMPANY'S RESERVES MADE IN THIS YEAR'S FIRST QUARTER.

LAST YEAR, FIRST BANK SYSTEM EARNED $166.7 MILLION, OR $5.68 A SHARE AND IT HAD ASSETS AS OF DEC. 31, 1985 OF $25.4 BILLION.

860311-0099.
U.S. Tobacco Sees Smokeless Products
Gaining Sales Despite Health Concerns

By Trish Hall
Staff Reporter of The Wall Street Journal
03/11/86
WALL STREET JOURNAL (J)
UBO
FOOD & BEVERAGE, HOUSEHOLD GOODS, SUPERMARKETS, TOBACCO (FAB)

GREENWICH, Conn. -- U.S. Tobacco Co. expects sales of its smokeless-tobacco products to grow this year despite health concerns over the use of such products.

The company also predicted that 1986 per-share earnings will rise 10% after inflation.

Nicholas A. Buoniconti, president, said in an interview that the earnings growth will be achieved through better asset management, unit volume increases, and a price increase that became effective on Jan. 1.

Mr. Buoniconti wouldn't say whether Wall Street earnings

forecasts of between $3.50 and $3.85 a share this year are correct. If the forecasts are accurate, the company would achieve its target range of a 10% increase after inflation. In 1985, U.S. Tobacco had earnings of $93.5 million, or $3.28 a share, on sales of $480 million.

The company moved last year into the Fortune 500 on the strength of its booming sales of moist snuff. But a sudden sales dip in last year's fourth quarter prompted some Wall Street analysts to suggest that the company's rapid growth was over and its stock should be sold.

Mr. Buoniconti said sales fell partly because of health concerns prompted by a barrage of negative publicity last year.

A special panel assembled by the U.S. surgeon general is expected to release a critical report on smokeless tobacco soon. The company also faces a $137 million product liability trial scheduled to begin in May and a ban on broadcast advertising of smokeless tobacco starting Aug. 27. In addition, by Feb. 27, 1987, the company must have a label on its smokeless-tobacco products warning that they may cause mouth cancer.

Despite all that, Mr. Buoniconti said he is optimistic that smokeless tobacco can attract far more than the estimated 10 million people who currently use the products. In Sweden, he noted, per-capita consumption of smokeless products is six times higher than in the U.S.

The company will spend about the same amount on marketing this year as last year, he said, despite the ban on broadcast advertising for smokeless tobacco. He said he doesn't believe the ban will hurt sales. Mr. Buoniconti said television makes people aware of products, but "word of mouth about the product is the basis of our sales."

END OF DOCUMENT

BIBLIOGRAPHY

Abdel-Khalik, A. Rashad, and Robert B. Thompson, "Research on Earnings Forecasts: The State of the Art," The Accounting Journal (Winter 1977-78), pp. 180-209.

Ajinkya, B.B., and M.J. Gift, "Corporate Managers' Earnings Forecasts and Symmetrical Adjustments of Market Expectations," Journal of Accounting Research (Autumn 1984), pp. 425-444.

Alchain, A., and H. Demsetz, "Production, Information Costs and Economic Organization," American Economic Review (December 1972), pp. 777-795.

Asquith, P., and D.W. Mullins, Jr., "Equity Issues and Stock Price Dilution," Unpublished paper, Harvard University, Boston, MA (1983).

Atiase, R., "Predisclosure Information Asymmetries, Firm Capitalization, Financial Reports and Security Price Behavior," Unpublished Ph.D. Dissertation, University of California at Berkeley (1980).

Axelson, K., "A Businessman's View on Disclosure," Journal of Accountancy (July 1975), pp. 42-46.

Barefield, R.M., and E.E. Comiskey, "The Association of Forecast Error with Other Risk Measures," Journal of Business, Finance and Accounting (Autumn 1975), pp. 315-325.

Barnea, A., R.A. Haugen, and L.W. Senbet, Agency Problems and Financial Contracting, Prentice Hall (1985).

Barry, Christopher B., and Stephen J. Brown, "Differential Information and Security Market Equilibrium", Journal of Financial and Quantitative Analysis (December 1985), pp. 407-422.

Basi, B.A., K.J. Carey, and R.D. Twark, "A Comparison on the Accuracy of Corporate and Security Analysts' Forecasts of Earnings," The Accounting Review (April 1976), pp. 244-254.

Beaver, W., "Future Disclosure Requirements May Give Greater Recognition to the Professional Community," Journal of Accountancy (January 1978), pp. 44-52.

_____, P. Kettler, and M. Scholes, "The Association between Market Determined and Accounting Determined Risk Measures," The Accounting Review (October 1970), pp. 654-682.

Beshara, R., "Newness and Imputed Accuracy of Management Forecasts: An Empirical Investigation," Ph.D. Dissertation, University of Florida (1981).

Brown, L., "Accounting Changes and the Accuracy of Analysts Earnings Forecasts," Journal of Accounting Research (Autumn 1983), pp. 432-443.

_____, and M. Rozeff, "The Superiority of Analyst Forecast as Measures of Expectations: Evidence from Earnings," The Journal of Finance (March 1978), pp. 1-16.

Burton, J.C., "Forecasts: A Changing View From the Securities and Exchange Commission," In Parakash, P. and A. Rappaport (eds.), Public Reporting of Corporate Financial Forecasts, Commerce Clearing House (1974).

Chambers, Anne, and Stephen Penman, "Timeliness of Reporting and Stock Price Reaction to Earnings Announcements," Journal of Accounting Research (Spring 1984), pp. 21-47.

Chang, L., and K. Most, "Financial Statements and Investment Decisions," Unpublished manuscript, International University of Miami, Florida (1980).

Chow, Chee W., "The Demand for External Auditing: Size, Debt and Ownership Influences," The Accounting Review (April 1982), pp. 272-291.

Copeland, R.M., and R.J. Marioni, "Executives Forecasts of Earnings Per Share Versus Forecasts of Naive Models," Journal of Business (October 1972), pp. 497-512.

Cox, C.T., "Further Evidence on the Representativess of Management Earnings Forecasts," The Accounting Review (October 1985), pp. 692-701.

Dann, Larry. Y., and Wayne H. Mikkelson, "Convertible Debt Issuance, Capital Structure Change and Financing-Related Information," Journal of Financial Economics (13, 1984), pp. 157-186.

Dhaliwal, D., G. Salamon, and E.D. Smith, "The Effect of Owner Versus Management Control on the Choice of Accounting Method," Journal of Accounting and Economics (July 1982), pp. 41-53.

Diamond, D.W., "Optimal Release of Information by Firms," Journal of Finance (September 1985), pp. 1071-1094.

Dopuch, Nicholas, Robert Holthausen, and Richard Leftwich, "Predicting Audit Qualifications with Financial and Market Variables," The Accounting Review (July 1987), pp. 431-454.

Eisenbeis, R.A., "Pitfalls in the Application of Discriminant Analysis in Business, Finance and Economics," Journal of Finance (June 1977), pp. 874-900.

Financial Executive Institute, "How Accurate are Forecasts," Financial Executive (March 1973), pp. 26-32.

Foster, G., "Stock Market Reaction to Estimates of Earnings Per Share by Company Officials," Journal of Accounting Research (Spring 1973), pp. 25-37.

Fried, D., and D. Givoly, "Financial Analysts' Forecasts of Earnings: A Better Surrogate for Market Expectations," Journal of Accounting and Economics (October 1982), pp. 85-107.

Fuller, R.J., and R. W. Metcalf, "Management Disclosures: Analysts Prefer Facts to Management's Predictions," Financial Analysts Journal (March/April 1978), pp. 55-57.

Gaber, M., "Management Incentives to Report Forecasts of Corporate Earnings," Ph.D. Dissertation, City University of New York, Baruch College (1985).

Givoly, D., and J. Lakonishok, "The Information Content of Financial Analysts' Forecasts of Earnings: Some Evidence on Semi-strong Inefficiency," Journal of Accounting and Economics (December 1979), pp. 165-185.

Gonedes, Nicholas. J, "Corporate Signalling, External Accounting and Market Equilibrium: Evidence on Dividends, Income, and Extraordinary Items," Journal of Accounting Research (Spring 1978), pp. 26-79.

_____, Nicholas Dopuch, and Stephen H. Penman, "Disclosure Rules, Information Production and Capital Market Equilibrium: The Case of Forecast Disclosure Rules," Journal of Accounting Research (Spring 1976), pp. 89-137.

Govindarajan, V., "The Objective of Financial Statements: An Empirical Study of the Use of Cash Flows and Earnings by Security Analysts," Accounting, Organization and Society (Volume 5, No. 4, 1980), pp. 383-392.

Hagerman, R., and W. Ruland, "The Accuracy of Management Forecasts and Forecasts of Simple Extrapolative Models," Journal of Economics and Business (Spring/Summer 1979), pp. 172-179.

Hakansson, N. H., "Interim Disclosure and Public Forecasts: An Economic Analysis and a Framework of Choice," The Accounting Review (April 1977), pp. 396-416.

_____, "On the Politics of Accounting Disclosure and Measurement: An Analysis of Economic Incentives," Journal of Accounting Research (Supplement 1981), pp. 1-34.

Hassell, John. M., and Robert. H. Jennings, "Relative Forecast Accuracy and the Timing of Earnings Forecast Announcements," The Accounting Review (January 1986), pp. 58-75.

Holthausen, R., and R. Verrecchia, "The Change in Price Resulting from a Sequence of Information Releases," Working Paper, University of Chicago, Chicago, IL (1982).

Imhoff, E., "The Representativeness of Management Earnings Forecasts," The Accounting Review (October 1978), pp. 836-850.

_____, "A Closer Look at Management Forecasts," Management Accounting (May 1980), pp. 18-23, 30.

_____, and P. V. Pare, "Analysis and Comparison of Earnings Forecast Agents," Journal of Accounting Research (Autumn 1982), pp. 429-439.

Jaggi, B., "Characteristics of Companies Disclosing Management Forecasts," Journal of Business Forecasting (Winter 81-82), pp. 9-14.

_____, "Further Evidence on Accuracy of Management Forecasts vis-a-vis Analysts' Forecasts," The Accounting Review (January 1980), pp. 96-101.

_____, "A Note on the Information Content of Corporate Annual Earnings Forecasts," The Accounting Review (October 1978), pp. 961-967.

_____, and P. Grier, "A Comparative Analysis of Forecast Disclosing and Non-Disclosing Firms," Financial Management (Summer 1980), pp. 38-43.

Jensen, Robert. E., "Rocks, Snails and Rabbits: Academic versus Practitioner Research Expectations in the Standard Setting Process,", Working paper #86, presented at 1980 Accounting Research Convocation, University of Alabama (November 16-18, 1980).

Jensen, M. and W. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," Journal of Financial Economics (October 1976), pp. 305-360.

Korwar, A. N., "The Effect of New Issues of Equity: An Empirical Investigation," Working paper, University of Iows, Iowa City, IA (1982).

Lees, F., "Public Disclosure of Corporate Earnings Forecasts," The Conference Board Report no. 804, New York (1981).

Leese, W. R., "Management's Published Financial Forecasts: An Evaluation of Accuracy and Small Investor Reaction," Unpublished Ph.D. Dissertation, Arizona State University (1981).

Leftwich, R. W., and R. E. Verrecchia, "Insider and Managers' Choice among Risky Projects," Center for Research in Security Prices, Working paper # 63 (1983).

_____, R. L. Watts, and J. L. Zimmerman, "Voluntary Corporate Disclosure: The Case of Interim Reporting," Journal of Accounting Research (Supplement 1981), pp. 50-77.

Lorek, K.S., C.L. McDonald, and D.H. Patz, "A Comparative Examination of Management Forecasts and Box-Jenkins Forecasts of Earnings," The Accounting Review (April 1976), pp. 321-330.

Lurie, Arlene, and Victor Pastena, "How Promptly Do Corporations Disclose their Problems," Financial Analysts Journal (September/October 1975), pp. 55-61.

McDonald, C. L., "An Empirical Examination of the Reliability of Published Predictions of Future Earnings," The Accounting Review (July 1973), pp. 502-510.

McNichols, M., and J. G. Manegold, "The Effect of the Information Environment on the Relationship Between Financial Disclosure and Security Price Variability," Journal of Accounting and Economics (5, 1983), pp. 49-74.

Miller, M. H., and K. Rock, "Dividend Policy under Asymmetric Information," Working paper, Graduate School of Business, University of Chicago, Chicago, IL (1982).

Myers, Stewart. C., and Nicholas S. Majluf, "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have," Journal of Financial Economics (13, 1984), pp. 187-221.

Neter, J., and W. Wasserman, Applied Linear Statistical Models: Regression, Analysis of Variance and Experimental Designs, Richard D. Irwin, Inc. Homewood, IL (1974).

Nichols, D., and J. Tsay, "Security Price Reaction to Long-Range Executive Earnings Forecasts," Journal of Accounting Research (Spring 1979), pp. 140-155.

Ohlson, J., "On Financial Disclosure and the Behavior of Security Prices," Journal of Accounting and Economics (1, 1979), pp. 211-232.

Pastena, V., and J. Ronen, "Some Hypotheses on the Pattern of Management's Informal Disclosure," Journal of Accounting Research (Autumn 1979), pp. 550-564.

Patell, J., "Corporate Forecasts of Earnings Per Share and Stock Price Behavior: Empirical Tests," Journal of Accounting Research (Autumn 1976), pp. 246-276.

Penman, Stephen. H., "Abnormal Returns to Investment Strategies Based on the Timing of Earnings Reports," Journal of Accounting and Economics, (December 1984), pp. 165-183.

_____ , "Insider Trading and the Dissemination of Firm's Forecast Information," Journal of Business (October 1982), pp. 479-503.

_____ , "An Empirical Investigation of the Voluntary Disclosure of Corporate Earnings Forecasts," Journal of Accounting Research (Spring 1980), pp. 132-160.

Public Disclosure of Business Forecasts, Financial Executive Institute, New York (1973).

Richardson, G., "Determination of the Information Content of Annual Announcements and Insider Trading Activity," Working paper, Cornell University, N.Y. (1982).

_____, "The Information Content of Annual Earnings for Large and Small Firms: Further Empirical Evidence," Working paper, University of British Columbia (1984).

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

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

Ruland, W., "The Accuracy of Forecasts by Management and by Financial Analysts," The Accounting Review (April 1978), pp. 439-447.

_____, "The Time Series of Earnings for Forecast Reporting and Non-Reporting Firm," Journal of Business Finance and Accounting (Summer 1979), pp. 187-201.

Schreuder, H., and J. Klaassen, "Confidential Review and Profit Forecasts by Management and Financial Analysts: Evidence from the Netherlands," The Accounting Review (January 1984), pp. 64-77.

Securities and Exchange Commission, "Disclosure of Projections of Future Economic Performance," Release No. 33-5362 (February 2, 1973).

_____, "Disclosure of Projections of Future Economic Performance," Release no. 33-5581 (April 28, 1975).

_____, "Safe Harbor Rule for Projections," Securities Exchange Act of 1933 (Release No. 6084); Security Exchange Act of 1934 (Release No. 15944) (June 25, 1979).

Spence, A., "Competitive and Optimal Responses to Signals: An Analysis of Efficiency and Distribution," Journal of Economic Theory (March 1974), pp. 296-332.

_____, "Job Market Signalling," Quarterly Journal of Economics (August 1973), pp. 355-374.

Trueman, B., "Why Do Managers Voluntarily Release Earnings Forecasts?," Journal of Accounting and Economics (8, 1986), pp. 53-71.

Verrecchia, R. E., "Discretionary Disclosure," Journal of Accounting and Economics (5, 1983), pp. 179-194.

Watts, R. L., "Corporate Financial Statements: A Product of the Market and Political Processes," Australian Journal of Management (April 1977), pp. 53-75.

_____ , and R. W. Leftwich, "The Time Series of Annual Earnings," Journal of Accounting Research (Autumn 1977), pp. 253-271.

Waymire, G., "Additional Evidence on the Information Content of Management Earnings Forecasts," Journal of Accounting Research (Autumn 1984), pp. 703-718.

_____ , "Additional Evidence on the Accuracy of Analyst Forecast Before and After Voluntary Management Earnings Forecasts," The Accounting Review (January 1986), pp. 129-142.

_____ , "Earnings Volatility and Voluntary Management Forecast Disclosure," Journal of Accounting Research (Spring 1985), pp. 268-295.