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AN EMPIRICAL STUDY OF USEFULNESS AND COMMUNICATIVE ABILITY OF SEGMENT DISCLOSURES AMONG SOPHISTICATED USERS OF CORPORATE FINANCIAL STATEMENTS

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AN EMPIRICAL STUDY OF USEFULNESS AND COMMUNICATIVE ABILITY OF SEGMENT DISCLOSURES AMONG SOPHISTICATED USERS OF CORPORATE FINANCIAL STATEMENTS

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TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

LIST OF TABLES

LIST OF TABLES (continued) PAGE

LIST OF FIGURES

ABSTRACT

This research was designed to provide empirical evidence concerning the effects disclosing different levels of segment data has on the decision making performance of sophisticated users (Chartered Financial Analysts) of published corporate financial statements. The primary surrogate for influence on decision making was the existence of statistically different net earnings projections.

To accomplish the research objective CFAs were supplied with financial statements of a hypothetical company disclosing varying levels (six) of segment disclosures and were asked to predict corporate earnings for 1981 and to indicate the range in which they were 95% confident true corporate earnings would fall. Five hypotheses were stated and the data obtained from the CFAs were analyzed with various statistical methods to determine whether the segment disclosures influenced: (1) the CFAs' predictions of corporate earnings, (2) variability in earnings predictions (communicative ability among CFAs), and CFAs' confidence in their predictions of corporate earnings.

Level of segment data disclosed did significantly affect CFAs' average predictions of corporate earnings. Test in-

dicated, however, that once revenue and profitability data were furnished no further changes in predictions occured as additional segment data was furnished. Segment earnings variability and level of segment disclosure did not interact to affect CFAs' predictions.

There was a significant change in communicative ability of the disclosures when groups with no segment data were compared to the other five groups. There were no significant differences when the no segment data group was excluded. This implies that once basic segment revenue data is presented disclosure needs are met. Similar results were obtained regardless of whether the analysis was conducted when segment earnings variability was small, large, or both combined.

CFAs' confidence in their earnings predictions was not enhanced as a result of being provided increased levels of segment data. Their range of confidence was generally much smaller when segment earnings variability was small.

The findings of the study do not provide conclusive evidence regarding the need and usefulness of the required segment disclosures studied. The findings suggests that the presentation of basic revenue and profitability data meets the segment disclosure needs of the sophisticated financial statement user.

CHAPTER I

INTRODUCTION

Published financial statements function essentially as a means for communicating economic information to statement users (Trueblood, 1973, p. 3). While the mere reporting of economic information does not insure that communication has occurred, the fact that a user changes his perception regarding a decision because of the reporting of the information is sufficient evidence that communication has occurred. This study seeks to provide some empirical evidence concerning the effects which reporting of different levels of segment data has on the decision making performance of sophisticated users of published corporate financial statements. Based on the findings, inferences concerning usefulness and communicative ability of segment data will be made.

This chapter contains an overview of the issue of general financial statement disclosure as well as the special area of segment disclosure. The objective of the study and a general discussion of the research methodology is presented. Anticipated contributions and limitations of the study are followed by a discussion of the organization of the study.

Historical Overview

In recent years the accounting profession has justifiably placed increased emphasis on the information needs of financial statement users. In 1978 the Financial Accounting Standards Board in "Statements of Financial Accounting Concepts No. 1" stated that:

> Financial reporting should provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit, and similar decisions (par. 34).

This is similar to one conclusion drawn in 1973 by the Study Group on Objectives of Financial Statements. They concluded that:

> The basic objective of financial statements is to provide information useful for making economic decisions.

These reports implied that financial statements are primarily for external users. This is further evident from the Study Group's conclusions that:

> An objective of financial statements is to serve primarily those users who have limited authority, ability, or resources to obtain information and who rely on financial statements as their principal source of information about an enterprises' economic activities.

The Study Group further asserted that "the justification for accounting can be found only in how well accounting information serves those who use it," and that "users' needs for information are not known with any degree of certainty," (Trueblood, 1973, pp. 13-17).

In two earlier studies the accounting profession had addressed the subject of financial statement user needs.

In 1966, the Committee to Prepare a Statement of Basic Accounting Theory stated that "the greatest accounting need both at present and in the future is the determination of the nature of the information needs of users of accounting communications," (AAA, 1966, pp. 20-21). In 1970, the Accounting Principles Board stated that "improving financial accounting requires continuing research on the nature of user needs, on the decision processes of users, and on the information that most effectively serves user needs" (AICPA, 1970, para. 48). Each of these studies has emphasized or implied the need for continuous research relating to the needs of financial statement users. No single research effort can possibly investigate all the ramifications of these conclusions. The total effort must be segmented among many researchers.

One of the tools employed to meet the needs of financial statement users is the annual report. A 1974 study conducted by Opinion Research Corporation reveals that approximately 72 percent of the shareholders surveyed used annual reports to obtain information on their holdings. Sixty eight percent use annual reports to obtain information regarding potential investments. In this same study 55 percent of the shareholders surveyed considered information disclosed in the annual report to be sufficient while others expressed a desire for more relevant information. More information is needed " . . . to give what they believe will be a more accurate picture of a company's

present position and enable them to make a more realistic judgement about its future prospects" (Opinion Research Corporation, 1974, p. 4). Earlier studies reveal that corporate financial statements are an important, and in many cases, the most important source of financial information utilized by professional security analysts in decision making (Horngren, 1957, p. 599). The financial statements contained in the corporate annual report were found by Dyckman (1969, pp. 28-29) to be a valuable source of investment information.

A continuing problem facing the accounting profession is the question of disclosure in financial statements. Disclosure has become especially important with the growth of publicly held corporations and an increasing interest in financial statements by many groups including financial analysts, credit-grantors, and stockholders who may use companies' published financial statements as a basis for initiating litigation against managers and independent auditors. Disclosure may be expected to command the attention of those persons who view financial statements as a relevant, if not the primary, source of information about a firm. Both the quality and quantity of disclosure must be considered. A distinction must be made between maximum and optimal disclosure. Maximum disclosure may result in "information overload", while optimal disclosure has been defined by Sprouse (1962, p. 7) as the disclosure

of that information which is necessary to make accounting reports not misleading.

An important aspect of optimal disclosure is that of materiality. Grady (1965, p. 40) gives this definition:

> A statement, fact, or item is material, if giving full consideration to the surrounding circumstances, as they exist at the time, it is of such a nature that its disclosure, or the method of treating it, would be likely to influence or to "make a difference" in the judgment and conduct of a reasonable person. The same tests apply to such words as significant, consequential, or important.

The concept may be further illustrated:

> Perhaps the oldest recorded reference to materiality is that which appears in the book of Genesis which states, with respect to Joseph's stockpiling operation in anticipation of seven years of famine, that "Joseph laid up grain as the sand of the sea, very much, until they left off numbering; for it was without number." In speculating why additional numbers could not be created so that readers of that text might have a better understanding of the situation, in the parlance of 20th century accounting it might be observed the sheer volume of the grain being stored was such that disclosure of an exact amount would have had no material effect on readers' appreciation of its magnitude" (Meyer, 1980, pp. 52-53).

The problems of disclosure in financial statements is compounded when dealing with the diversified firm. Business diversification began in the 1920's gained momentum in the second half of the 1950's. Most pre-1960 diversified firms were characterized by vertical or horizontal integration while those developing in the sixties were characterized as conglomerates. The term conglomerate suggests much diversity, vast size, and extreme unrelatedness. Mautz has characterized the diversified firm as one

that "experience(s) rates of profitability, degrees of risk, and opportunities for growth which vary within the company" (Mautz, 1968). As such conditions became more common, financial statement users questioned whether financial data presented in the aggregate was meaningful. Their inability to appreciate the relative contribution made by each separate segment to the overall enterprise decreased the usefulness of the data. How to, or whether to disclose the effect of the distinct segments of the aggregated whole was also questioned.

One of the earliest requests for business segment data in financial statements was made in 1962. In that year Corliss Anderson (1962) in his American Management Association Monograph on Corporate Reporting beseeched diversified companies to report their sales breakdowns. Anderson's plea was a beginning.

The first real plea for disclosure of segment data was made in 1965 when a subcommittee on anti-trust and monopoly of the Senate Judiciary Committee held hearings in March and April on economic concentration, (Healy, 1968, p. 7). During the hearings Dr. Joel Dirlam, a professor at Rhode Island University, stated that conglomerate companies possessed and could apply economic power so as to force out competition in a particular business while being supported by profits produced by other segments of the business. Dr. Dirlam stated that he deplored the fact that conglomerate companies did not disclose information by product segments

and appealed to the subcommittee for a change in the Securities and Exchange laws to require those companies to report by segments.

Mr. Manuel F. Cohen, chairman of the Securities and Exchange Commission responded to Dr. Dirlam's testimony in a letter to the subcommittee chairman. Mr. Cohen's response stated clearly that the SEC possessed the authority to require more disclosure, if in the eyes of the SEC, this would protect investors. In 1966 Mr. Cohen, on more than one occasion, (Healy, 1968, p. 8) clearly indicated that expanded financial reporting for conglomerate companies was necessary and that the SEC believed that the needs of the professional analysts and investors must be met. Mr. Cohen implied positive action by the SEC if conglomerate companies did not report segment data voluntarily.

The threat of SEC involvement in establishing reporting rules for conglomerates prompted The Accounting Principles Board of the AICPA to issue Statement No. 2, "Disclosure of Supplemental Financial Information By Diversified Companies," in September 1967. The Board expressed an unwillingness to require disclosures based upon established guidelines for segmentation at that time. The Board expressed a need for further research to provide practical guidelines for determining the extent to which such supplemental information was in fact (1) needed by investors; (2) reliable for investment decisions; (3) not harmful to the company; and (4) necessary

for fair presentation of the statements (AICPA, 1967, para. 10).

While the APB expressed an unwillingness for mandatory disclosure, the SEC following the recommendations of the Wheat report began requiring comprehensive reports of sales and earnings by line-of-business in registration statements filed on or after August 14, 1969. The Wheat report had expressed a need for the required disclosures by asserting that segment revenue and to the extent feasible, profits, were of crucial importance to security analysis. In October, 1970 this requirement was extended to the 10-Ks and in October, 1974 the SEC extended the disclosure requirements to cover annual reports to stockholders.

The New York Stock Exchange and the Federal Trade Commission have shown an interest in line-of-business reporting. In 1973, the New York Stock Exchange issued a "White Paper" urging that line-of-business information at least as extensive as that required in SEC Form 10-K be included in annual reports to stockholders. In August, 1974 the Federal Trade Commission issued a special order to certain companies calling upon them to file a special line-of-business form. The FTC effort was opposed by more than half the companies receiving the order.

In April, 1973, the Financial Accounting Standards Board (FASB) selected "Reporting by Diversified Companies" as one of the initial seven topics to be studied by the board. The title of the project was later changed to "Financial Reporting

For Segments of a Business Enterprise" and the FASB issued Statement of Financial Accounting Standards No. 14 - Financial Reporting for Segments of a Business Enterprise in December 1976. Unlike the regulatory pronouncements of the SEC and FTC, SFAS No. 14 deals with the issue of segment reporting in a comprehensive manner. A company must report in its financial statements, revenue, profit contribution, and identifiable assets by significant industry segment and for foreign operations. In addition, disclosure of export sales, sales to a single customer (or group of customers under common control), and sales to domestic government agencies or foreign governments if such sales exceed 10 percent of consolidated net sales is required.

The SEC in substance adopted the requirements of SFAS No. 14 in its S-K requirements effective March 14, 1978. Some important additional requirements as described in ASR No. 235 are:

(1) Regulation S-K required disclosure of the effect of market prices in intersegment transfers when the basis used for transfer pricing is "substantially higher or lower than those charged to or received from unaffiliated parties . . . (and) is material to an understanding of the segment information".
(2) Regulation S-K requires further segmentation of product class within each industry segment
(3) Regulation S-K requires the identity of major customers.
(4) Regulation S-K requires five years of retroactive application; Statement No. 14 stated that prospective application was sufficient.

After the issuance of APB Statement No. 2 in 1967 the number of firms voluntarily providing segment information

increased. Accounting Trends and Techniques annually reports information obtained from the AICPA's survey of 600 firms. In 1969 the survey reported that 194 companies disclosed segment earnings data, in 1971 the number disclosing comparable data was 293; in 1976 the number disclosing profitability information about business segments was 330. This represents a 70 percent increase in the number of surveyed firms disclosing segment earnings or profitability data from 1969 to 1976.

With the requirements of SFAS No. 14 being effective for fiscal years beginning after December 15, 1976 segment reporting became more widespread. In a comprehensive survey of annual reports of 126 large, public companies for calendar year 1977, Ernst & Ernst found that 1977 annual reports included more information about more segments of the reporting companies than was previously available. Data was found to be presented in a variety of ways. Even among specific industries, there was no uniformity in identifying industry or geographic segments nor in allocating corporate assets and expenses (Segment Reporting, 1978, p. 13).

During the period 1967-1976 considerable research concerning business segment disclosure was conducted. A review of these studies (which is presented in Chapter II) and related literature reveals less than conclusive evidence regarding the usefulness of segment data for decision making. The FASB issued SFAS No. 14 in 1976 apparently without regard

for the inconclusiveness of evidence concerning usefulness. The literature on segment reporting following 1976 has been centered largely around the implementation problem associated with the segment reporting controversy.

Objective of the Study

Financial reporting of segment information by diversified companies improved with the implementation of SFAS No. 14. The statement has subsequently been amended by SFAS No. 18, SFAS No. 21, and SFAS No. 30. These amendments suggest recognition that some of the provisions of SFAS No. 14 were possibly incompletely conceived. One may, therefore, question whether financial statement user needs for segment data have been satisfactorily met by the provisions of SFAS No. 14, as amended.

Research in the area of segment reporting has failed to settle the controversy relative to the appropriate content, form, and timing of segment reporting. Answers need to be known with respect to the effects financial statement users' knowledge of segment data has on their decision making ability. Horwitz and Kolodny (1980) analyzed thirteen empirical studies conducted and published in the 1970s and concluded "that the economic value of segment reporting is questionable". The results of all thirteen studies taken together call attention to the fact that evidence is not sufficient to conclude that segment reporting in general does or does not provide benefits. While one may reach the general conclusion that

there exists a need and use for reporting of segmented revenue, little or no evidence exists that supports the usefulness of profit reporting by segment or any of the additional requirements set forth under SFAS No. 14.

Horwitz and Kolodny (1980, p. 31) further states:

> One must consider the level of segment reporting and the rules pertaining to the measurement of segment data. Even staunch supporters of segment reporting must agree that at some level of detail, both with regard to the number of segments and with regard to information within each segment, no marginal benefit will ensue. Therefore, it is extremely important that further attempts be made to measure benefits and to identify the types, measurement procedures for, and format of segment reporting that are most useful to investors (emphasis added).

The objective of this study is to provide some empirical evidence concerning the effects which reporting of different levels of segment data has on the decision making performance of sophisticated users of published corporate financial statements. Based on the findings, inferences concerning usefulness and communicative ability of segment data will be made.

The requirements of SFAS No. 14 for reporting segment data are very comprehensive. Major disclosures required for each segment of a company's business are (para. 22-27):

(1) Revenues

(2) Operating profit or loss

(3) Identifiable assets

(4) Depreciation, depletion and amortization expense

(5) Additions to property, plant and equipment

(6) Investments in and equity in earnings of unconsolidated companies

The first four disclosure items are addressed by this research. These plus "Lack of Disclosure of Segment Data" are compiled to form the following "levels" of segment disclosures:

(1) No segment data (a note discloses the fact that the firm is a multi-segment firm but no financial data will be presented by segment)

(2) Revenue data by industry segment

(3) Profitability data by industry segment

(4) Revenue and profitability data by industry segment

(5) Revenue, profitability, and identifiable asset data by industry segment

(6) Revenue, profitability, identifiable asset data, and depreciation, depletion, and amortization expense by industry segment

These six levels of segment data do not represent all disclosure requirements of SFAS No. 14 but are those levels that would typically be representative of the requirements for a domestic diversified corporation. The comprehensiveness of the requirements of SFAS No. 14 prohibits the study of all required disclosures in a single effort.

Research Methodology*

The methodology for accomplishing the study's primary objective encompasses both primary and secondary research. Primary research will be conducted through a mail survey of selected users of corporate financial statements. Secondary

*Chapter III presents a complete discussion of the research methodology used.

research consisted primarily of library research - the results of which are presented in Chapter II. Secondary research is used as an aid in drawing conclusions as to the need for the current study and in determining the appropriate methodology for the study.

Hypotheses

To achieve the primary research objective of the study, the following five hypotheses are to be tested:

H_1 The level of disclosure of segment data in published corporate financial statements has no significant effect on Chartered Financial Analysts' average level of prediction of corporate earnings.

H_2 Earnings variability and the level of disclosure of segment data in published corporate financial statements have no significant interaction effect with respect to Chartered Financial Analysts' average level of predictions of corporate earnings.

H_3 The level of disclosure of segment data in published corporate financial statements has no significant effect on variability in earnings predictions (communicative ability) among Chartered Financial Analysts.

H_4 Earnings variability and the level of disclosure of segment data in published financial statements have no significant interaction effect with respect to variability in earings predictions (communicative ability).

H_5 The level of disclosure of segment data in published corporate financial statements has no significant effect on Chartered Financial Analysts' confidence in their predictions of corporate earnings.

Hypotheses 1 and 2 are concerned with the effects of the level of disclosure of segment data as well as the interactive effects with earnings variability on the Chartered Financial Analysts' average level of predictions of corporate

earnings. These hypotheses will be tested by analysis of variance to determine whether the level of disclosure of segment data significantly affects the average level of CFAs' predictions.

Hypothesis 3 seeks to provide insight into the question of whether the level of disclosure of segment data has an effect on the variability in earnings predictions (communicative ability of the disclosure) among CFAs. Hypothesis 4 tests for interaction between the level of segment disclosure and earnings variability. Hypotheses 3 and 4 are to be tested by Hartley's Fmax test for homogeneity of variance.

Hypothesis 5 seeks to provide evidence indicating whether the level of disclosure of segment data has any effect on the confidence the CFAs have in their predictions of corporate earnings. A variance analysis is used to determine whether the level of disclosure of segment data influences the CFAs' confidence in their earnings predictions.

The Sample

Members of the Institute of Chartered Financial Analysts represent a select group of professional financial analysts who have earned the title of Chartered Financial Analyst (CFA) through passing a rigorous examination and meeting certain experience requirements. These analysts should be well qualified to judge the differences, if any, between financial statements that include industry segment disclosure

to various extents in regard to estimating future earnings (one year projections) of a firm. A random sample of 1200 (approximately 21%) CFAs was drawn from the complete membership list (1981) of about 5600. The sample of 1200 was randomly assigned to twelve groups of 100 each. Chapter III presents further detail of the sample selection process and professional qualifications of CFAs.

Experimental Procedure

Each selected member of the Institute of Chartered Financial Analysts was mailed an information packet containing instructions, financial statements, and a questionnaire. The instructions explained the procedure to be followed in completing the questionnaire. The financial statements consist of a balance sheet and income statement for 1980, and a five year summary of earnings (1976-1980) for a hypothetical company. The data contained in the financial statements is to be used in determining questionnaire answers. The questionnaire answers provide input for the statistical models used in testing the hypotheses presented earlier.

Survey Instrument

The survey instrument is a case problem set mailed to potential respondents. A mail survey instrument can reduce geographic dispersion to manageable proportions, reduce the time factor in accumulating the data, provide maximum flexibility to the respondents and reach the greatest number of persons almost simultaneously.

Two companies were used in the study as a means for manipulation of two independent variables; level of segmental disclosure and earnings variability. One of the firms had small and the other large variability in segment profitability over a five year period. Both companies were hypothetical but were developed through the use of financial statements of existing companies. Details of company development are presented in Chapter III. The two companies were each made into six hypothetical companies reporting six different levels of segment disclosure in their financial statements, thus, twelve case problem sets were generated. All sets contain the same basic financial statements of a single firm and a five year summary of operations. The five year summary includes segment disclosures of various levels depending on which of the six subsets of firms the sample member receives. In order to maximize the internal validity of the experiment with regard to segment disclosure, the inclusion of information supplemental to financial data was kept to a minimum. Limited background data relative to the firm was presented.

Experimental Design

In order to provide as much information relevant to the research problem as possible under the circumstances and simultaneously maintain effective control over the variables being studied, an experimental design was used. The basic experimental design used was a 6 x 2 completely

randomized fixed effects factorial model. The model is relevant since the study is concerned only with the given levels of factors of the two independent variables. This design permits the analysis of the effects each independent variable has on the dependent variables as well as the interactive effects between the independent variables.

Independent Variables

The independent variables considered in the study are (1) levels of segmental disclosures, and (2) earnings variability. These variables are presented to each sample subject set in predetermined relationships so that their effects, when acting alone or interacting with each other, can be studied.

The first independent variable, level of segment disclosure, has six levels. The lowest level of segment disclosure includes only a note that the firm operates in three industries, whereas the highest level of segment disclosure includes revenue, profitability, identifiable assets, and depreciation, depletion, and amortization expense as required by SFAS No. 14.

The second independent variable is earnings variability. Earnings variability has two levels; small variability and large variability. Based on the segment operating profit of the firms on which the cases are based, a trend line was developed. Small variability is equal to the actual segment operating profit variability from this trend line. The large

variability in earnings was developed by applying an ad hoc factor of three times the actual deviations from the trend line.

Dependent Variables

Dependent variables considered in the study are (1) predictions of corporate earnings by sample subjects, (2) communicative ability, and (3) sample subjects' confidence in their predictions of corporate earnings. Sample subjects' predictions of corporate earnings are analyzed to determine whether the level of disclosure of segment data, alone or interacting with earnings variability, caused significant difference in subjects' predictions of corporate earnings. Using the variability of sample subjects' earnings predictions within their respective groups, a measure of communicative ability is obtained. The variances of each treatment group are analyzed to determine whether level of disclosure of segment data, alone or interacting with earnings variability, results in differences in communicative ability among the sample subjects. The third dependent variable was developed by asking each sample subject to give the interval in which they are 95% confident true corporate earnings will fall. The size of the interval is used as a measure of confidence and analyzed to determine whether the level of corporate disclosure of segment data has an effect on the sample subjects' confidence in their predictions.

Anticipated Contribution of the Study

Financial statements are relevant only if their information content is useful. The accounting profession has addressed the subject of financial statement user needs in at least four significant studies. In 1966, the Committee to Prepare a Statement of Basic Accounting Theory stated that "the greatest accounting need both at present and in the future is the determination of the nature of the information needs of users of accounting communications." In 1970, the Accounting Principles Board stated that "improving financial accounting requires continuing research on the nature of user needs, on the decision processes of users, and on the information that most effectively serves users' needs." In 1973, the Study Group on Objectives of Financial Statements asserted that "the justification for accounting can be found only in how well accounting information serves those who use it," and that "users' needs for information are not known with any degree of certainty." The Financial Accounting Standards Board in its "Statement of Financial Concepts No. 1 - Objectives of Financial Reporting by Business Enterprises," clearly recognized that financial reporting is intended to provide information that is useful in making business and economic decisions. The objectives of financial reporting are stated in terms of user needs. Each of these studies has emphasized or implied the need for continuous research relating to the needs of financial

statement users. This study contributes some pertinent empirical evidence regarding the usefulness of information relating to business segments required to be reported in financial statements.

The study is designed to provide an increased understanding of the influence that business segment disclosures may have on the decision making ability of sophisticated users of financial statements. When financial disclosures affect the decision making ability of users, the information may be deemed useful. The accounting profession should strive to present useful information and to eliminate the presentation of useless information. This study, and others like it related to different topics, can serve to identify the useful and/or the useless information required to be reported in financial statements. Once specific reporting requirements relating to a subject (e.g. SFAS No. 14) have been established, the profession can ill afford to assume that those requirements will continue to meet user needs indefinitely. Periodic research is needed so that these requirements can be updated. The present study is a part of that research.

While of lesser importance, the Securities and Exchange Commission (SEC) might use the results to determine whether investors are receiving information needed by them for making decisions relating to investments in diversified firms. The assurance that investors have adequate information upon

which to base investment decisions is a major responsibility of the SEC.

The accounting profession should continuously seek to learn more about the needs of users of financial information. Because user needs may be subject to change-over time, the learning process cannot be static. Results from the present research provide some meaningful evidence about the adequacy and usefulness of the disclosure requirements for business segment data in published corporate financial statments.

Limitations of the Study

An experimental design is used in the study so that maximum benefit may be derived from the data gathered. While considerable effort goes into the design of a survey instrument, there are inherent limitations. Limited financial information was given the subjects. Sophisticated users of financial information would surely have access to additional information when making actual investment decisions. Since the survey instrument was not administered in a controlled environment, subjects may be expected to have budgeted varying amounts of time in making their investment decisions. In an effort to determine whether this affected the decision making process, subjects were asked approximately how much time was taken in completing the survey instrument.

The study seeks to determine whether the disclosure of different levels of segment information influences the

decision making ability of sophisticated users of financial statements. Chartered Financial Analysts were used as a representative group of sophisticated users. Other user groups such as bankers, financial executives, and other financial analysts would certainly qualify as sophisticated users. The generalizability of the research results is limited to the population of Chartered Financial Analysts from which the sample subjects were drawn.

Another limitation is that the study focuses on a very limited area of user needs. The study seeks to determine whether users of corporate financial information are receiving segment information useful to them for analytical purposes in corporate financial statements. While segment information may be obtainable from other sources, the study considers only corporate financial statements.

Organization of the Study

This dissertation is divided into five chapters. Chapter I provides background information, a statement of objectives, and a brief description of the research methodology. In addition, the chapter discusses the anticipated contributions of the study as well as the limitations of the study.

Chapter II presents a discussion of the general nature of disclosure in financial statements followed by a chronological review of previous empirical studies that deal with

the disclosure of business segment information. Chapter II is important in that what has been done is described and thereby places this study in proper perspective.

Chapter III presents the research objective, design, and methodology used in the study. The subjects, procedure used, survey instrument, research variables, and the experimental hypotheses are discussed.

Chapter IV contains an analysis and discussion of the data collected in the research process. The statistical test of significance used in the study are explained.

Chapter V summarizes the experimental study and the findings generated. The author's conclusions and suggestions for further research are presented.

CHAPTER II

REVIEW OF THE LITERATURE

A primary objective of financial reporting is to provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit, and similar decisions (FASB, 1978, para. 32). To assist in accomplishment of this objective, the accounting profession has adopted a full disclosure principle that generally calls for reporting in financial statements any financial facts significant enough to influence the judgment of an informed reader. The principle of full disclosure is difficult to make operational. While many accountants and managers contend that more information is presently being disclosed than can be absorbed by users, others contend more information is needed to assess a firm's financial and earnings potential. A problem faced by the accounting profession is the development of guidelines that indicate whether a given transaction should be disclosed. Different users want different information and difficulty arises in attempting to develop disclosure policies that meet their varied needs. The financial statement preparer must exercise some judgment in determining whether data is useful in making investment, credit, and other decisions.

As specific financial statement user needs are identified expansions in accounting disclosures occur (Bedford, 1973). At some time in the future, requirements for reporting may be centered on specific users but currently general purpose financial statements prevail. One area of expansion in accounting disclosure which has occurred in recent years is the required disclosure of segment information. Difficulties of implementation associated with the requirement of disclosure of segment information is similar to the overall disclosure problem. While there are difficulties relating specifically to the disclosures of segment information the basic decision whether to disclose or not should be based upon the usefulness of the data to financial decision makers. The literature review presented in this chapter will deal primarily with the disclosure of segment data. However, a discussion of the general issue of disclosure will be presented first.

The Nature of Disclosure

The general subject of disclosure encompasses the entire area of financial reporting. An objective of financial reporting is to disclose information relevant to decision making. With respect to the disclosure problem Hendriksen (1977, p. 545) posed three major questions:

1. For whom is the information to be disclosed?
2. What is the purpose of the information?
3. How much information should be disclosed?

Two additional questions have been posed by Buzby (1974, p. 45):

1. How should the information be disclosed?
2. When should the information be disclosed?

For Whom is the Information to be Disclosed?

Some users have or contemplate having a direct interest[1] in financial accounting information. Others have an interest[2] because their function is to assist or protect persons who have or contemplate having a direct interest in the information. In order to provide the most useful and equitable information, the accountant needs to know the nature of user needs.

As may be expected, user groups have different objectives and probably have varied needs for financial information. Moonitz (1961, p. 48) recognized that the adequacy of disclosure can only be determined within the context of user needs. Due to the varied uses of financial information, Revsine (1969, p. 38) concludes "it difficult to envision a single set of published statements so structured as to simultaneously provide all necessary information to all possible users". Stone (1967, p. 333) recognized the need

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[1]Direct interest users - owners; creditors; suppliers; potential owners, creditors, and suppliers; management; employees; and consumers.

[2]Indirect interest users - financial analysts; stock exchanges; lawyers, regulatory and registration authorities; financial press and reporting agencies; trade associations; and labor unions.

for identification of a dominant user (group) of financial information. The AICPA (1970, ch. 3) has suggested that disclosure be aimed at a limited number of users. The FASB (1978, par. 34) seems to have taken a like stand. They indicate that "information (disclosed) should be comprehensible to those who have a reasonable understanding of business and economic activities and are willing to study the information with reasonable diligence".

The literature does not reveal unanimity regarding the level of sophistication that users of financial information should possess. An argument for the unsophisticated user is presented by McCormick (1960, p. 226). He states that "we start from scratch and develop a technique for presenting this highly important information to the layman--to the man who cannot be expected to bring a technical background to the reading of financial statements." Cowan (1968, p. 99) suggests that reporting should be directed at the average investor with limited skills while Chetkovich (1955, p. 49) defines the "standard reader" as one who "should be interested to the extent that he is willing to read carefully and he should be reasonably informed on financial matters, at least with respect to the commonly used terminology of accounting and finance." Mautz and Sharaf (1961, p. 19) argue that a high level of sophistication should be expected of financial information users. In their view disclosures should be of a nature "which a

thoroughly competent and skilled analyst can use and must have to discharge his professional responsibility to those who rely on his judgment." Stanga (1974, pp. 42-43) gives four reasons why the position of Mautz and Sharaf is desirable:

1. The position implicitly recognizes the impossibility of adequately describing a complex business enterprise in simple terms.
2. Their position recognizes that most stockholders can and do seek expert advise on investment matters.
3. This position does not deprive the sophisticated information user of the information he needs.
4. The position recognized that unsophisticated investors can be educated as information users.

The Securities and Exchange Commission has also expressed a willingness to compel disclosure of information specifically designed to aid professional investors. Certain required disclosures are primarily designed to assist professional analysts who have the responsibility of developing an in-depth understanding of corporate activity. Meeting the needs of the professional investor probably furthers the SEC's statutory goal of protecting all investors (Mundhelm, 1976, pp. 32-33).

What is the Purpose of the Information?

In 1970 the APB (para. 21 & 22) stated:

> "The basic purpose of financial accounting and financial statements is to provide financial information about business enterprises that is useful in making economic decisions . . . .

> General objectives . . . are to present reliable information about enterprise resources and obligations, economic progress and other changes in resources and obligations potential, and to present other financial information needed by users, particular owners and creditors."

In 1973 the Study Group on Objectives of Financial Statements (Trueblood, p. 13) stated: "The basic objective of financial statements is to provide information useful for making economic decisions."

The FASB's conclusions about objectives of financial reporting are essentially in agreement with those of the APB and Study Group and with other groups that have addressed the issue. The objectives set forth by the FASB are to provide (1) information that is useful in investment and credit decisions, (2) information that is useful in assessing cash flow prospects, and (3) information about enterprises resources, claims to those resources, and changes in them (FASB, 1978, para. 40).

The basic objectives given above do not differ substantially among the groups proposing them. However, the actual use of financial information is determined by a particular user's need for information. For the information to be useful to a particular user, the information must be relevant. The APB indicated that relevance is the primary qualitative objective of financial disclosures. Backer (1970, pp. 6-8) has shown that information which is relevant for one purpose is not necessarily relevant for another purpose. In his

study of credit and security analysts, he found that the two groups placed different importance on certain items of information.

Olson (1977, pp. 68-71) states: "Each (user of financial information) group answers the question of "Financial Reporting--Fact or Fiction?" from the perspective of its own needs and expectation. What may be "fact" for one group is "fiction" for another." He further states: "Financial reporting is faced with the almost impossible task of trying to satisfy needs that are to a considerable degree diametrically opposed."

How Much Information Should be Disclosed?

The amount of information to be disclosed in financial reports is dependent on both the expertness of the reader and the desired standard. Three concepts of disclosure generally proposed are adequate, fair, and full. Adequate disclosure implies the negative objective of presenting information so as to make the financial statements not misleading. Fair disclosure implies an ethical objective of treating all users while full disclosure implies the presentation of all relevant information. Hendriksen (1977, p. 546) supports the idea that there is no real difference among the concepts when they are used in the proper context. Financial statement users are provided with material and relevant information to aid them in making decisions in the best possible way. Omission of information that is

neither material nor relevant probably improves both the meaningfulness and understandability of the financial report.

As indicated above, the expertness of the reader (user) is a factor in determining the amount of information to be disclosed. The amount and type of information to be presented depends upon the identification of specific user groups and the assessment of their needs. This emphasis and the elevation of the concept of relevance in evaluating usefulness has brought forth various suggestions for expansion of accounting disclosures (Bedford, 1973, chapters 7-9).

Olson (1977, p. 70) suggests that accountants should abandon the current goal of trying to satisfy fully all user needs. Different user groups have conflicting objectives and expectations in their use of accounting information. Given the current conflicting objectives, "the most we (accountants) can hope to achieve is a basic package of financial information that will have general utility for all groups but will probably not fully meet the needs of any one group" (Olson, 1977, p. 70).

As information provided in financial statements expands to meet the needs of various groups, some of the data is sure to be of no use to some users. The presentation of the additional data may so confuse the user's thought process such that his decision making task is hindered rather than helped. When this happens,

"information overload" has occurred. To date, the point at which the quantity of data presented becomes dysfunctional has not been identified.

Bedford (1973, pp. 151-153) suggests two methods for reducing the possibility of information overload. Information may be "contracted" or "compressed". Contraction of information is a reduction in quantity of data disclosed. Implications are that the least useful information should be eliminated. Currently there is no way to know what information is "least useful" but proponents of information contraction believe that some means must be devised to determine the value of the separate bits of information so that the least valuable can be dropped to contract the quantity of data presented.

Compression of information in accounting disclosures refer to the process of categorizing information in broader groupings. Carried to the extremes financial statements could be compressed into a certified recommendation; a recommendation that a shareholder should buy or sell shares of a company's stock at some designated price. The liability associated with such a recommendation would be prohibitive. A more direct method of information compression would seem more appropriate. Accounting classifications could be restricted to a smaller number in disclosures. For example, cash and receivables may be compressed into one account. Merchandise and supplies may be compressed into one account. There are other accounts

that could be afforded the same compression.

As a result of the increase in disclosure requirements the level of technical understanding needed to read and comprehend financial statements has increased dramatically. Certain financial statement disclosures are now prepared with the knowledge that only reasonably sophisticated readers such as professional financial analysts can use them. For less sophisticated users the level of "information overload" has probably been reached. If financial statements are to continue to meet the needs of general purpose users new disclosure methods must be developed and the effects of new disclosures must be fully tested before requiring disclosure of such data.

How Should the Information be Disclosed?

Accounting information may be disclosed in several different methods. The selection of the best method of disclosure in each case depends on the nature of the information and its relative importance. Common methods of disclosing information in the financial statements are:

(1) Form and arrangement
(2) Detail and terminology
(3) Parenthetical information
(4) Footnotes
(5) Supplementary statements and schedules
(6) Auditor comments

Management may wish to present certain additional information

in the form of a letter from the president or chairman of the board or in some other form.

Accounting literature indicates that method of disclosure is important in decision making. Ijiri, Jaedicke, and Knight (1966, pp. 186-199) suggest that different forms of presentation may effect decision making. Purdy, Smith, and Gray (1969, pp. 1-18) undertook to determine the impact which placement and method of disclosure of a deviance from an APB opinion would have upon the retention of information published in financial statements. While they concluded that placement and method made little difference some information was retained better when the auditor's report containing the information was placed at the end of the report rather than at the beginning. Buckley (1969, pp. 19-25) found certain faults with the Purdy, Smith, and Gray study but concluded that additional research of the problem is needed. The Accounting Principles Board recognized the importance of format of data presentation. "Information should be presented in a way that facilitates understanding . . ." (AICPA, 1970, para. 106). Olsen (1977, p. 71) suggests that financial reporting may not be as clear as possible. He states "We should (also) change the format of financial reports to group all information by the functional areas of a business to make it more <u>understandable</u>" (emphasis added).

When Should the Information be Disclosed?

For disclosure to be useful, the information disclosed must be timely. Timely disclosure of relevant information tends to prevent surprises which may alter the outlook for the future of the firm. Timely disclosure also tends to give investors (users) greater confidence in the information available to them. The APB recognized these facets in Statement No. 4 when stating "timely financial accounting information is communicated early enough to be used for the economic decisions which it might influence and to avoid delays in the making of these decisions".

For information contained in the financial statements to be useful, publication of the statements should be as rapid as possible to assure the availability of current information in the hands of users. Financial statements should be presented at intervals frequent enough to reveal changes in the firms' situation which may in turn affect the user's predictions and decisions. "However, an implicit assumption in timely disclosures is that the speed with which information is disclosed is balanced against the necessary levels of accuracy and completeness (Buzby, 1974, p. 45).

Summary of Disclosure in General

Conclusive answers to the previously posed questions would provide information relative to the components and

consideration which enter into the determination of the "theoretical ideal" level of disclosure. The ideal level of disclosure can only be discussed, not attained, since there exists an inadequacy of understanding of several of the factors encompassed by a model of ideal disclosure. Among these factors:

(1) Inadequate comprehension of the nature of various user decision models for which accounting data are used as inputs.

(2) Inadequate knowledge as to the sensitivity of known models with respect to alternative accounting inputs.

(3) Failure to establish conclusive reliability as to various accounting measurement systems.

(4) Variations in user perception of the accounting messages resulting from the use of various measurement systems and reporting format have not been isolated (Buzby, 1974, p. 45).

The previous pages have outlined information suggestive of the concept of the "theoretical ideal" level of disclosure. A second level of disclosure adequacy relates to the best that can be attained under the current state of accounting. The attainment of this level of disclosure should be the basic objective of financial statements after determining for whom and for what purpose financial information is to be presented. The most relevant financial data should be summarized in quantitative terms and be presented in formal statements to the extent possible and desirable and then in footnotes, supplementary schedules, and supporting statements. Disclosure in general has been the subject of this section. The disclosure

of segment data, a subset of the total disclosure controversy, will be discussed in the next section.

Disclosure of Business Segment Information

The growth of diversified businesses and the expansion of firms into foreign markets has resulted in the aggregation of financial information that includes nonhomogeneous elements. This problem of aggregation has grown with the development of large conglomerate firms that obtain their diversification through mergers or acquisitions of a wide variety of unrelated businesses. In such combinations, there is a loss of information to the investor community and to the general public, since firms previously reporting separately report only as a single firm after the combination. With widespread diversification of activities the evaluation of the diversified firm and the prediction of its future activities and successes are more difficult with only aggregated data.

The Accounting Principles Board recognized this problem and in 1967 recommended in Statement No. 2 that diversified firms voluntarily present supplementary information regarding the individual segments of their business. The Board expressed an unwillingness to require disclosures based upon established guidelines for segmentation at that time. The Board expressed a need for further research to provide practical guidelines for determining the extent to which such supplemental information was in fact (1) needed

by investors; (2) reliable for investment decisions; (3) not harmful to the company; and (4) necessary for fair presentation of the statements (AICPA, 1967, p. 10). Shortly after Statement No. 2 was issued, research concerning the reporting of business segment information increased. A chronological review of some of the major research studies and summaries of less important studies follows:

The Tulane Symposium (1967)

In November, 1967 the Tulane Graduate School of Business Administration hosted a symposium on the subject of Public Reporting by Conglomerates (Rappaport, et. al., 1968). Witnessing the ongoing debate of the pros and cons of public reporting of segmented profit information by corporations in the United States, Professor Alfred Rappaport, then of the Tulane Graduate School of Business Administration, conceived the idea "that government officials, corporation officers, certified public accountants, stock exchange officers, security analysts, and professors interested and involved in the controversy gather around a conference table for a day and a half" (Rappaport, et. al., 1969). Major papers were presented by representatives of each of these respective groups. Comments by a person expected to have a different point of view from that first presented followed each presentation. The symposium "deserves special recognition for its timeliness, the

comprehensiveness of points of view represented, the quality of the formal presentations as a whole, and the particular format adopted in sequencing papers and comments on papers" (Sprouse, 1969, p. 139).

The Symposium began with a paper by lawyer A.A. Sommer, Jr. entitled "Conglomerate Disclosure: Friend or Foe?" He outlined how the problem of financial reporting for diversified companies originated in the context of anti-trust and was quickly picked up as a problem of financial reporting. He acknowledged and discussed several of the well known controversies relating to the problem of conglomerate reporting. His comments simply added credance to ideas previously discussed or acknowledged in other publications.

Andrew Barr, Chief Accountant of the SEC commented on the need for conglomerate disclosure in "Conglomerate Reporting - A View from the Securities and Exchange Commission." Mr. Barr commented on other studies on conglomerate reporting then in progress and presented an historical prospective of the financial reporting problems of the conglomerate firm. Barr argues that the problem associated with reporting on the various segments of the conglomerate firm is not a new subject but rather "an extension of a long standing practice" (Rappaport, et. al., 1969, p. 139).

Other papers presented at the symposium included:

"Anti-trust Implication of Conglomerate Reporting"

"A View from the Investment Community"

"A View from Management"

"Implication of Conglomerate Reporting for the Independent CPA"

and, "Accounting Problems and Some Proposed Solutions."

Each presentation was followed with a comment by someone with a different view from the author of the primary presentation. To elaborate on each of the presentations would be beyond the scope of this section. For an excellent review of the entire symposium, readers are invited to consult Sprouse (1969, pp. 139-149) or Rappaport, Firmin, and Zeff (1969, Complete Proceedings).

Three points covered in the "Synthesis of Discussion" of the report of the Symposium deserve mention. (1) "Meaningful discussion of methods to amplify public reporting of conglomerate corporations can take place only within a broader framework such as "segmental" reporting rather than in narrower terms such as "product line". Sprouse comments: "Unfortunately, experience suggests that there is little reason to be optimistic about this reported consensus. The opponents will continue to emphasize the insuperable difficulties of product-line reporting while the proponents will continue to plead for information about a few broad industry segments, and never the twain shall meet." (2) "There was a persistent concern with . . .

the fundamental question, "What information do users need"? The participants recognized that there are different classes of users of reported information and that the information is used for various purposes. This conclusion suggests the need for research relating to user needs for information and to decision models of users. (3) Participants in the Symposium agree that "regardless of the disposition of the issue of segmental reporting, there is an inevitability of "more". Most participants agreed that there are pressures demanding more complete disclosure of corporate financial information, and some participants recognized the accounting profession's unique responsibility to assist in finding a solution which will satisfy these demands" (Sprouse, 1969).

Mautz (1968)

The objective of Mautz' (1968, p. 161) extensive study entitled "Financial Reporting by Diversified Companies" was:

> " . . . to complete an investigation of the usefulness, practicability, and desirability of corporate disclosure, in published and other generally available reports, of the scope, nature, and results of operations on some basis more detailed than total company figures, for the purpose of making recommendations to interested parties respecting whether disclosure is desirable and, if so, the kinds and extent of such disclosures."

Mautz' report is contained in a 390 page volume of which about half is devoted to a description of the research method, reproductions of two lengthy questionnaires mailed to corporations and financial analysts, and

comprehensive tabulation of the results of the questionnaires. Mautz fully discloses all phases of his research.

Two sets of questionnaires were used in the basic research by Mautz. The corporate questionnaire was mailed to 2700 companies and 412 useful responses from "companies of varying sizes representative of all major, non-regulated industries"**were** received. The investors' questionnaire was mailed to 1,000 members of the Financial Analyst Federation. The investors' questionnaire was answered by 218 financial analysts and investment advisors from "widely scattered geographic locations and filling a variety of roles in the investment market" (Mautz, 1968, p. 161). Both questionnaires consisted of about 30 questions with answers requiring a large amount of time and effort on the part of the respondent.

The corporate questionnaire consisted of three sections: Section I sought "to obtain as complete a picture as is possible of the reporting structure of your company and its relationship to your corporate organization." The purpose of Section II is to "discover the difficulties, if any, you anticipate individuals outside your company would face in drawing realistic conclusions from certain internal, operating, reports." Section III asked for "opinions on various questions relating to the extent and method of published disclosure of operating information on some basis more detailed than total company figures" (Mautz, 1968, Appendix A). Some of the results of the

corporate questionnaire are (Mautz, 1968, pp. 147-151):

(1) There was a variety of responses to almost all questions and complete lack of consensus on any important part.

(2) Many reporting companies already prepare internal reports on less than total company basis.

(3) A variety of methods are used for common cost allocations and intra-company transfer pricing.

(4) A flexible approach to segmentation is preferable.

(5) Management finds danger in disclosing certain data on less than total company basis.

The investors' questionnaire was concerned with the need for conglomerate disclosures of persons "who use published annual reports of business corporations as a basis for investment recommendations and decisions" (Mautz, 1968, p. 269). The questionnaire asked for information about the respondent's approach to financial analysis -- what kinds of information are important, what relationships are examined, what indicators are calculated -- and his preferences about information that might be reported by diversified companies. Some conclusions drawn from analysis of the investors' questionnaire are (Mautz, 1968, pp. 151-153):

(1) Information (A) descriptive of a companies activities, (B) indicative of its share of markets, and (C) showing its success in terms of net income and return on equity data is important to investors.

(2) The three most important items desired is (1) sales, (2) net income, and (3) operating profit.

(3) Annual reports do not provide satisfactory clues to company segmentation.

(4) Diversified companies constitute a special problem to investors because of their activity in different industries.

(5) Analysts agree that common cost allocations present significant problems but were not suggestive of one clear choice of method for allocation.

Mautz further concludes that respondents to the questionnaire "conveyed an overwhelming impression of desire for more information on the operating activities of segments of diversified companies" (Mautz, 1968, p. 124). Early in his report, Mautz identifies three levels at which the problem of reporting for diversified companies may be attacked: first, desirability; second, feasibility; and third, methodological. He states that these are successive levels and that a negative answer to the questions at one level would preclude going to the next one. Sprouse comments "Desirability is inevitably subjective . . . The Mautz questionnaires . . . provide a tremendous amount of useful information about desirability. But desirability cannot be proven, particularly to the satisfaction of those who consider it undesirable." Sprouse further suggests that Mautz might have attacked the question of reporting by diversified companies at the level of feasibility and/or at the methodological level. He suggests devising a tentative solution to certain of the technical accounting problems involved and conducting an experiment with implementing that solution on a case study basis. "One might then reach demonstrable conclusions about what

is feasible and what is not feasible and the kind of guidelines that are required" (Sprouse, 1969, p. 157).

Backer and McFarland (1968)

Backer and McFarland (1968) present findings and conclusions on external reporting for segments of diversified companies from a larger NAA research project titled Financial Reporting for Investment and Credit Decisions. The report sought to (1) define segments which are significant to suppliers of capital and (2) determine what kinds of segmental financial information can best serve these user's purposes. The study has as its hypothesis that financial information relevant to investor's and creditor's needs can be identified by studying how these groups make decisions (Backer et. al., 1968, p. 1). The initial step was "to learn specifically how financial and credit analysts would use operating results for segments of a business (Backer et. al., 1968, p. 17).

In the study Backer and McFarland relied primarily on responses to questions obtained through interviews. They interviewed 72 financial analysts which were "carefully selected" with the help of the New York Society of Security Analysts; 71 commercial bankers chosen with the "guidance" of Robert Morris Associates and the American Bankers Association; and 70 executives of large industrial corporations, their method of selection not reported (Backer, et. al., 1968, p. 34). Interviewees were asked

to describe any important shortcoming they found in financial reports used by them. The report does not indicate whether standard questions were asked during the interviews and answers recorded and tabulated, or whether the interviews were only a method for collecting a mass of information in a short period of time.

As a result of analysis of the data gathered through the interviews, the following conclusions were drawn (Backer, et. al., 1968, pp. 3-4):

(1) Investors and creditors have an important need for operation results of major segments of diversified companies.

(2) Disclosure of sales and contributions to consolidated profits is needed for segments which are affected differently by economic conditions, which have differing rates of profitability, and which make material contributions to company sales and earnings.

(3) No standard classification of segments for reporting can yield meaningful results when applied to companies with diverse organization patterns.

(4) Management in each company can best define the segments for which to report provided information needs expressed by investors and creditors are met.

(5) Segment contribution margins constitute the most reliable and useful measures of segment profitability where there are material amounts of joint revenue and cost.

(6) No serious opposition to disclosures of segment sales was found.

(7) With some exceptions, opposition to disclosure of segment contributions to profits is strong among company executives.

(8) Executives of those companies which do now report segment earnings stated that the practice has brought better understanding of their companies in the financial community with no objectionable reactions of consequence.

(9) The investor's confidence in reports on segment operations will be improved if covered by the auditor's opinion.

The conclusions drawn by Backer and McFarland must be interpreted in light of the methodology--or lack of methodology--utilized in the study. The interviewees were "carefully selected" or selected with "guidance" from others. There was no indication of randomness in selection. There is no evidence that all interviewees were asked the same questions as no questionnaire is presented. No tabulation or summary of responses is included so the reader must simply accept the author's explanation. Sprouse explains the problem: "When it is reported that "in discussion with company executives the NAA research team gained the impression that in the aggregate, net corporate expenses generally represent about 1 - 2% of sales" (p. 59), one must accept it as just that--not a tabulation of answers and not a review of summaries of interviews, but an "impression" gained during the 70 interviews" (Sprouse, 1968, pp. 151-152).

Stallman (1969)

Stallman's research was designed to assist in judging whether a particular accounting disclosure represents an improvement in the sense of satisfying investors'

informational needs. He reasoned that "to justify any proposed extension of accounting disclosure it should perhaps be required to demonstrate that the additional information meets the needs of the most sophisticated analyst-investors using the best available techniques of analysis"(Stallman, 1969, p. 30). Based on the assumption that the analyst-investor's needs can be defined "as that set of data which leads him through analysis to a confident and reliable valuation" Stallman suggested the following experimental criterion (Stallman, 1969, p. 32):

> An additional accounting disclosure will be judged useful in terms of satisfying investor needs when it is demonstrated that through use of the additional disclosure investors become more confident in their own analysis of the investment value of a security and consequently place more reliance on their own analysis and less reliance on the consensus of the market in arriving at more reliable determination of that value.

To describe the application of the proposed criterion Stallman studied the effects of additional accounting disclosure of divisional (segment) income statement data on financial analysts' confidence in their own analysis. Questionnaire packets containing annual reports and price data for each of two hypothetical companies were mailed to a sample of 1,068 financial analysts selected from the 1967 membership directories of the Financial Analysts Federation and the Institute of Chartered Financial Analysts. The analysts were asked to judge the long-run investment value of a share of stock of each of the two companies. Useable responses were obtained from 121

financial analysts. The responses provided input for a 2 x 2 x 2 factorial design analysis of variance model.

Condensed annual reports were prepared for the two hypothetical companies. Data from real companies were used and adjusted to the needs of the study. Half of the annual reports contained the additional disclosure of divisional (segment) data. Thus the presence or absence of the additional disclosure constituted two levels of Factor A--the disclosure treatment factor of the experiment. Factor B--the price performance factor, contained two levels. Level 1--relatively high prices contained a 10 year history of stock prices approximately 10% above the weighted average prices while Level 2--relatively low prices, reflected prices approximately 10% below the weighted average. Differences in name of the two companies accounted for Factor C--the company factor. Factors A and B were experimentally manipulated with repeated measurers on Factor C--the company factor. All three factors are fixed factors.

By obtaining long run investment values of a share of stock and manipulating Factors A & B, Stallman operationalized his criterion. He reasoned that analyst-investors given a particular disclosure treatment but different stock price performance data (Factor B) might rely more on the stock price performance data in judging stock value. Similarly, he suggested that analyst-investors

given like stock performance data but different levels of disclosure might rely more on the additional disclosure. If an analysis of variance of the stock values given by the analysts-investors shows less effect due to the manipulation of the price performance data in the presence of the additional disclosure, the additional disclosure satisfies Stallman's suggested criterion and is judged useful in terms of satisfying the analysts-investor's information needs.

The effects of Factor B, the price performance factor, and Factor C, the company factor, were found to be significant at the .001 level. The AB interaction effect was significant at the .05 level. The overall effects of Factor A, the AC and BC interactions, and the ABC interaction were not significant at the .25 level. These results signify that the disclosure treatment alone had no effects on the financial analysts stock valuations. While the stock valuations differed, the absence of significant AC interaction signify that the differences were not affected by the additional disclosure of segment data.

The AB interaction indicated that the effects of Factor B, the price performance factor, were different at the two levels of Factor A, the disclosure treatment factor. Those analysts receiving the additional disclosure of segment data were influenced less by the difference between the high and low price-performance data than those who did not receive the data. The reduction in the effect

of the price-performance factor resulting from the addition of segment disclosures meets Stallman's criteria for judging disclosure improvement. Based on Stallman's criteria, one may conclude that the addition of segment data constitutes an improvement in accounting disclosure, thus segment data is useful to analyst-investors.

McDonald (1969, pp. 44-50) presents three criticisms of Stallman's study. First, he suggests in future studies that some less sophisticated investors should be included. Second, he suggests that respondents should have been asked for a confidence interval in addition to a point estimate. Confidence is signaled by a decrease in the variance of one's subjective probability distribution while Stallman's criteria focuses on the extent to which the analysts' estimate of stock value departed from a reported market price given. Third, McDonald questioned the low response rate and the possible non-response bias. Further criticism with respect to Stallman's presentation of the experimental design and interpretation was given. McDonald concluded that "for a paper dealing with disclosure, it lacks disclosure."

Kleinman (1969, pp. 51-54) has presented slight variations to Stallman's study using the same data. His study strengthened the conclusion that segment data are valuable to investors, at least in circumstances similar to Stallman's experimental conditions. Porcano (1976, pp. 33-34) presents two additional criticisms to Stallman's

study. First, he suggests that randomization of the subjects did not insure control over individual subject differences; therefore, Stallman should have collected background data from the analysts which would have enabled him to control better for these differences. Second, by issuing condensed annual reports rather than financial statements only, the narrative portion of the annual reports might have influenced individual judgments about the companies. These two uncontrolled variables (individual differences and narrative reports) might have confounded the results of the study.

Stallman's study revealed that segment data alone does not have a significant effect on analysts' decisions regarding stock valuations. His study, being the first experimental study dealing with the effects of segment disclosure provided a new approach. The study suggested that the "perceived need" revealed in previous studies might need further study. The study also suggests other variables that may interact with additional disclosures which may modify an analyst-investor's decision.

Kinney (1971)

Kinney tested the relative predictive power of segment earnings data for a sample of companies which voluntarily reported sales and earnings data by segment. Consolidated earnings for the firm were predicted for 1968 and 1969 using segment and consolidated sales and earnings data in

conjunction with other investment and economic data available in early 1968 and 1969. The purpose of the study was to "assess whether in a minimal sense, the reporting of subentity (segment) data adds to the investors capability to predict earnings of the diversified company" (Kinney, 1971, p. 128). Kinney used four mathematical models in the study. The first two models used consolidated data to predict consolidated earnings while the second two utilized both consolidated and segment data to predict consolidated earnings.

The first model assumes the firm under study is so completely diversified that it becomes a model of the economy. Under this condition, future consolidated earnings are predicted simply by multiplying last period's consolidated earnings by one plus the rate of growth of GNP from last period to the current period. Model 2 assumes a less diversified firm diversified in such a way that fluctuations in earnings among divisions offset and a constant overall rate of growth is experienced. Consolidated earnings thus are predicted by an analysis of the trend in consolidated earnings.

Model 3 used segment sales as a model input. Individual segment sales were predicted by applying rates of change in industry revenues to the past sales of the segment. The segment sales estimates are then summed to estimate consolidated sales and the sum multiplied by the consolidated profit rate to estimate consolidated earnings.

The consolidated profit rate was determined to be the most recent three-year average of the ratio of consolidated earnings to consolidated sales. Model 4 incorporated segment earnings data. Segment sales are first estimated and then segment profit rates equal to the three year average of the ratio of segment net income to segment sales are applied to arrive at estimates of segment earnings. Segment earnings are then summed to provide consolidated earnings.

Predictions for each of 24 companies under each of the prediction models were made for 1968 consolidated earnings. For 1969 predictions were made for only 19 of the companies. Kinney found that the average absolute prediction errors were greater when predictions of consolidated earnings were made using consolidated (models 1 and 2) models. The differences were too large to be easily explained by chance, thus "the additional information contained in the segment sales and earnings data and industry predictions did allow a statistically significant reduction in uncertainty in predicting the earnings of the test companies"(Kinney, 1971, p. 133). The estimates for 1968 and 1969 for all prediction methods tended to be less than the actual results. Model 1 had results which were closer to actual on the average than any of the other tested methods for each year but still less than the actual. The 1968-69 combined average prediction was 96.7 percent as great as actual consolidated

earnings. The extension of linear trend in consolidated earnings (model 2) was the most biased with a 1968-69 combined average prediction level of 80.2 percent of actual. Prediction models 3 and 4 had 1968-69 combined average prediction levels of 93.8 and 95.4 respectively. Kinney concludes that "predictions based on segment sales and earnings data and industry predictions were on the average more accurate than predictions based on models using consolidated performance data alone"(Kinney, 1971, p. 136).

While Kinney's study suggests that predictions of consolidated earnings may be more accurate using segment data as a model input, he cautions against extending the results of his study to the entire population of diversified companies. His study sample included only firms which voluntarily reported segment earnings, which suggests that "there may be some characteristic peculiar to the reporting firms which explains their willingness to voluntarily disclose their segment earnings"(Kinney, 1971, p. 134). In an effort to overcome the limitations of Kinney's work, Collins conducted a similar, but expanded, study. Collins' basic conclusions were not unlike Kinney's: (1) "that segment data together with industry projections lead to more accurate predictions of the level of total entity earnings than do forecasting procedures which rely on historical consolidated data" and (2) "that there is only a nominal incremental improvement in prediction afforded by

the disclosure of segment profit data in addition to segment revenue" (Collins, 1976, p. 174).

Kochanek (1974)

Richard F. Kochanek employed security market-oriented models to investigate the utility of segmental financial disclosure to investors. His research was designed to examine security market reactions of accounting information recipients for diversified firms which had adapted alternative segmental financial disclosure methods. He hypothesized that "external financial reports for diversified firms disclosing segment data reduced the uncertainty of investors to such a degree that (1) investors with segment data are better able to predict future earnings changes of the firms and (2) security price fluctuations of the firm are dampened" (Kochanek, 1974, p. 246).

Kochanek's sample of thirty-seven firms was selected from a larger sample of sixty-three diversified firms used by Weston and Mansinghka in a previous study. Annual financial reports for the thirty-seven firms were obtained and studied for the years 1966, 1967, 1968, and 1969. Based on the type of segmental disclosures that had been identified and generally agreed upon by past researchers as desirable from an investor point of view, a list of desirable reporting characteristics was developed. In order to differentiate the sample firms with respect to degree of subentity reporting, weighted index numbers were assigned to

the extent that specific items of disclosure were in the financial reports. Summations of the assigned index numbers served as a basis for classifying the sample firms into subsets of "good" and "poor" reporters of segmental data. Twenty-four firms were classified as "good" and thirteen as "poor". Of the twenty-four "good" reporters, the top six were referred to as "superior".

Four different correlation models were used to determine if firms disclosing subentity data had greater earnings predictability than firms not disclosing such data. Earnings predictability was measured by correlations between changes in annual reported earnings per share and changes in stock prices computed over time which preceeded and succeeded the earnings change observation year. The degree of association between earnings changes and stock price changes was measured by the Spearman rank correlation co-efficient. The four models were referred to as long term, intermediate, short term, and current. The long term and intermediate models were used to test the predictive informational content of segmental financial reports. The short term and current models were designed to test whether investors, in the absence of segmental data, reacted more to current sources of financial data than to long run earnings predictions.

The empirical results obtained from the correlation models were used to rank the sample firms with the "good"

and "poor" segmental reporting subsets. The null hypothesis that "good" and "poor" segmental reporters had the same distribution of r_s coefficients was tested by the Mann-Whitney U test. The null hypothesis of no difference in r_s coefficients between "good" and "poor" reporters were rejected at the 0.04 level of significance for the intermediate model, and at the 0.03 significance level for the long term model. Likewise, the null hypothesis of no difference in r_s was rejected at the 0.02 significance level for the short term model, and at 0.05 level for the current model. These combined results indicate that segmental data contains information content for investors regarding future earnings changes of a diversified firm.

To test the hypothesis that security price fluctuations of the firm are dampened when segmental data is available a variability model was used. A measure of variability was computed and the Mann-Whitney U test was used to test for a difference in computed stock price volatility ratios between "good" and "poor" reporters. The test results did not provide conclusive evidence that the presence of segmental information causes a dampening of security price fluctuations.

Kochanek admits a possible weakness in his weighing index. The use of any weighing scheme is of a highly subjective nature and his may have failed to effectively differentiate the sample firms into "good" and "poor" reporting subsets. Group characteristics other than

differences in segmental disclosure might also generate different stock market reactions. In spite of his admitted limitations, Kochanek concludes that "the evidence collected tends to support the position that external financial reports containing segmental data do provide a useful source of information to investors in appraising the investment potential of a diversified firm's stock" (Kochanek, 1974, p. 258).

Barefield and Comiskey (1975) use a more direct measure of forecast performance on Kochanek's sample and disclosure scores to test the impact of disclosure of segment data on earnings forecastability. Additionally they test the impact of the number of product lines on forecastability. Their results as to forecastability were consistent with Kochanek's but somewhat weaker. Kochanek's work is criticized in that he did not control for factors which may influence the volatility of earnings. Among those identified were (1) inherent volatility of earnings caused by industry affiliation and (2) the number of segments in a company. Their results indicate that segment disclosure may have a greater effect on firms having a larger number of segments.

Barefield and Comiskey (1975, p. 121) call Kochanek's research "a creative but inadequately controlled piece of research" in an attempt to study the relationship between segmental disclosure and earnings forecastability. Their

comment identified some additional factors that should be examined in future studies. Both writers conclude that further research is needed to support the case for reporting of segmental data.

Collins (1976)

In two separate articles Collins (1976, a & b) reports the results of research designed to overcome some of the limitations of Kinney's 1971 study. Collins sought to determine whether segment data reported under the rather broad and flexible SEC guidelines were useful in terms of enhancing analyst's and investor's ability to predict future consolidated profits of a multi-segment firm. Ninety-four multi-segment firms were randomly selected from firms not reporting segment earnings data before 1970 line of business disclosure requirements. Predictions of consolidated earning for 1968, 1969, and 1970 were made with models incorporating historical segment revenue and profit data from 1967-1969 taken from the sample firms 1970 10-K reports. The predictions were compared to predictions of consolidated data. For a detailed discussion of the models the reader is invited to examine either of the referenced articles.

Collins found earnings forecasts based upon segment data disclosed according to the SEC guidelines to be more accurate than forecasts based upon historical consolidated information. The actual difference, although statistically

significant, between consolidated forecast error and the segment based error was only about 2-3 percent. Whether the value of improved predictive accuracy of this magnitude is greater than the cost of providing such information is questionable. Collins concludes that the main advantage of segment data apparently comes from disclosure of segment revenue since predictive ability was enhanced only slightly when segment profit data was incorporated into the models. These results generally corroborated findings from Kinney's earlier work.

Horwitz and Kolodny (1977)

Horwitz and Kolodny (1977) tested the effects of changes in the SEC disclosure law pertaining to line of business reporting by analyzing over a nine-year period two sets of 50 firms, one required to report for the first time on a line of business basis during 1971 and the other not required to do so. Their empirical work was conducted in two parts. The purpose of the first was to determine whether or not the perceived risk characteristics of firms changed significantly when the previously nondisclosed information became public; and if such changes were evident, to identify their nature. The second part sought to determine whether the added disclosure contained other information which led investors to revalue securities at the time of disclosure. For each of the 100 companies making up the

two samples monthly price and cash dividend data were obtained from the COMPUSTAT PDE file for the nine-year period 1965-1973. The time period was divided into three sub-periods for analysis:

(1) Predisclosure period - 1965-1970

(2) Disclosure period - 1971

(3) Post disclosure period - 1972-1973

Using the collected data the level of market risk associated with each firm's security was estimated for predisclosure and post disclosure periods. The procedure was to assess beta coefficients by regressing for each firm monthly returns on analogous market returns for each period. The purpose of the regressions was to determine whether or not shifts in perceived market risk as measured by beta during the disclosure period were significantly greater for firms reporting line of business data than for those not reporting. To measure the change in market risk the absolute value of the change in beta from pre-disclosure to post disclosure periods was computed for each security and averaged for each of the two sample groups. A difference in the means test was performed to test whether the average absolute beta change observed in the reporting group was statistically different from that observed for the non-reporting group. The null hypothesis that no difference existed between the two groups was accepted at the .05 level of significance thus supporting the contention that shifts in market risk around the time

of disclosure were no greater for reporting firms than for nonreporting firms. Evidence did not support the concept that providing line of business information to the public affects the level of market risk perceived by investors.

To evaluate the effects of disclosure on security returns, a cross sectional average of the residuals of companies in each company were also calculated as well as two cumulative measures of abnormal return, a cumulative average residual and a cumulative absolute value residual. Horwitz and Kolodny reasoned that if line of business disclosure did alter investor's expectations and the market was efficient as they assumed, two effects should be observed in the residual analysis. First, the absolute value of the residuals in the months surrounding disclosure should be greater for the reporting firms than for the nonreporters. Second, if the data were acted upon, this should be discernible in the pattern of residual statistics for the line of business reporters sample over time. An analysis of the residual statistics revealed: (1) No apparent differences in the average or cumulative average residuals between the reporters and nonreporters in the months surrounding the reporting period. (2) No apparent differences in the average absolute value or cumulative average absolute value of residuals between the reporters and nonreporters. (3) No apparent differences in the residual statistics for the reporting

group over time. Additional analysis of the data was made but the results were unchanged. The data did not suggest that the reporting of the line of business data caused a reassessment of the value of the reporting firm by investors. The writers conclude that their study results "provide no evidence in support of the universally accepted contention that the SEC required disclosure furnished investors with valuable information" (Horwitz et. al., 1977, p. 247). The writers realize that some qualifications to their study is in order but suggest that the SEC should be required to offer stronger evidence that additional required information will be of benefit to investors than simply to assert that the information seems useful.

Summary

Virtually all groups concerned with financial reporting have taken strong positions on the potential usefulness or harm of reporting business segment information. Some have been supporters of voluntary disclosure while most seem to favor mandatory disclosures. The literature reveals that evidence supporting the usefulness and/or influences of segment disclosure is less than conclusive.

The Tulane Symposium served as an early sounding board for the entire issue of conglomerate reporting. While the participants in the symposium did not agree on

many points covered, the symposium did serve as a discussion point for persons of varied interests and involvement in the segment reporting controversy. No real answers resulted from the symposium but most participants recognized that the issue would demand attention in coming years. Some participants recognized the accounting profession's unique responsibility to assist in finding a solution to the issue.

The Mautz study and the Becker-McFarland study added to the literature dealing with segment reporting issue. Both were questionnaire-type studies dealing with perceived need for segment disclosure. The Mautz study, gathering information from both corporate management and security analysts, provided a wealth of information about the desirability of reporting segment information. Unfortunately desirability of information is not synonymous with need. The study provided little information about investor's need for segment disclosure. The Backer-McFarland study was similar to the Mautz study in that no conclusive evidence was provided to show the need for segment disclosures. Financial analysts, commercial bankers, and corporate executives, were interviewed in an attempt to determine what kinds of segment information is useful to them. Certain conclusions were drawn as to usefulness but must be carefully interpreted due to the weakness of the researcher's methodology.

In an attempt to overcome some of the weaknesses of research dealing with opinions or perceived need, Stallman conducted the first experimental study concerned with the effect of disclosure of segment information. Stallman established a new approach to the problem and found that the disclosure of divisional income data alone did not have a significant effect on analysts' decisions regarding stock valuations. The study provided information which suggests that other variables acting with the segment disclosures might have an effect on investor's decisions.

Kinney and Collins conducted indirect research studies to determine whether investors are able to make better earnings forecasts using segment data. The studies assumed that if segment-based prediction models yield better forecasts than consolidated-based models, then disclosure of segment information is useful to investors. To determine the level of aggregation most useful, three comparisons were used. The accuracy of models using segment sales information was compared with accuracy of models using both segment sales and earnings data and the accuracy of models using segment sales only. Both studies found that models based on segmented sales and a consolidated profit margin resulted in better forecast accuracy than forecasts using only consolidated data. The forecast accuracy of models using segment earnings

data was no greater than models based on segment sales data and consolidated profit margins. The authors concluded that once segment sales are known, there is little need for further segmentation.

Kochanek, employing security market-oriented models to investigate the utility of segmental disclosures to investors, obtained empirical results that suggest that predictions of future earnings are improved when using segment data. He found that firms disclosing segment data exhibited lower weekly stock price variability over time than firms not providing such data. However, the quality of a firm's stock in terms of the historical growth and stability of earnings and dividends was a more important factor in explaining stock price variability.

Horwitz and Kolodny examined the impact of segment reporting on the securities market by using the capital asset pricing model to assess the effect of segment disclosure on the securities market. Their research provided no evidence in support of the contention that segmental disclosures provide valuable information to investors.

The reporting of segment information has been mandated by the Securities and Exchange Commission and by the Financial Accounting Standards Board. The need for mandated segment disclosures, even for segmental disclosures at all, is questionable. The research reviewed in this chapter does not present conclusive evidence that supports

the usefulness of segment disclosure. The discussion and demands for segment information started in the late 1960s resulting in expansion of disclosure requirements by the SEC in 1970 and the requirement for additional disclosure by the FASB in 1976. Generally, the SEC requirements and those of the FASB are the same. The controversy has not ended. Discussion continues concerning the need and usefulness of segmental disclosures.

CHAPTER III

RESEARCH OBJECTIVE AND METHODOLOGY

In 1972 the Study Group on Objectives of Financial Statements of the American Institute of Certified Public Accountants stated:

> An objective of financial statements is to provide users with information for predicting, comparing, and evaluating enterprise earnings power (Trueblood, 1973, p. 24).

They further stated:

> An objective is to provide a statement of periodic earnings useful for predicting, comparing, and evaluating enterprise earnings power (Trueblood, 1973, p. 37).

The ability to accurately predict corporate earnings is of primary concern to all financial analysts. Prediction of earnings may be the most important item in making investment decisions. Kaplan reviewed a number of empirical studies and commented:

> The studies provide fairly convincing evidence that the procedures accountants use to arrive at a net income number or EPS number do not destroy the informational content of these numbers. Investors with advance knowledge of a firm's income numbers should be able to earn superior return, and no other financial number has yet been found that one would rather have a year in advance than the net income number (Kaplan, 1978, pp. 143-144).

In 1966 the Committee to Prepare a Statement of Basic Accounting Theory of the American Accounting

Association similarly stated:

> Future earnings are the chief determinant of future dividends and future market prices of shares . . . which when taken together, are generally considered to provide the primary basis for establishing a subjective value for the share in the mind of the user (AAA, 1966, p. 23).

Louderback further supports the usefulness of net income predictions in the investment decision:

> Income is said to be a surrogate or proxy for dividends and share prices. In short, is assumed to be relevant to investor decisions and therefore formulations of expectations about future incomes are necessary components of decisions about relative merits of common stock (Louderback, 1971, p. 298).

The composition of the numbers that make up the total earnings of a firm may be important. Accounting disclosures provide these numbers. The diversified firm has been characterized by Mautz as one that "experience(s) rates of profitability, degrees of risk, and opportunities for growth which vary within the company" (Mautz, 1968, p. 7). In one study about 80% of the financial analysts interviewed cited failure of diversified companies to provide sales and earnings breakdowns for major product and market segments as significant shortcomings of corporate annual reports (Backer & et al., 1968, p. 7). Requirements have been mandated for segment disclosures which are supposed to eliminate these objections. More detailed analysis can be made of the firm than with only aggregated data. Segment data provides information such that, "one can compute a weighted average of the segment multiples for a useful

appraisal of the entire company, one that does not give undue weight to a minor activity" (Mautz, 1968, p. 95). Disclosure of segment data may affect user's predictions of corporate earnings. SFAS No. 14 mandates significant disclosures of segment data for the diversified firm. One may surmise that the amount of data provided should be the minimum that would provide users with information for their predictions. There is no empirical evidence that supports the need for all the information required by SFAS No. 14. This study seeks to determine whether the disclosure of different levels of segment information affects financial statement user's decisions regarding predictions of future net income.

In 1966 the committee to prepare a Statement of Basic Accounting Theory of the American Accounting Association suggested that accounting is concerned with effective transmission or communication of information and that the assumptions of financial statement preparers and the reactions of the user's of financial statements need to be studied (AAA, 1966, p. 64). This study looks at the behavior of the users of financial information, thus the research methodology is drawn from the behavioral sciences.

A laboratory experiment is an appropriate methodology for this study. Rhode (1972, pp. 127-128) suggests that the three primary data collection methods available for use by the behavioral accounting researcher interested in

accounting numbers are (1) the laboratory experiment, (2) the field experiment, and (3) the field study. Laboratory experiments are characterized by their control of potential influence factors or independent variables which may affect the problem under investigation. The field experiment utilizes less direct control over experimental variables than do laboratory experiments. Non-participant observers are used to record observed behavior. The observers used must be highly skilled in order to insure that valid observations are being made. Of the three methods of data collection there is an increase in external validity and a decrease in control as one moves along a continum from laboratory experiments to field studies.

Caution must be used in extrapolating laboratory results to the real world. The ability to verify laboratory findings through replications by other researchers is characteristic of the laboratory experiment as the methodology isolates extraneous variables. The control exercised in a laboratory experiment permits the development of theoretically defensible hypotheses. The desirability of subsequent experimental replications on different user groups and the apparent applicability of this design to the topic under investigation suggest that the laboratory experiment is an appropriate methodology for this study. A true laboratory experiment was not practical for this study as getting a representative sample of the research

subjects together in a laboratory setting was not possible. Thus, while the design is suitable for a laboratory experiment, the present study is conducted in less than a true laboratory setting.

Findings from the empirical research techniques employed in this study will contribute to a better understanding of the need or lack of need for the comprehensive segment disclosures required by SFAS No. 14. Specifically this study seeks to provide evidence concerning the influence that disclosing different levels of segment data has on the decision making behavior of sophisticated users of published corporate financial statements. Chartered Financial Analysts serve in this study as a surrogate for the sophisticated user. The primary surrogate for the influence on decision making ability of Chartered Financial Analysts in this study is the existence of a statistically significant difference in projections of net earnings. Influence on users' decision making is classified as (1) influence on CFAs' average prediction of corporate earnings, (2) influence on variability in earnings predictions (communicative ability) among CFAs, and (3) influence on CFAs' confidence in their prediction of corporate earnings.

The research objective required the collection of data which would determine the influences of segment disclosures on (1) CFAs' average prediction of corporate

earnings, (2) communicative ability of the disclosures among CFAs, and (3) the confidence CFAs place in their predictions. The following data were collected: (1) predictions of corporate earnings, (2) measures of communicative ability, and (3) measures of confidence. The data were collected through the use of a questionnaire included in an information packet mailed to all sample members. Respondents were asked to use the financial statements in the information packet to (1) predict net income of a hypothetical company for 1981, and (2) to indicate an interval of net income in which they were 95% confident 1981 net income would fall.

Two independent variables are used in the study: (1) level of segment disclosure (6 levels), and (2) earnings variability (small or large). The primary research objective is to determine the influences that disclosure of different levels of segment data have on decision making ability of CFAs. The second independent variable is included because segment earnings may have a moderating effect on CFAs' decision making. In order to include all possible combinations of the independent variables, twelve sets of financial statements were prepared; one for each combination of the levels of the independent variables.

Hypotheses and Test Methodology

To achieve the primary research objective of this study, the following hypotheses are tested to determine

the influences that disclosure of different levels of segment data have on the sophisticated user of financial statements.

H_1 The level of disclosure of segment data in published corporate financial statements has no significant effect on Chartered Financial Analysts' average level of prediction of corporate earnings.

H_2 Earnings variability and the level of disclosure of segment data in published corporate financial statements have no significant interaction effect with respect to Chartered Financial Analysts' average level of predictions of corporate earnings.

H_3 The level of disclosure of segment data in published corporate financial statements has no significant effect on variability in earnings predictions (communicative ability) among Chartered Financial Analysts.

H_4 Earnings variability and the level of disclosure of segment data in published financial statements have no significant interaction effect with respect to variability in earnings predictions (communicative ability) among Chartered Financial Analysts.

H_5 The level of disclosure of segment data in published corporate financial statements has no significant effect on Chartered Financial Analysts' confidence in their predictions of corporate earnings.

Hypotheses 1, 2, and 5 are analyzed through the use of variance analysis. Hypotheses 3 and 4 are tested by an appropriate test for homogeniety of variance. Computer programs are used in the analysis to the degree practical.

Discussion and Test Methodology - Hypothesis H_1

H_1 The level of disclosure of segment data in

published corporate financial statements has no significant effect on Chartered Financial Analysts' average level of prediction of corporate earnings.

This hypothesis addresses effects that level of disclosure of segment data has on CFAs' average level of prediction of corporate earnings. Estimated earnings is an important element of investment decisions. If decisions made on the basis of the disclosure of different levels of segment data are not statistically different, then the necessity of mandatory requirements for comprehensive reporting of segment data may be open to question. For example, if revenue by segment supplies users with all information needed for decision making, what is the purpose of the requirements for additional disclosures? Similarly, if revenue plus profitability data meet user needs, the necessity for additional disclosures may be open to question.

Analysis of Variance (F-Test) was used to test whether the sample groups came from the same population (the means of the net income projections are not statistically different). An assumption associated with the statistical model underlying the F test is that the observations are independently drawn from a normally distributed population; all of which have the same variance (Siegel, 1956, p. 174). The power of the F test used in the analysis of variance model is not seriously affected by small to moderate departures from the normality

assumption. Reasonable departures from the equality of variance assumption may occur without seriously affecting the validity of inferences drawn from the data (Green and Tull, 1975, pp. 411-412).

An additional assumption of the analysis of variance model requires that the observations (or the errors therein) be statistically independent, or uncorrelated. Whether or not this assumption has been met cannot be known with certainty. By drawing a random sample from the population of CFAs and making a random assignment of treatments to the experimental unit, the experiment may proceed as if the assumption has been met. Randomization does not guarantee independence, but permits experimentation as though independence exists. In any experiment, true and complete independence of errors is an ideal unlikely to be achieved. Complete independence should be sought, however, and randomization is a widely accepted technique used as a surety for independence (Ostle, et al., 1975, p. 263).

A further assumption is that the effects of various factors on the total variation in the model is additive. The basic model underlying the analysis of variance is that a given observation may be partitioned into independent and additive bits; each bit resulting from an identifiable source. In most cases there are no grounds to suspect the validity of the model (Ferguson, 1971,

pp. 219-220). The ANOVA technique is quite robust in relation to the assumption and a researcher may rely on its adequacy under most circumstances (Ostle, et al., 1975, p. 353).

Discussion and Test Methodology - Hypothesis H_2

> H_2 Earnings variability and the level of disclosure of segment data in published corporate financial statements have no significant interaction effect with respect to Chartered Financial Analysts' average level of predictions of corporate earnings.

This hypothesis addresses the interactive effects that the level of segment data and segment earnings variability have on CFA's average level of prediction of corporate earnings. Projections of net income for the firm may be influenced by variability in income history of each segment. Rappaport and Lerner (1969, pp. 17-18) suggest that the user of financial statements requires information about each segment's income before a reasonable estimate of security's growth in earnings can be made. When segments of a firm have the same growth rate history the usefulness of segment data may be questioned. Usefulness is probably much greater when the historical growth rate of the various segments differ. In his study of the effects of segment disclosure vs. non-disclosure on non-sophisticated users of financial statements, Porcano (1976, p. 82) found no significance in the interactive effects of segment disclosure and earnings variability on the average

level of subject's prediction of corporate earnings. His results seem to indicate that the effects of segmental disclosure and non-segment disclosure are similar regardless of earnings variability. In the Porcano study, students were used as surrogates for the non-sophisticated user of financial statements. Chartered Financial Analysts and other relatively sophisticated groups may rely more heavily on segment data than did the student surrogates.

A two-way Analysis of Variance (ANOVA) was used to test hypothesis H_2. A two-way analysis is used to compare groups which differ from one another along two dimensions (independent variables). The two independent variables are levels of segment data (6 levels) and segment earnings variability (small and large). A two-way ANOVA permits the researcher to examine main effects of each of the two independent variables and interaction among the variables.

Discussion and Test Methodology - Hypothesis H_3

> H_3 The level of disclosure of segment data in published corporate financial statements has no significant effect on variability in earnings predictions (communicative ability) among Chartered Financial Analysts.

Hypothesis H_3 addresses the effect the level of disclosure of segment data has on the variability in earnings predictions (communicative ability) among Chartered

Financial Analysts. To be useful, an accounting disclosure must communicate information to a user of that information in such a way that decisions can be made. Ijiri and Jaedicke (1966, p. 478) suggest that the usefulness of a measure can be determined after a specific use of that measure is defined. In this study CFAs are asked to use the financial information contained in the information packet to estimate future earnings. Levels of disclosure of segment data are varied in the information packet. If the use of this varied data results in similar decisions when applied by different readers, then usefulness of some levels of the data may be questioned since, apparently, no useful additional information has been communicated. In order to measure the communicative ability of the levels of segment data a measure of the ability of the disclosure to communicate information to CFAs is defined as the degree of consensus among CFAs regarding their projections of net earnings. The communicative ability of each level of segment disclosure examined in the study is measured by the variance of the distribution that results from analysis of the net income projections made under each of the six levels of disclosure. This measure of communicative ability is similar to the measure of communicative ability used by Ortman (1975, pp. 303-304) and the measure of objectivity used by Ijiri and Jaedicke (1966, p. 477). Porcano used a similar measure to obtain

measures of prediction consensus in his study (Porcano, 1976, p. 63).

Hartley's Fmax Test for Homogeniety of Variance is used to study and compare the variances of the six sample groups to determine whether the variances of populations from which the groups projections of net income were drawn are significantly different. Where there is a statistically significant difference, an analysis is made of the increases and decreases in communicative ability among the six sample groups.

Discussion and Test Methodology - Hypothesis H_4

> H_4 Earnings variability and the level of disclosure of segment data in published financial statements have no significant interaction effect with respect to variability in earnings predictions (communicative ability) among Chartered Financial Analysts.

Hypothesis H_4 seeks to determine whether there are any interactive effects between the level of disclosure of segment data and earnings variability with regard to variability in earnings predictions (communicative ability) among Chartered Financial Analysts. Since there are no formal tests for interactive effects on variances, this hypothesis is informally tested using the same test procedures used for H_3 and appropriate comments are made regarding increases and/or decreases in communicative ability resulting from the differing levels of disclosure of segment data and earnings variability.

Discussion and Test Methodology - Hypothesis H_5

H_5 The level of disclosure of segment data in published corporate financial statements has no significant effect on Chartered Financial Analysts' confidence in their predictions of corporate earnings.

Hypothesis H_5 seeks to determine whether the level of disclosure of segment data affects Chartered Financial Analysts' confidence in their predictions of corporate earnings. Chartered Financial Analysts make projections of income and render advice on investments to potential and current investors. The analyst should become more confident in his or her recommendations as he or she becomes more confident in these earnings projections. If the confidence range of analysts can be reduced as the result of receiving additional information, an assertion may be proposed that the information is useful. Stallman suggests that if disclosure of additional information increases user confidence in their decisions, then the information is useful. "Improved accounting disclosures should permit more reliable projections of future performance and allow more reliable valuations to be made" (Stallman, 1969, p. 31). Confidence in valuation depends upon the user's judgement of the reliability of projections. Reliability, and thus confidence, should be strengthened if additional disclosures have been incorporated into decisions regarding projections of net income. Segment information permits the user to view the components

of the firm being studied, thus allowing the assignment of proper values to each firm segment. Confidence in projections and decisions should be enhanced.

In order to study this hypothesis, a measure of confidence equal to the difference between the upper and lower level of confidence (or the confidence range) is used. A one-way ANOVA is used to analyze the confidence measures obtained.

Sample Subjects

An important phase of any research study is the determination and selection of the sample respondents to be included. The fundamental purpose of financial statements has been stated as the provision of information for economic decision making to users who otherwise do not have the means or resources to gather such data (Trueblood, p. 17). Due to the diversity of user requirements for information all potential needs or users cannot be considered in any one study.

Stockholders, current and potential, are usually considered primary users of corporate financial statements. A 1973 study concludes that "Among corporate executives current stockholders and prospective shareholders (and those who influence their decisions) are the primary audiences for corporate financial reporting" (Rice, et al., 1973, p. 72). Stockholders needs must receive top

priority when establishing disclosures to be made in annual reports. Because of the size and diversity of the stockholder group, one cannot contact all stockholders to determine their informational needs. A more logical research approach is to define an appropriate surrogate for the stockholder group. The professional financial analyst is often used as surrogate for stockholders.

Professional financial analysts have enormous influence in the modern investment market. Backer (1970, pp. 12-13) states that there are probably few investors who do not utilize the work of professional analysts to some extent. If the needs of the professional analysts are met then the needs of the individual investor are probably also met (Mautz, 1968, p. 55). Professional financial analysts used in this study are members of the Institute of Chartered Financial Analysts and have earned the title of Chartered Financial Analyst (CFA) through passing a rigorous examination and meeting certain experience requirements.

Sample Plan and Responses

The 1980-81 membership directory of the Institute of Chartered Financial Analysts include 5,277 United States residents as members. This membership represents the size of the CFA population considered in this study. From this population, a random sample of potential participants was

chosen. In determining an appropriate number of CFAs to be included in the sample, the primary consideration was that the sample obtained should be large enough to be representative of the entire population, yet at the same time, not be so large as to make the project economically unfeasible.

Prior to the complete mailing, a pre-test was taken. Ten information packets for each sample group were mailed to randomly selected CFAs. The pre-test was designed to determine whether revisions to the original information packet were necessary. All cells of the design were represented in the responses received for the pre-test. The size of the pre-test prohibited meaningful statistical analysis but an informal analysis did not indicate a need to change the proposed methodology or to make revisions in the survey instrument.

After completion of the pre-test analysis, information packets were mailed to 1200 chartered financial analysts. Choosing this sample size means that 22.74% of the resident U.S. population of CFAs were contacted and asked to participate in the study. The research design required that the total sample be broken into twelve subgroups. The 1200 analysts were selected using a sample random sampling plan. Each CFA included in the population was assigned a unique number 1 through 5,277. Then, a table of random numbers was used to select 1200 potential research

participants. As the potential participants were selected, 12 groups of 100 were formed. Each of these 12 groups were assigned a unique number 1 through 12. Then a table of random numbers was used to assign the 12 groups to the respective data set contained in the information packet. Although random sampling was used to select the potential research participants, there is no assurance that the group of actual participants constitutes a random sample. The common problem of non-response bias may exist when less than 100 percent of those contacted actually particpate in a study. This is not, however, a limitation or problem unique to this study. This limitation applies to virtually all studies that use questionnaires as an information-gathering instrument. To the question of whether the addition of information obtained from the respondents would change or alter the researcher's findings to any significant degree, Black and Champion (1976, pp. 398-399) respond. "There is virtually no way of answering this question . . . . From a philosophical viewpoint, the question of the effect of non-respondents on the original research outcome is, more often than not, purely a speculative matter."

On September 17, 1981, information packets were mailed to the 1200 CFAs that had been selected at random. On October 6, 1981, a follow-up information packet was mailed to those persons not responding to the original request. The purpose of the second request was to maximize responses.

During the data collection phase of the study 341 questionnaires were returned resulting in an overall unedited response rate of 28.42%. Because the latest mailing list available consisted of the 1980-81 CFA membership, a small number of information packets was returned with incorrect addresses. The obtained response rate appears to be well within the accepted norms for similar research studies. Green and Tull (1975, p. 152) indicate "Even with added mailings, response to mail questionnaires is generally a small percentage of those sent; the model response rate is often only 20 to 40 percent. Pfaffenberger and Patterson (1977, p. 14) indicate for mailed questionnaires "it is not uncommon to have less than 30 percent returned". Summers and Peters (1973, p. 347) state that a " . . . thirty percent response rate is high even for a well prepared mail survey . ."

Of the returned questionnaires, 254 contained useable responses. While the others were, in some cases, not completed, many respondents gave reasons for not having completed the questionnaire. One secretary wrote that her employer "was not presently available". One bank trust officer responded, " . . . to be completely equitable, we would have to answer all such requests, but the increasing number of inquiries in recent years soon placed too great a burden on our staff . . . A few years ago we decided not to participate in any survey of this nature". Another

analyst sent a chapter of the CFA's "Required Readings" for CFA Exams published in 1972-74 by the Institute of Chartered Financial Analysts in which he underlined certain phrases which implies the CFAs should not make earnings projections. The responding analyst wrote the chapter. The wife of a deceased analyst offered to send her husband's study notes for the CFA exam if they would help.

The following quotations from other uncompleted questionnaires illustrate some reasons given for not participating: "I am not a practicing security analyst. Therefore, the inclusion of my analysis would bias your sample"; "My consulting rates are $500 per day plus expenses"; "I don't do earnings estimates without talking to management"; "I do not participate in surveys of this type"; and "One hundred percent of my time is devoted to Bond Markets". Some analysts made comments in addition to completing the questionnaire.

A chart indicating the actual number of useable responses in each survey group is provided on the following page.

The responses received are adequate for the type of statistical analysis used in the study. Robinson (1981, p. 300) states " . . . the number of subjects used per group in a factorial design is much smaller than in two-group designs. In fact, two or three subjects per group

NUMBER OF RESPONSES BY GROUP

Level of Segment Data	Income Variability		
	Large	Small	Total
1	22	22	44
2	18	21	39
3	29	29	58
4	19	18	37
5	21	19	40
6	19	17	36
TOTAL	128	126	254

is not uncommon in factorial designs . . ." Conrad and Maul (1981, p. 190) agree: "With completely randomized factorial designs, different groups of subjects are randomly assigned to each cell . . . As a general rule, a minimum of ten to fifteen subjects per cell is recommended."

Survey Instrument

The survey instrument was an experimental information packet mailed to each sample member. The experimental packet contained the following: (1) a cover letter, (2) instructions, (3) financial statements, and (4) information questionnaire. Copies of the survey instrument are included as an appendix.

The financial statements contained in the experimental packet are of hypothetical companies but were developed through the use of financial statements of existing companies. The financial statements consist of a balance sheet, income statement, and a five year summary of earnings (1976-1980). Twelve sets of financial statements were developed; each set containing a single combination of the two independent variables used in the study. The financial statements have the following characteristics:

(1) No actual company names are used. Familiarity with the actual company might influence the subject's response. Even a "hypothetical" company name may have differing influences on subject's response.

(2) Only financial statements are presented. The narrative information often included in annual reports may influence a subject's feelings toward a company.

(3) The same number of segments is used for all twelve companies. Differing numbers of segments could have an influence on subject's response.

(4) Product lines are identical for all firms. If differing product lines are reported these differences may have an influence on the subject's response.

(5) The balance sheet is identical for all twelve companies. By using earnings (profitability) as an independent variable and more than one company in the study, one may expect the financial position of each company to differ and therefore affect the subject's responses. By holding the financial position the same for each firm this influence is minimized.

(6) Of the two basic companies (one with large and the other with small variability in segment operating profit) the five-year trend in operating profit is similar. While net income

of the companies differ slightly due to corporate allocations this influence should be minimal as inferences are to be made based on segment profitability.

(7) Each segment has the same five-year average operating profit and operating profit trend under both the large and small variability in operating profit treatment.

These characteristics are intended to eliminate as much influence from outside sources of variability as possible.

The five year summary includes segment disclosure of various levels depending on which combination of the independent variable a particular information packet contains. A note explains the product line for each segment as product lines may influence the subject's responses. All firms contain three segments and the product lines are identical.

Sample members are asked two basic questions as well as two additional questions to be used in a covariance analysis. Question one asks for subjects' best estimate of the company's net income for 1981. Question two asks for the range in which the subject feels 95% confident that the true value of net income falls. The responses to these two questions are used in testing five previously stated hypotheses.

The additional questions asked relate to years experience as a financial analyst, and to the approximate time taken to complete the information questionnaire. The

number of years each had been a CFA was determined from the membership list of CFAs. This information was sought in order to determine if additional sources of variation in subjects' responses could be isolated.

Research Variables

Independent Variables

Two independent variables are used in the study: (1) levels of segment disclosure (6 levels), and (2) segment earnings variability (small or large).

Levels of Segment Disclosure

Financial statements (balance sheet, income statement, and five year summary of operations) were sent to each sample member. One-sixth of the total sample received financial statements containing one of the following levels of segment data.

(1) No segment data (a footnote will disclose the fact that the firm is a multi-segment firm but no financial data will be presented by segment)

(2) Revenue data by industry segments

(3) Profitability data by industry segment

(4) Revenue and profitability data by industry segment

(5) Revenue, profitability, and identifiable asset data by industry segment

(6) Revenue, profitability, identifiable asset data, and depreciation, depletion, and amortization expense by industry segment

These six levels of segment data do not represent all disclosures requirements of SFAS No. 14 but are those levels

that would typically be representative of the requirements for a domestic diverisifed corporation. The comprehensiveness of the requirements of SFAS No. 14 precludes the study of all required disclosures in a single endeavor.

Each set of financial statements contained a note explaining the nature of the firms' segments. In this study all financial statements contain three business segments; (1) building materials, (2) footwear, and (3) hand tools.

Earnings Variability

In this study earnings variability is defined as the variability of segment operating profit around the trend line for the segment's operating profit. Variability is determined using the deviations of actual operating profit from the trend line. The method of least squares is used to establish the trend line and the deviations are the residuals. This variable has two levels: (1) small variability around the trend line and (2) large variability around the trend line.

The basic information utilized in the development of the financial statements comes from the January 31, 1979 annual report of McDonough Company. The small variability in segment operating profit is based on the actual earnings of McDonough Company divisions for the period 1975-1979. Table 1 reflects the operating profits for each segment during the period 1976-1980 to be used in this study.

One half of the companies used in the study will report small variability in segment operating profit.

The large variability in segment operating profit was determined by tripling the residuals (deviations from trend) under the small variability treatment. In order to arrive at the actual segment operating profit under this treatment the tripled residuals were added to the predicted (trend) values for each segments' operating profit. Utilization of this method for calculating the large variability in segment profit insures that all companies have the same earnings trends, the same pattern of segment operating profit under both, small and large variability in earnings treatment. Table 2 reflects the values for the large variability in segment profit calculated as described. One half of the companies used in the study will reflect large variability in segment operating profit. A visual comparison of the small and large variability in earnings treatment for each segment is presented in Figures 1, 2, and 3. A comparison of overall company operating profit as well as company net income is presented in Figure 4.

Dependent Variables

Three dependent variables are used in the study: (1) Chartered Financial Analysts' average prediction of corporate earnings, (2) communicative ability of the disclosures among Chartered Financial Analysts, and (3) the confidence Chartered Financial Analysts place in their predictions.

TABLE 1

Small Variability in Segment Operating Profit
(Dollars in Millions)

Footwear Segment

Year	Y	$\hat{Y}$	$Y - \hat{Y}$	$(Y-\hat{Y})/\hat{Y}$
1976	11.7	10.1	1.6	15.84%
1977	11.6	12.2	- .6	- 4.92%
1978	12.2	14.3	- 2.1	- 14.69%
1979	16.2	16.4	- .2	- 1.22%
1980	19.8	18.5	1.3	7.03%

Building Materials Segment

Year	Y	$\hat{Y}$	$Y - \hat{Y}$	$(Y-\hat{Y})/\hat{Y}$
1976	5.8	6.9	- 1.1	- 15.94%
1977	8.5	8.1	.4	4.94%
1978	10.6	9.3	1.3	13.98%
1979	11.3	10.5	.8	7.62%
1980	10.3	11.7	- 1.4	- 11.97%

Handtools Segment

Year	Y	$\hat{Y}$	$Y - \hat{Y}$	$(Y-\hat{Y})/\hat{Y}$
1976	3.5	3.3	.2	6.06%
1977	5.4	4.1	1.3	31.70%
1978	4.0	4.9	- .9	- 18.37%
1979	3.0	5.7	- 2.7	- 47.37%
1980	8.6	6.5	2.1	32.31%

Y = Actual Segment operating profit

$\hat{Y}$ = Forecasted segment operating profit

$Y - \hat{Y}$ = Residual (Deviation from trend)

$(Y-\hat{Y})/\hat{Y}$ = Deviation as a percent of forecasted segment operating profit

TABLE 2

Large Variability in Segment Operating Profit
(Dollars in Millions)

Footwear Segment

Year	Y	$\hat{Y}$	$Y - \hat{Y}$	$(Y-\hat{Y}) / \hat{Y}$
1976	14.9	10.1	4.8	47.52%
1977	10.4	12.2	- 1.8	- 14.75%
1978	8.0	14.3	- 6.3	- 44.06%
1979	15.8	16.4	- .6	- 3.66%
1980	22.4	18.5	3.9	20.97%

Building Materials Segment

Year	Y	$\hat{Y}$	$Y - \hat{Y}$	$(Y-\hat{Y}) / \hat{Y}$
1976	3.6	6.9	- 3.3	- 47.82%
1977	9.3	8.1	1.2	14.82%
1978	13.2	9.3	3.9	41.94%
1979	12.9	10.5	2.4	22.86%
1980	7.5	11.7	- 4.2	- 35.90%

Handtools Segment

Year	Y	$\hat{Y}$	$Y - \hat{Y}$	$(Y-\hat{Y}) / \hat{Y}$
1976	3.9	3.3	.6	18.18%
1977	8.0	4.1	3.9	95.12%
1978	2.2	4.9	- 2.7	- 55.10%
1979	- 2.4	5.7	- 8.1	-142.11%
1980	12.8	6.5	6.3	- 96.92%

Y = Actual segment operating profit

$\hat{Y}$ = Forecasted segment operating profit

$Y - \hat{Y}$ = Residual (Deviation from trend)

$(Y-\hat{Y})/\hat{Y}$ = Deviation as a percent of forecasted segment operating profit

Figure 1
Variability in Segment Operating Profit
Footwear Segment

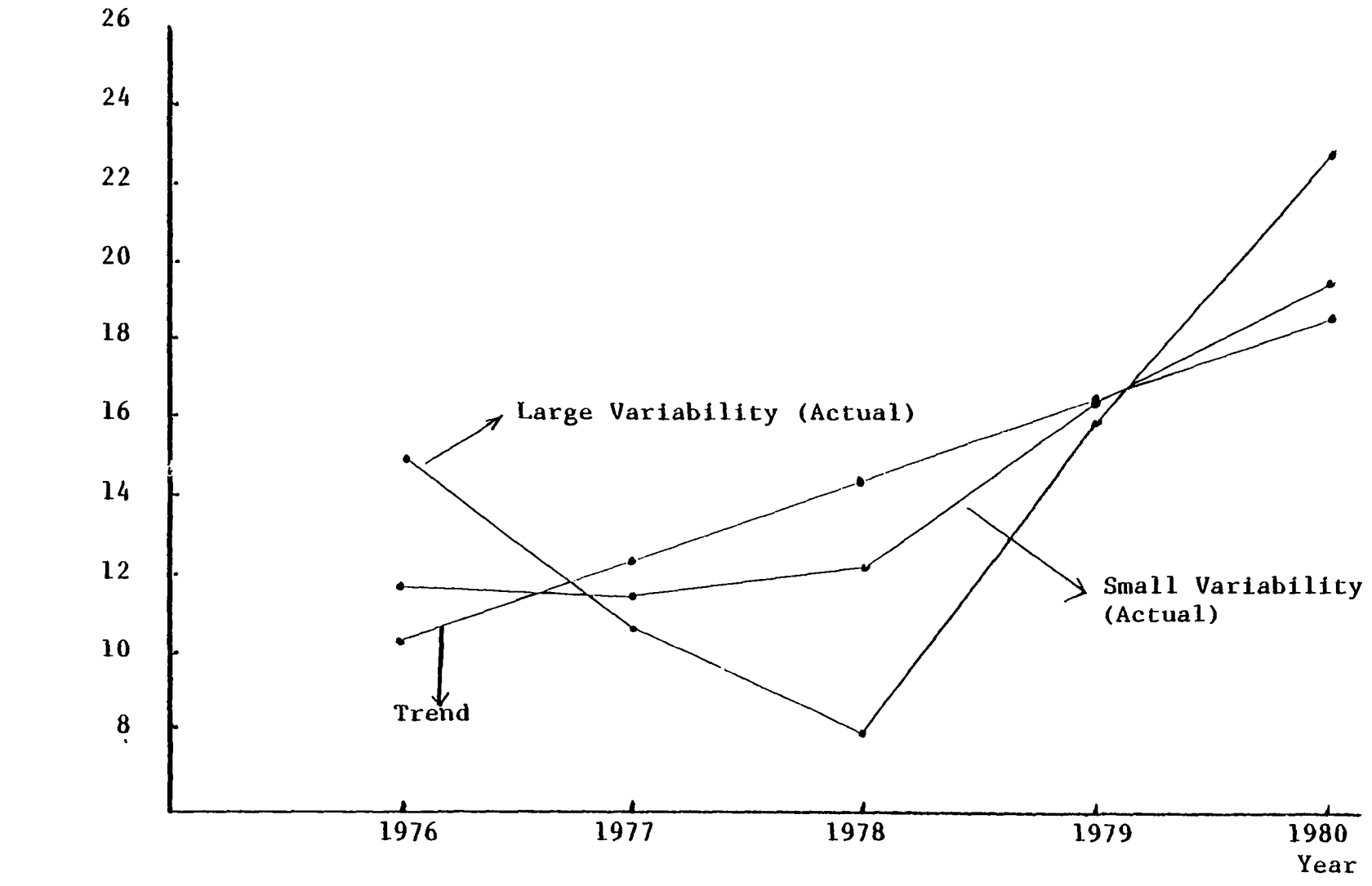


Figure 2
Variability in Segment Operating Profit
Building Materials Segment

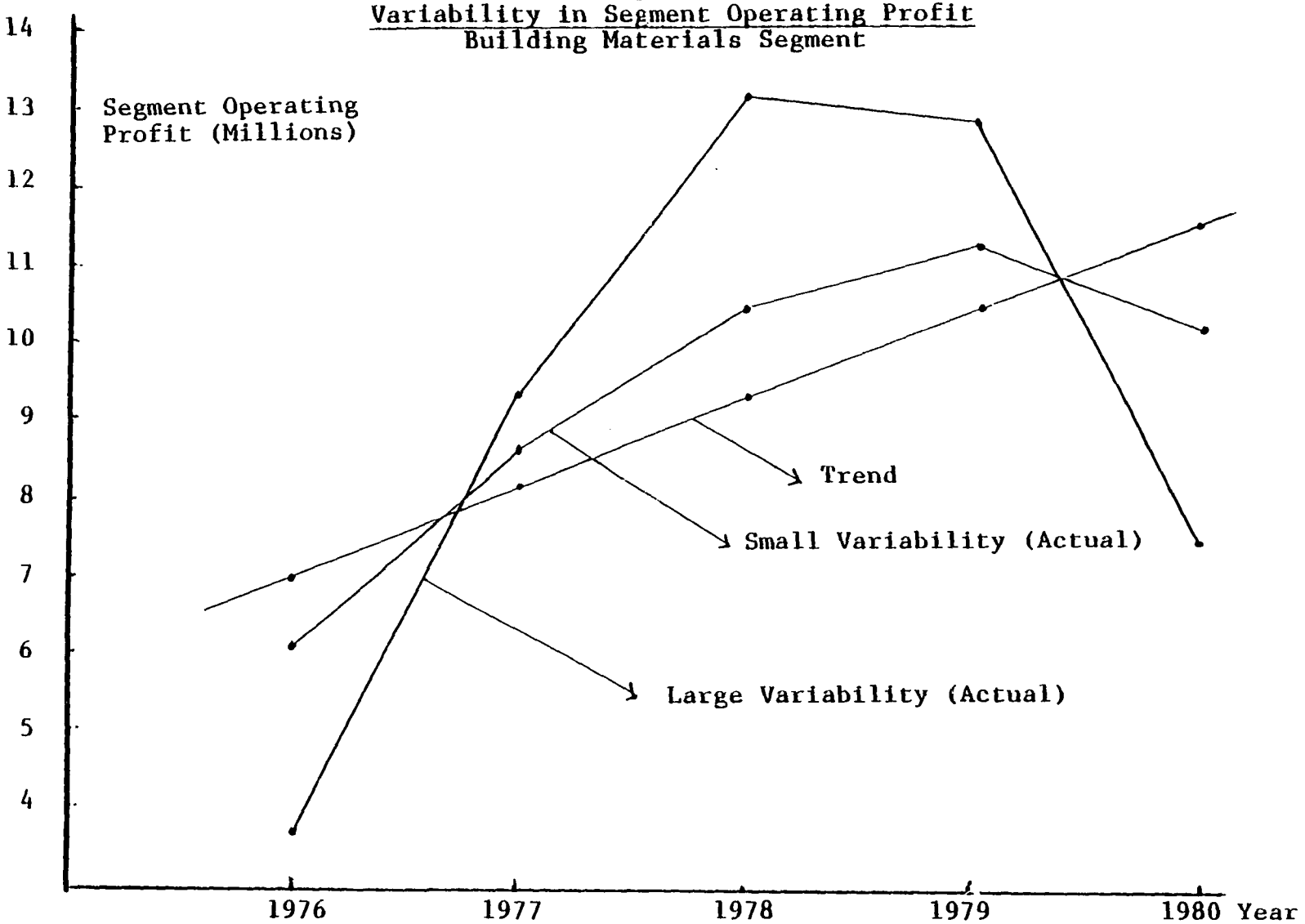


Figure 3
Variability in Segment Operating Profit
Hand Tools Segment

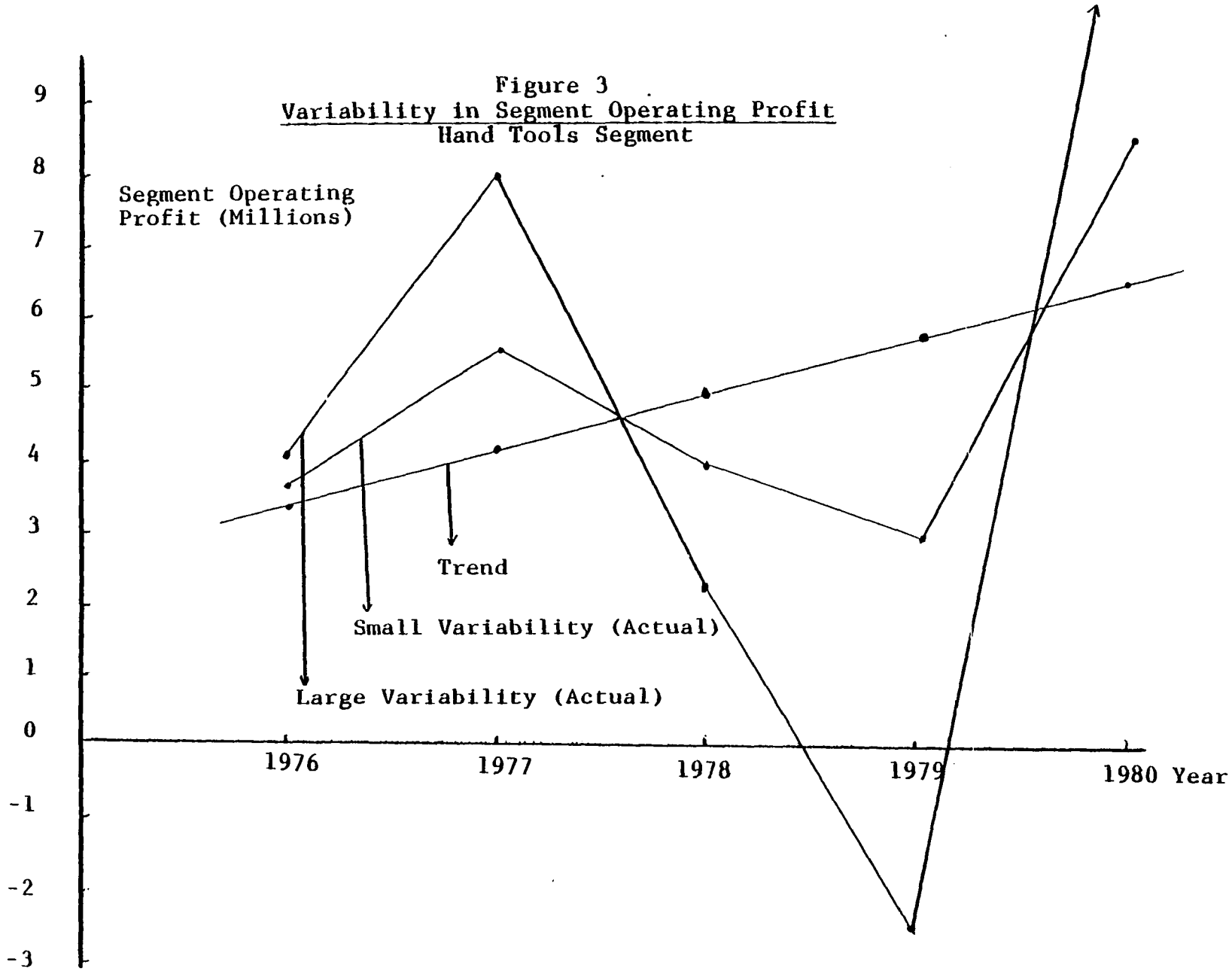
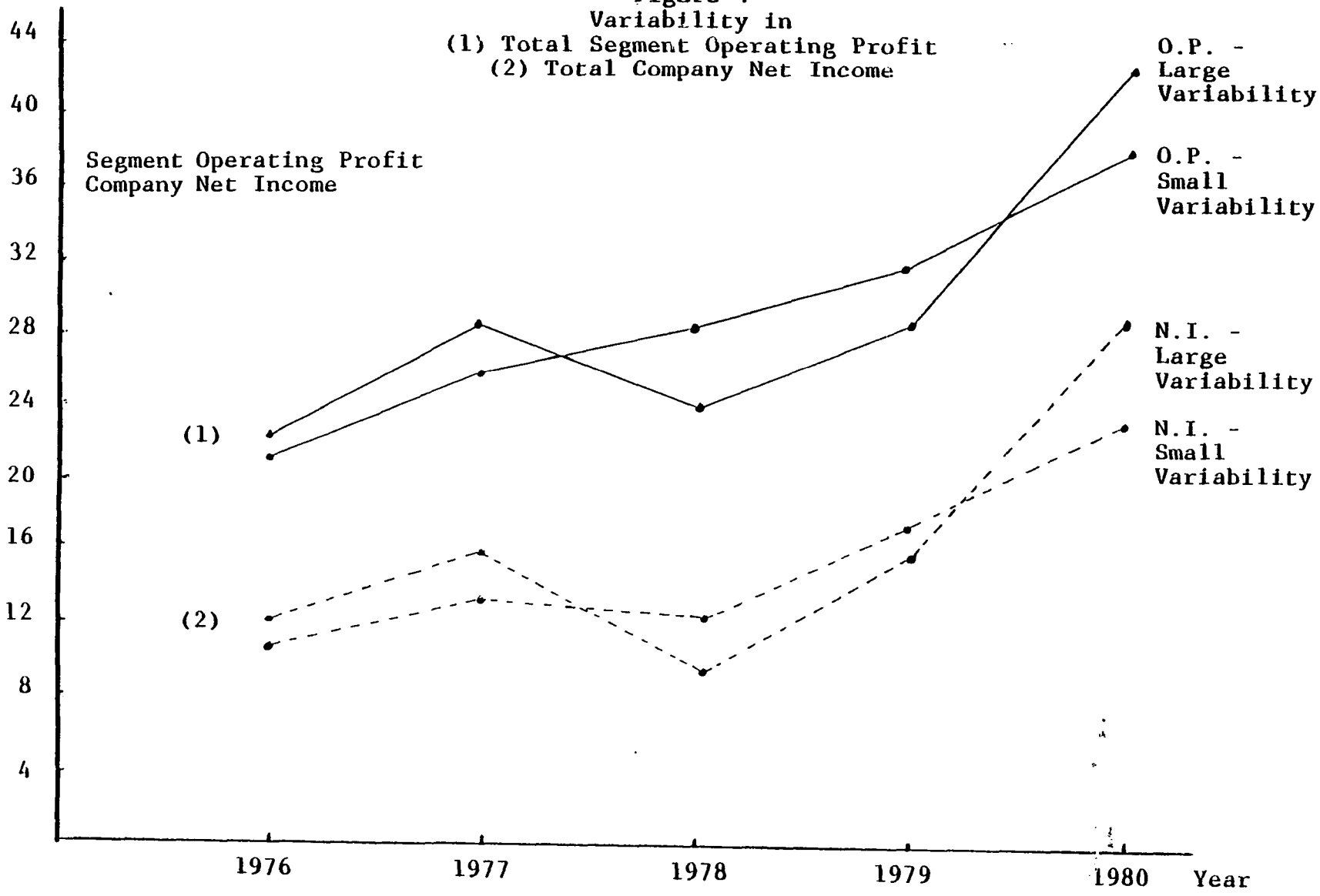


Figure 4
Variability in
(1) Total Segment Operating Profit
(2) Total Company Net Income



Measurable data for each of the dependent variables was collected. The use of each variable is discussed below.

CFA's Average Prediction of Corporate Earnings

The financial data submitted to the sample subjects are to be used in making corporate earnings predictions for 1981. Subject's predictions are used as a measure of earnings prediction and analyzed to determine whether the treatment levels of the independent variables has had an effect on subjects' predictions of corporate earnings.

Communicative Ability of the Disclosures Among CFAs

Subject's predictions of corporate earnings are used to develop a measure of communicative ability of the various disclosures among CFAs. The ability of the disclosure to communicate information to CFAs is defined as the degree of consensus among CFAs regarding their projections of net earnings. The variance of the distribution that results from analysis of the net income projections made under each of the levels of disclosure is used as the measure of communicative ability. The variances are analyzed to determine whether or not the disclosure levels of segment data influenced the communicative ability of the disclosures among the subjects.

Confidence CFAs Place in Their Predictions

In addition to a point estimate (projection) of 1981 earnings sample subjects are asked to give the range of

earnings in which they are 95% confident the true net income falls. They are asked to present an upper bounds and a lower bounds. The range does not have to be symmetrical around their prediction of net income. The size of the subject's range is used in the study as a measure of the confidence in their predictions. These measures are analyzed to determine whether the treatment levels of disclosure had an effect on the subject's confidence in their net income predictions.

Summary

In this chapter, the research objective and research methodology was discussed. Five hypotheses were given and the test methodology for each was discussed. Reasons were given for the selection of CFAs as the same subjects. The sample plan and obtained response was outlined. The research variables as well as their development were discussed. The development of the survey instrument, as a means of data collection, was also discussed. The following chapter presents the details of the test procedure for each hypothesis and analysis of the test results.

CHAPTER IV

STATISTICAL ANALYSIS AND DISCUSSION OF RESULTS

This chapter contains the statistical analysis and interpretation of the findings from this dissertation. For each hypothesis tested the following is presented: (1) A restatement of the hypothesis, (2) statistical test of significance used, and (3) an analysis and interpretation of test results. In order to reduce the amount of duplication under the discussion of each hypothesis, an overview of the major statistical test will be given first.

Statistical Test of Significance Used

Hypotheses 1 and 2 were tested utilizing a two-way analysis of variance. Hypothesis 5 was tested with a one-way analysis of variance. Both analyses were performed using subprograms of the Statistical Package for the Social Sciences (Nie, et al., 1975, Chapter 22). In the ANOVA program, estimates of the parameters for the analysis of variance are obtained directly as partial regression coefficients. The analysis of variance model is usually written in abbreviated notation so that several parameter values (e.g., a_1, a_2, a_3, and a_4) are all represented by the symbol a_i. The analysis of variance model for the two-way case with interaction is as follows:

$$X = u + a_i + b_j + y_{ij} + E_{ijk}$$

where:

u is the grand mean,

a_i are deviations of raw means about the grand mean,

b_j are deviations of column means about the grand mean,

y_{ij} are deviations of the cell means about raw and column effects,

and E_{ijk} is random error.

The data in this study consist of a factorial design with unequal cell frequencies. The classical experimental approach was used to make the proper corrections for unequal cell sizes. The classical experimental approach partitions the total sum of squares (corrected for mean) into the following three types (Nie, et al., 1975, p. 405):

$SS_{A,B}$ = sum of squares due to additive effects of A and B

SS_{AB} = sum of squares due to the interaction effect = $SS_{A,B,AB} - SS_{A,B}$

SS_{error} = sum of squares due to error = $SS_Y - SS_{A,B,AB}$.

This process makes all three types of components orthogonal to one another by imposing a certain hierarchy. The interaction component is defined as the difference between the sums of squares explained by the total joint effect of A and B and the additive effects of A and B (Nie et al, 1975, p. 405). The error component is defined by the residual sums of squares.

The classical experimental approach was selected for this analysis because it is appropriate for common situations in which the factors do not have a known causal order but in which the main effects may be assumed to be of a higher priority than interaction effects (Nie, et al, 1975, p. 408). The analysis of variance test was performed on the dependent variables net income projection and confidence range.

Hypotheses 3 and 4 were tested utilizing Hartley's Fmax Test for Homogeneity of Variance (Winer, 1971, pp. 206-208). The effects of the various levels of segment data reported on variability in Chartered Financial Analysts' earnings predictions (communicative ability) were anlayzed. Hartley's Fmax statistic is:

$$\text{Fmax} = \frac{\text{Maximum sample variance}}{\text{Minimum sample variance}}$$

The test is a relatively simple but adequate test of the equality of the variances of the several sample populations. The parameters of the sampling distribution of the Fmax statistic are the number of treatments and the degrees of freedom. The measure of degrees of freedom is the sample size less 1 in those cases where the sample sizes of all sample populations are equal. When the number of cases in each sample population is not equal, the largest of the sample size may be used in obtaining the degrees of freedom required for use in the Hartley tables. This procedure results in a slight positive bias in the

test and causes the rejection of the Alternate Hypothesis (that the variances are not equal) more often than would be in the case of equal sample sizes. The Fmax statistic was calculated using variances produced by the SPSS Sub-program ANOVA.

Test of Hypotheses

The experimental hypotheses presented in Chapter III are restated in the form of statistical hypotheses for the purposes of testing. The researcher performed the appropriate test of significance in order to test the stated relationships. The results of each hypothesis is discussed.

Hypothesis 1 - Analysis and Interpretation

H_o - The level of disclosure of segment data in published corporate financial statements has no significant effect on Chartered Financial Analysts' average level of prediction of corporate earnings.

H_1 - The level of disclosure of segment data in published corporate financial statements has a significant effect on Chartered Financial Analysts' average level of prediction of corporate earnings.

Hypothesis 1 predicts that there will be no significant differences in CFAs' average level of prediction of corporate earnings when exposed to varying levels of disclosure of segment data in published corporate financial statements.

Table 3 contains a summary of the mean net income projections provided by respondents to the survey. Results

TABLE 3

Chartered Financial Analysts'
Mean Projections of Corporate Earnings
(Projections in 000's)

*Level of Segment Disclosure	Segment Earnings Variability		Average
	Small	Large	
1	21,017.82 (n = 22)	20,567.13 (n = 22)	20,792.48
2	19,319.05 (n = 18)	20,211.43 (n = 21)	19,799.56
3	22,113.43 (n = 30)	24,116.38 (n = 29)	23,097.93
4	20,816.31 (n = 19)	24,696.50 (n = 18)	22,703.97
5	24,043.18 (n = 22)	23,635.20 (n = 20)	23,848.90
6	20,930.63 (n = 19)	20,040.35 (n = 17)	20,510.22
Average	21,505.23	22,316.68	

*1 - No segment data disclosed

2 - Revenue data by industry segment disclosed

3 - Profitability data by industry segment disclosed

4 - Revenue and profitability data by industry segment disclosed

5 - Revenue, profitability, and identifiable asset data by industry segment disclosed

6 - Revenue, profitability, identifiable asset data, and depreciation, depletion, and amortization expense by industry segment disclosed

of the analysis of variance performed on these data are presented in Table 4. The three potential covariates, (1) years the respondent has been a Financial Analyst, (2) years the respondent has been a Chartered Financial Analyst, and (3) the time taken by the respondent to make his or her analysis, were eliminated early in the analysis as not significant to the research results. Therefore,

TABLE 4

ANOVA: Effect of Level of Segment Data Disclosed And Segment Earnings Variability on CFAs' Average Predictions of Corporate Earnings (Predictions in 000's)

Source	Sum of Squares	Degree of Freedom	Mean Square	F	Significance of F (p)
Main Effects					
(A) Level of Segment Disclosure	571,725,824	5	114,345,152	3.301	0.007
(B) Segment Earnings Variability	50,361,504	1	50,361,504	1.454	0.229
Two-Way Interactions					
A x B	166,767,952	5	33,353,584	0.963	0.441
Residual	8,486,768,640	245	34,639,872		

Table 4 contains analysis for only the two independent variables (1) Level of Segment Disclosures, and (2) Segment Earnings Variability. The results shown in Table 4 indicate that the Level of Segment Disclosure in corporate

financial statements had a significant effect on the respondents' mean predictions of corporate earnings ($F = 3.301$, $df = 5/245$, $p = 0.007$). The null hypothesis is, therefore, rejected and the alternate hypothesis that the level of disclosure of segment data in published corporate financial statements does affect chartered financial analysts' average level of prediction of corporate earnings is accepted.

While the ANOVA reveals that there is a significant difference in the means for the levels of segment disclosure, the specific levels that are significantly different are not identified. To answer this question, multiple range tests were conducted to find out which particular means were significantly different from one another. Using statistics options included in the SPSS Program, three such tests were conducted: (1) The LSD Procedure, (2) the Modified LSD Procedure, and (3) the Scheffe Procedure. Only the LSD Procedure identified groups different at the 0.01 level of significance. Groups 3 (Disclosure of Profitability Data by Industry Segment) and 5 (Disclosure of Revenue, Profitability, and Identifiable Assets by Industry Segment) were significantly different from the other groups.

An examination of Table 4 reveals that segment earnings variability ($F = 1.454$, $df = 1/245$, $p = 0.229$) does not have a significant effect on the average level of

predictions of corporate earnings by CFAs. In an effort to further analyze the effects of the level of segment disclosure on the average level of predictions of corporate earnings by CFAs two one-way ANOVAs were conducted. This permits the comparison of the effects of the level of segment disclosure at each (small and large) level of segment earnings variability. Table 5 contains the results of the comparisons of level of segment disclosure with small segment earnings variability while Table 6 contains the comparison with large segment earnings variability.

TABLE 5

ANOVA: Effect of Level of Segment Data Disclosed on CFAs' Average Prediction of Corporate Earnings When Segment Earnings Variability is Small (Predictions in 000's)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance of F (p)
Between Groups (Level of Segment Data)	259,343,093	5	51,868,608	1.604	0.164
Within Groups	4,009,504,064	124	32,334,704		
Total	4,268,847,104				

Table 5 reveals that the level of segment disclosure ($F = 1.604$, $df = 5/129$, $p = 0.164$) does not have a significant effect on the average level of predictions of corporate earnings by CFAs when segment earnings

variability is small. Similar results are reflected in Table 6. The level of segment disclosure ($F = 2.590$, $df = 5/125$, $p = 0.029$) does not have a significant effect (at $p = 0.01$) on the average level of prediction of corporate earnings by CFAs when segment earnings variability is large.

TABLE 6

ANOVA: Effect of Level of Segment Data Disclosed on CFAs' Average Prediction of Corporate Earnings When Segment Earnings Variability is Large (Predictions in 000's)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance of F (p)
Between Groups (Level of Segment Data)	479,144,395	5	95,828,864	2.590	0.029
Within Groups	4,477,549,824	121	37,004,544		
Total	4,956,692,480	126			

The acceptance of alternate Hypothesis 1 (the level of disclosure of segment data in published corporate financial statements does affect CFAs' average level of predictions of corporate earnings) supports the concept that disclosure of segment data is useful to financial statement users. Previous research results deal primarily with disclosure versus nondisclosure of segment data. No studies were found dealing with the reporting of different levels of segment data. Previous research results are

not unanimously supportive of the concept that segment data is useful.

Hypothesis 2 - Analysis and Interpretation

H_o - Earnings variability and the level of disclosure of segment data in published corporate financial statements have no significant interaction effect with respect to Chartered Financial Analysts' average level of predictions of corporate earnings.

H_1 - Earnings variability and the level of disclosure of segment data in published corporate financial statements have a significant interaction effect with respect to Chartered Financial Analysts' average level of predictions of corporate earnings.

Hypothesis 2 predicts that the level of segment data and segment earnings variability will interact to affect CFAs' average level of prediction of corporate earnings. Income projections by users of financial statements may be affected by variability in income history of each business segment. The result of the two-way ANOVA presented in Table 4 indicates that the interactive effects of the level of segment disclosure and segment earnings variability are not significant ($F = .963$, $df = 5/245$, $p = 0.441$). This lack of significant interaction implies that the effects of each of the various levels of segment disclosures on the average level of predictions of earnings by CFAs are similar regardless of the variability of segment earnings. Based on these results, the null hypothesis (that earnings variability and the level of disclosure have no interaction effect on CFAs' predictions) may not be rejected.

A further analysis of the effects of segment income variability on the average level of predictions of corporate earnings by CFAs can be obtained from the two-way ANOVA presented in Table 4. The main effects of segment earnings variability are found to be not significant ($F = 1.454$, $df = 1/245$, $p = 0.229$).

Some studies have suggested that while the reporting of segment data alone may not result in useful information when other variables are added, the interaction of segment data with the other variable becomes significant. The failure to reject null hypothesis 2 in this study fails to support the fact that variability in segment earnings interacts with segment data to affect the predictions of corporate earnings by CFAs.

Hypothesis 3 - Analysis and Interpretation

H_o - The level of disclosure of segment data in published corporate financial statements has no significant effect on variability in earnings predictions (communicative ability) among Chartered Financial Analysts.

H_1 - The level of disclosure of segment data in published corporate financial statements has a significant effect on variability in earnings predictions (communicative ability) among Chartered Financial Analysts.

Hypothesis 3 seeks to determine whether the level of disclosure of segment data in published corporate financial statements has an effect on the variability in earnings predictions (communicative ability) among Chartered Financial Analysts. The variance of the distribution of

net income projections made under each of the six levels of segment disclosure are analyzed to determine whether useful information has been communicated to the CFAs as the level of segment data reported changes. If decisions made under the different levels of disclosure are statistically significant, then useful information has been communicated.

Hartley's Fmax Test for Homogeneity of Variance was used to study and compare the differences in communicative ability among the six sample groups. The results of the analysis when variability in segment earnings is small is presented in Table 7. Each level of segment data reported is compared to results obtained when only a footnote (no segment data disclosed) disclosing the three basic lines of business contributing to profit or loss of the company is presented. The Fmax statistic for each of the comparisons is significant at the 0.01 level. The variances of each of levels 2 - 6 are statistically different from the variance of level 1. Thus, one may assert that the additional data presented in levels 2 - 6 has communicated useful data to the analysts when compared to their receiving no segment data. This is consistent with the findings over all levels. The observed Fmax of 6.926 is greater than the critical value ($Fmax_{.99}[6,29] = 3.6$) for the 0.01 level of significance; therefore, the hypothesis that the variances are equal is rejected.

TABLE 7

Hartley's Fmax Test
Analysis of Variability in Earnings Predictions
(Communicative Ability)
When Segment Earnings Variability is Small

*Level of Segment Disclosure	Variance (000)	Between Groups	Fmax	Critical Values (p = .01)
1 (n = 22)	6,964.3			
2 (n = 18)	27,730.8	1 & 2	3.982	3.25
3 (n = 30)	44,502.2	1 & 3	6.390	2.69
4 (n = 19)	36,156.2	1 & 4	5.192	3.25
5 (n = 22)	48,260.8	1 & 5	6.930	3.25
6 (n = 19)	24,285.2	1 & 6	3.487	3.25
Fmax Among All Levels			6.926	3.60
Fmax Among Levels 2 - 6			1.987	3.30
Fmax Among Levels 2 - 5			1.740	3.30

*1 - No segment data disclosed

2 - Revenue data by industry segment disclosed

3 - Profitability data by industry segment disclosed

4 - Revenue and profitability data by industry segment disclosed

5 - Revenue, profitability, and identifiable asset data by industry level disclosed

6 - Revenue, profitability, identifiable asset data, and depreciation, depletion, and amortization expense by industry segment disclosed

A further analysis of the variances reveals that there are no differences when the distributions over levels 2 - 6 are compared. The observed Fmax of 1.987 is less than the critical value ($Fmax_{.99}$ [4,29] = 3.3) for the 0.01 level of significance so the variances are not statistically different. This leads to the conclusion that among disclosure levels 2 - 6 no additional useful data has been communicated to the financial statement user.

Based on the above analysis the hypothesis that the level of disclosure of segment data in published corporate financial statements has no effect on variability in earnings predictions (communicative ability) among CFAs must be rejected and the alternate hypothesis accepted when segment earnings variability is small.

The results of the analysis when variability in segment earnings is large is presented in Table 8. When all six levels of segment disclosure are considered, the observed value of the Fmax statistic is 3.308. This is smaller than the critical value at the 0.01 level ($Fmax_{.99}$ [6,28] = 3.8). Therefore, the hypothesis of homogeneity of variance cannot be rejected. The same results are obtained when each of the distributions derived from levels 2 - 6 are compared to level 1 (no segment data disclosed). The observed value of the Fmax statistic is smaller than the critical value at the 0.01 level for all levels of comparisons. The hypothesis of homogeneity of

TABLE 8

Hartley's Fmax Test
Analysis of Variability in Earnings Predictions
(Communicative Ability)
When Segment Earnings Variability is Large

*Level of Segment Disclosure	Variance (000)	Between Groups	Fmax	Critical Value (p = .01)
1 (n = 22)	35,188.6			
2 (n = 21)	42,256.4	1 & 2	1.201	3.25
3 (n = 29)	39,011.4	1 & 3	1.109	2.76
4 (n = 18)	27,599.3	1 & 4	1.275	3.25
5 (n = 20)	55,877.2	1 & 5	1.588	3.25
6 (n = 17)	16,892.6	1 & 6	2.083	3.25
Fmax Among All Levels			3.308	3.80
Fmax Among Levels 2 - 5			2.025	3.40
Fmax Among Levels 2 - 6			3.308	3.64

*1 - No segment data disclosed

2 - Revenue data by industry segment disclosed

3 - Profitability data by industry segment disclosed

4 - Revenue and profitability data by industry segment disclosed

5 - Revenue, profitability, and identifiable asset data by industry level disclosed

6 - Revenue, profitability, identifiable asset data, and depreciation, depletion, and amortization expense by industry segment disclosed

variance cannot be rejected in any of the cases. Based on this analysis, the hypothesis that the level of disclosure of segment data in published corporate financial statements has no effect on variability in earnings predictions (communicative ability) among CFAs cannot be rejected when segment earnings variability is large.

Hypothesis 4 - Analysis and Interpretation

H_o - Earnings variability and the level of disclosure of segment data in published financial statements have no significant interaction effect with respect to variability in earnings predictions (communicative ability) among Chartered Financial Analysts.

H_1 - Earnings variability and the level of disclosure of segment data in published financial statements have a significant interaction effect with respect to variability in earnings predictions (communicative ability) among Chartered Financial Analysts.

Hypothesis 4 seeks to determine whether there is any interaction effects between the level of disclosure of segment data and earnings variability with regards to variability in earnings predictions (communicative ability) among Chartered Financial Analysts. There are no formal tests for interaction effects of variances, so this hypothesis is informally tested using Hartley's Fmax Test for Homogeneity of Variance. All sample subjects are included in the distributions being tested. The variances of these distributions and results of the Fmax Test are included in Table 9.

An analysis of data in Table 9 indicates that there are no significant differences in the variances of the six

TABLE 9

Hartley's Fmax Test
Analysis of Variability in Earnings Predictions
(Communicative Ability)
Among All Subjects

*Level of Segment Disclosure	Variance (000)	Between Groups	Fmax	Critical Value (p = .01)
1 (n = 44)	20,638.9			
2 (n = 39)	34,845.4	1 & 2	1.689	2.37
3 (n = 59)	42,094.1	1 & 3	2.040	2.00
4 (n = 37)	34,975.4	1 & 4	1.695	2.37
5 (n = 42)	50,651.7	1 & 5	2.454	2.37
6 (n = 36)	20,412.3	1 & 6	1.011	2.37
Fmax Among All Levels			2.481	2.48
Fmax Among Levels 2 - 5			1.454	2.24
Fmax Among Levels 2 - 6			2.481	2.46

*1 - No segment data disclosed

2 - Revenue data by industry segment disclosed

3 - Profitability data by industry segment disclosed

4 - Revenue and profitability data by industry segment disclosed

5 - Revenue, profitability, and identifiable asset data by industry level disclosed

6 - Revenue, profitability, identifiable asset data, and depreciation, depletion, and amortization expense by industry segment disclosed

distributions being compared. When all levels of disclosure are considered, the observed Fmax of 2.481 is approximately equal to the critical value ($Fmax_{.99}$ [6,58]) of 2.48. Using the largest sample size of the six distributions in calculating the degrees of freedom for the Fmax statistic causes a slight positive bias towards rejection of the hypothesis that the variances are not equal, therefore, the nearness of the observed Fmax to the critical Fmax leads one to not reject the null hypothesis that the variances are equal. When considering only distribution groups 2 - 5, the significance of the test is greater. The observed Fmax of 1.454 is significantly less than the critical value ($Fmax_{.99}$ [4,58] = 2.24) for the .01 level. The observed Fmax and the critical Fmax are approximately the same when comparing all groups or only groups 2 - 6.

The results of the data analysis, when considering all sample respondents, does not appear to be significantly different from the analysis made when considering only respondents with small earnings variability or large earnings variability. The test results imply that earnings variability and level of segment data disclosed do not interact with respect to variability in earnings predictions (communicative ability) among Chartered Financial Analysts. The null hypothesis is, therefore, not rejected.

Hypothesis 5 - Analysis and Interpretation

H_o - The level of disclosure of segment data in published corporate financial statements has

TABLE 10

ANOVA: Effect of Level of Segment Data Disclosed On CFA's Confidence in Predictions of Corporate Earnings (Range in 000's)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance of F (p)
Between Groups (Level of Segment Data)	119,870,259	5	23,974,048	0.841	0.522
Within Groups	6,952,580,352	244	284,941,176		
Total	7,072,448,512	249			

TABLE 11

ANOVA: Effect of Level of Segment Data Disclosed and Segment Earnings Variability on CFA's Confidence in Predictions of Corporate Earnings (Range in 000's)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance of F (p)
Main Effects					
(A) Level of Segment Disclosure	113,125,360	5	22,625,072	0.933	0.460
(B) Segment Earnings Variability	956,824,320	1	956,824,320	39.467	0.000
Two-Way Interactions					
A x B	225,524,256	5	45,104,848	1.860	0.102
Residual	5,769,932,800	238	24,243,408		

no significant effect on Chartered Financial Analysts' confidence in their predictions of corporate earnings.

H_1 - The level of disclosure of segment data in published corporate financial statements has a significant effect on Chartered Financial Analysts' confidence in their predictions of corporate earnings.

The SPSS Subprogram ONEWAY is used for the basic analysis of hypothesis 5. The results of the one-way ANOVA are presented in Table 10. Table 11 presents the results of a two-way analysis of variance which includes the variability of segment income as an independent variable along with level of segment disclosure. Table 12 presents CFAs' mean range of confidence in their predictions of corporate earnings. Hypothesis 5 specifically seeks to determine whether the level of disclosure of segment data affects CFAs' confidence in their predictions of corporate earnings.

The results of the one-way ANOVA shown in Table 10 indicates that the level of segment disclosure in corporate financial statements does not have a significant effect ($F = 0.84$, $df = 5/249$, $p = 0.522$) on the respondents' confidence in their prediction of corporate earnings. The null hypothesis is not rejected. An analysis of Table 12 (CFAs' Mean Range of Confidence in Predictions of Corporate Earnings) provides no discernable pattern regarding changes in CFAs' confidence as they receive greater amounts of segment data. As a general rule, the range of

TABLE 12

Chartered Financial Analysts'
Mean Range of Confidence in Predictions
Of Corporate Earnings
(Projections in 000's)

*Level of Segment	Segment Earnings Variability		
	Small	Large	Average
1	4047.95 (n = 21)	7611.14 (n = 21)	5829.55
2	5703.76 (n = 17)	9184.5 (n = 20)	7585.24
3	3990.23 (n = 31)	11,138.07 (n = 27)	7317.67
4	5943.68 (n = 19)	8464.70 (n = 17)	7134.16
5	5099.68 (n = 22)	6727.05 (n = 19)	5853.83
6	4834.58 (n = 19)	8436.06 (n = 17)	6535.28
Average	4826.73	8755.20	

* 1 - No segment data disclosed

2 - Revenue data by industry segment disclosed

3 - Profitability data by industry segment disclosed

4 - Revenue and profitability data by industry segment disclosed

5 - Revenue, profitability, and identifiable asset data by industry segment disclosed

6 - Revenue, profitability, identifiable asset data, and depreciation, depletion, and amortization expense by industry segment disclosed

confidence is smallest when only a footnote was given informing the respondent that the company analyzed was a diversified company with three divisions. As more information was supplied, the range of confidence seems to widen.

The failure to reject the null hypothesis that the level of disclosure of segment data in published corporate financial statements has no effect on Chartered Financial Analysts' confidence in their predictions of corporate earnings fails to support the concept that segment data is useful to sophisticated users of corporate financial statements. The increased amount of data regarding industry segments failed to improve CFAs' confidence in their earnings projections. This is contrary to the early study by Stallman (1969, p. 41) which concluded that the addition of segment data (to historical price data) constituted an improvement in accounting disclosure and, therefore, segment data was useful to the analyst (investor). Stallman's study was criticized by McDonald (1969, p. 46) for lack of full disclosure of his experimental design and interpretation, and Porcano (1976, pp. 33-34) suggested other weaknesses of the study.

The results of this study are in general agreement with those of Porcano (1976, p. 89) when he tested non-sophisticated users' (student surrogates) confidence in their predictions of corporate earnings. His study

included only two levels of segment data - disclosure of segment data or non-disclosure.

The two-way ANOVA presented in Table11 indicates that while level of segment data has no significant effect on CFAs' confidence in their predictions, that segment earnings variability does ($F = 39.467$, $df = 1/238$, $p = 0.000$). Level of segment data and segment earnings variability have significant interaction effect at the 0.102 level.

Summary

This chapter has presented the statistical analysis of the results of the study. Each hypothesis was first restated; the statistical test used was presented; and the results of the statistical test were presented and discussed. A tabular summary of the results is presented in Table 13.

TABLE 13

Summary of Results

Hypothesis	Rejected	Not Rejected
1	X	
2		X
3	X (When segment earnings variability is small)	X (When segment earnings variability is large)
4		X
5		X

A two-way ANOVA was used as the primary test of the hypothesis that the level of disclosure of segment data in published corporate financial statements has no effect on Chartered Financial Analysts' average level of predictions of corporate earnings. The null hypothesis was rejected and the alternate hypothesis that the level of disclosure of segment data in published corporate financial statements has an effect on Chartered Financial Analysts' average level of predictions of corporate earnings was accepted.

These results did not hold, however, when two separate one-way ANOVAs were used to test the data under the large and small segment earnings variability.

A two-way ANOVA was also used to test the hypothesis that earnings variability and the level of disclosure of segment data in published corporate financial statements has no interaction effect with respect to Chartered Financial Analysts' average level of predictions of corporate earnings.

The results of the analysis indicate that the interactive effects of the level of segment disclosure and segment earnings variability are not significant. Based on the results, the null hypothesis that earnings variability and the level of disclosure has no interaction effect on Chartered Financial Analysts' predictions is not rejected.

Hartley's Fmax test for Homogeneity of Variance was used to test the hypothesis that the level of disclosure

and segment earnings variability are not significant. Based on the results, the null hypothesis that earnings variability and the level of disclosure has no interaction effect on Chartered Financial Analysts' predictions is not rejected.

Hartley's Fmax test for Homogeneity of Variance was used to test the hypothesis that the level of disclosure of segment data in published corporate financial statements has no effect on variability in earnings predictions (communicative ability) among Chartered Financial Analysts. Based on the results of the Hartley test, the hypothesis that the level of disclosure of segment data in published corporate financial statements has no effect on variability in earnings predictions (communicative ability) among Chartered Financial Analysts was rejected when segment earnings variability is small. When segment earnings variability is large, the hypothesis that the level of disclosure of segment data in published corporate financial statements has no effect on variability in earnings predictions (communicative ability) among Chartered Financial Analysts cannot be rejected.

The Hartley Fmax test was also used to test the hypothesis that earnings variability and the level of disclosure of segment data in published financial statements has no interaction effect with respect to variability in earnings predictions (communicative ability) among Chartered Financial Analysts. The results of the Hartley test

implies that earnings variability and the level of segment data disclosed do not interact with respect to Chartered Financial Analysts' variability in earnings predictions (communicative ability). The null hypothesis was, therefore, not rejected.

A one-way ANOVA was used to test the hypothesis that the level of disclosure of segment data in published corporate financial statements has no effect on Chartered Financial Analysts' confidence in their predictions of corporate earnings. The results of the one-way ANOVA indicated that the level of segment disclosure in corporate financial statements does not have a significant effect on the respondents' confidence in their prediction of corporate earnings. The null hypothesis was not rejected.

CHAPTER V

SUMMARY AND CONCLUSIONS

A primary objective of financial reporting is to provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit, and similar decisions (FASB, 1978, para. 32). Since users do not directly employ those responsible for financial reports, they can neither direct nor effectively communicate their varied needs for financial information to statement preparers. The needs of all financial statement users cannot be considered in any one research effort; therefore, surrogates for classes of users must be used in testing financial statement user needs. In this study Chartered Financial Analysts, assumed to be relatively sophisticated users of accounting information, were used as a surrogate for sophisticated users of financial statements.

Much of the prior research dealing with the issue of segment disclosure has been conducted with a methodology which obtains user perceptions of the need for segment data. The literature generally deals only with the issues of whether to disclose or not to disclose segment data. Methodology which deals with user perceptions is deficient in that actual importance or need may not be the same as perceived importance or need. Research efforts which attempt to determine the segment data actually used by

Financial Statement users in making investment, credit, and similar decisions are needed. With the advent of the requirement of SFAS No. 14 research into user needs for segment data should be expanded to cover a broader range of disclosure choices than simply to disclose or not to disclose.

The literature review presented in Chapter II presents contradictory findings concerning the need for segment disclosures. The research presented was conducted exclusively prior to the implementation of SFAS No. 14 requirements.

The objective of this study has been to provide empirical evidence concerning the influence of disclosing different levels of segment data on the decision making behavior of sophisticated users of published corporate financial statements. Findings from the empirical research techniques employed in this study contribute to a better understanding of the need or lack of need for the comprehensive segment disclosures required by SFAS No. 14. To accomplish this objective, an experimental methodology was used. Respondents were supplied with financial statements of a hypothetical company and were asked to predict 1981 net income and to indicate an interval of net income in which they were 95% confident 1981 net income would fall. The data obtained were analyzed using appropriate statistical techniques to determine whether disclosure of different levels of segment data influenced (1) CFAs'

average prediction of corporate earnings, (2) variability in earnings predictions (communicative ability) among CFAs, and (3) CFA's confidence in their prediction of corporate earnings.

Results of the Experiment

Five hypotheses were formulated to investigate the effects of disclosure of different levels of segment data on the decision making behavior of sophisticated users of published corporate financial statements. These hypotheses are discussed in Chapter III and the complete results of the experiment regarding each hypothesis are presented in Chapter IV. Each of the hypotheses is restated in this section with a summary of the test results following each.

Hypothesis 1

> The level of disclosure of segment data in published corporate financial statements has no significant effect on Chartered Financial Analysts' average level of prediction of corporate earnings.

Respondents' predictions of earnings were anlayzed to determine whether disclosure of different levels of segment data influenced their predictions. Segment earnings variability was also used as an independent variable since prior literature suggested that segment earnings might have a moderating effect on financial statement user predictions.

The main effects of level of segment disclosure were significant ($p = 0.01$). Neither the main effects of

segment earnings variability or the two-way interactions effect of level of segment disclosure and segment earnings variability were significant ($p = 0.01$). Multiple range tests identified two respondent groups whose mean level of predictions were significantly different from those perdictions made under other levels of segment disclosure. While neither was significant, level of disclosure of segment data did have a greater effect ($p = 0.029$) on respondent's predictions when segment earnings variability was large than when segment earnings variability was small ($p = .164$).

Hypothesis 2

> Earnings variability and the level of disclosure of segment data in published corporate financial statements have no significant interaction effect with respect to Chartered Financial Analysts' average level of predictions of corporate earnings.

Respondents' average level of prediction of corporate earnings were not affected ($p = 0.441$) by the interactive effect of level of disclosure of segment data and segment earnings variability. This lack of significant interaction implies that regardless of the variability of segment earnings, the effects of each of the various levels of segment disclosure on the average level of prediction of earnings by CFAs are similar. This is further supported in that the main effect of segment earnings variability was not found to be significant ($p = 0.229$).

Hypothesis 3

> The level of disclosure of segment data in published corporate financial statements has no significant effect on variability in earnings predictions (communicative ability) among Chartered Financial Analysts.

To determine whether useful information had been communicated to the respondents as the level of segment disclosure changed, the variances of the distribution of net income projections (measure of communicative ability) made under each of the six levels of segment disclosure were analyzed using the Hartley Fmax Test for Homogeneity of Variance. When segment earnings variability was small, additional information was communicated ($p = 0.01$) by levels 2 - 6 as compared to the disclosure of no segment data (level 1). When levels 2 - 6 were compared, results indicated that the assumption of homogeneity of variance could not be rejected. Additional information was not communicated by any group within segment disclosure levels 2 - 6.

When variability in segment earnings was large, the Fmax test failed to detect a significant difference in the variances among the six groups. The results were the same when levels 2 - 6 were compared to level 1 and when levels 2 - 6 only were tested. When segment earnings variability was large, additional information was not communicated to the respondents as changes occurred in the level of segment data provided.

Hypothesis 4

> Earnings variability and the level of disclosure of segment data in published financial statements have no significant interaction effect with respect to variability in earnings predictions (communicative ability) among Chartered Financial Analysts.

Although there is not a formal test for interaction effects of variances, the Hartley Fmax test was also used to informally test Hypothesis 4. When all sample subjects were combined, the results were six different distributions, one for each level of segment disclosure. Test results indicated that there were no significant differences in the variances of the six distributions. When the distribution with no segment data disclosed is excluded, the significance of the test is greater. This implies that there is greater homogeneity of the variances in distributions 2 - 6 than among the variances of all the distributions when distribution 1 is added. This informal test of Hypothesis 4 does not support the rejection of Hypothesis 4.

Hypothesis 5

> The level of disclosure of segment data in published corporate financial statements has no significant effect on Chartered Financial Analysts' confidence in their predictions of corporate earnings.

Test results for Hypothesis 5 indicate that the level of segment disclosure in the corporate financial statements presented did not significantly affect ($p = 0.522$) the respondent's confidence in their predictions of

corporate earnings. While the level of segment disclosures was not significant, segment earnings variability was ($p = 0.000$). CFA's overall average range of confidence was much smaller when segment earnings variability was small. There was no discernable pattern regarding changes in CFA's confidence as they received greater amounts of segment data.

Conclusions

The literature reviewed in Chapter II did not provide conclusive evidence regarding the usefulness or communicative ability of segment disclosures. That literature dealt primarily with the question of whether or not to disclose segment data and was conducted exclusively prior to the implementation of the requirements of SFAS No. 14. Empirical research has not been conducted previously which attempts to determine whether the disclosures required by SFAS No. 14 is useful to financial statement users. The present study is a beginning to that end.

The level of segment data disclosed in published corporate financial statements was found to significantly affect Chartered Financial Analysts' average level of prediction of corporate earnings. This finding supports the concept that disclosure of segment data is useful to financial statement users. Multiple range tests were conducted in an effort to identify like groups among the six levels of segment disclosure presented. Test results

indicated that groups 3 and 5 were significantly different from groups 1, 2, 4, and 6. This suggests that possibly the FASB exaggerated the need for disclosure requirements when it formulated SFAS No. 14. Since results obtained within the two identified groups were similar, one can safely assume that CFAs' needs were met with the segment data disclosed in levels 1, 2, and 3. Net income projections were significantly different when profitability data was supplied. Based on these test results, the usefulness of additional information beyond revenue and profitability data by segment is questionable. While previous studies did not consider various levels of segment disclosure, Collins (1976, p. 174) and Kinney (1971, p. 136) reported that earnings forecasts were on the average more accurate when based on segment sales and earnings data rather than on consolidated performance only. Collins (1976, p. 174) concluded that predictive ability was enhanced when segment profit was added to his prediction model.

Variability in segment earnings did not interact with the level of segment disclosure to affect CFAs' average level of earnings predictions. This lack of significant interaction seems to signify that whatever the variability in earnings, the effects of one level of segment disclosure on the average level of CFAs' predictions, are similar to the effects of any other level of segment disclosure.

The variability in earnings predictions (measure of communicative ability) is concerned with the dispersion of the respondents' predictions of corporate earnings. This gives a measure of the agreement among respondents concerning their earnings predictions. There was a significant change in communicative ability when Group 1 (no segment data) was compared to all other groups (Groups 2 - 5). This is an indication that the addition of segment data had an effect on the respondents' predictions. The test for homogeneity of variances, however, failed to detect a significant difference among groups 2 - 6. This implies that once basic segment data regarding revenues is presented, any additional segment information disclosed is not useful. Similar results were obtained regardless of whether the analysis was conducted when segment earnings variability was small, large, or both combined.

Chartered Financial Analysts' confidence in their earnings predictions was not enhanced as a result of being provided increased levels of segment data. Respondents' range of confidence was generally much smaller when segment earnings variability was small but this was due to the significant effect of the segment earnings variability variable. Additional information is of questionable value to financial statement users if the use of that data does not provide them with greater confidence in decisions made with the data than not.

The findings of the study do not provide conclusive evidence regarding the need and usefulness of the required segment disclosures studied herein. Although the FASB has issued these requirements and they are currently being carried out, this study suggests that the presentation of basic revenue and profitability data would meet the needs of the sophisticated financial statement user. Once the basic segment data is presented, neither user predictions nor their confidence in their predictions were further strengthened. Neither was there a greater concensus with respect to variability in earnings predictions (communicative ability) once basic segment data was provided. Since limited benefits seem to be accruing from the extensive disclosure requirement of SFAS No. 14, the cost of providing such may be excessive.

Limitations of the Study

An experimental design was used in the study so that maximum benefit could be derived from the data gathered. While considerable effort goes into the design of a survey instrument, there are inherent limitations. Since the survey instrument was mailed rather than administered in a controlled environment, no time constraints were placed on the subjects in making their investment decisions. Due to the use of a mailed questionnaire, the common problem of non-response bias is present in the study. The original

mailing was followed by a second mailing in order to maximize response. Responses obtained from the first and second mailing were compared. No statistical analysis was performed but there were no apparent differences in the responses. Non-response bias is not, however, a limitation or problem unique to this study. The limitation applies to virtually all studies that use questionnaires as the information-gathering instrument. To the question of whether the addition of information obtained from the respondents would change or alter a researcher's findings to any significant degree, Black and Champion (1976, pp. 398-399) respond. "There is virtually no way of answering this question . . . . From a philosophical viewpoint, the question of the effect of non-respondents on the original research outcome is, more often than not, purely a speculative matter."

Another limitation of the mailed questionnaire is that there is no assurance that the intended respondent actually completed the questionnaire. There is also the possibility that subjects did not understand what was asked for on the questionnaire.

In this study the effects of disclosure of different levels of segment information on the decision making ability of sophisticated users of financial statements were studied. Chartered Financial Analysts were used as a representative group of sophisticated users. Other user groups such as

bankers, financial executives, and other financial analysts would certainly qualify as sophisticated users. The generalizability of the research results is limited to the population of Chartered Financial Analysts from which the sample subjects were drawn.

Another limitation is that the study focuses on a very limited area of user needs. The study included only corporate financial statements as a source of segment information to be used for analytical purposes. While segment information may be obtainable from other sources, the study considers only corporate financial statements. Sophisticated users of financial information would surely have access to additional information when making actual investment decisions.

Recommendations for Future Research

With the implementation of the segment disclosure requirements of SFAS No. 14, the topic of segment disclosure in corporate financial statements became very broad and complex in nature. The present research is simply the beginning of the research effort that needs to be made to determine whether the SFAS No. 14 requirements need to be further amended. Providing information simply because it can be provided does not assure that needs of financial statement users are being met.

The current study has used Chartered Financial Analysts as a surrogate for the sophisticated user of financial

statements. Replications of the current study using other sophisticated groups of financial statement users might be useful. Its replication on non-sophisticated users might also provide enlightening information.

While this study used only segment earnings variability as a potential moderating variable, there are others that might be included. Additional levels of segment earnings or different definitions of segment earnings variability might be explored. Different levels or combinations of levels of segment disclosure may be studied. Complete annual reports may be provided to users instead of simply financial statements.

This study used a hypothetical company's financial statements although they were developed from an actual company's financial statements. Research may be conducted using "real" company data with greater emphasis on variables such as number of segments or type of firm. Studies of actual financial statements of multi-segment firms might be conducted to determine whether there are certain characteristics which are common to multi-segment companies which may be helpful in determining the need for the reporting of segment data in such companies.

The methodology used in this study can be adopted to many similar research topics. More research efforts should be directed towards evaluating the effect of disclosure requirements prior to their being prescribed by

authoritative accounting bodies. The methodology used in this study can provide a relatively inexpensive and timely pre-test of alternative disclosure requirements being considered by authoritative accounting or regulatory groups. Data obtained from such research may assist in the selection of the most appropriate alternatives. If a prospective disclosure is not used in decision making, presentation in financial statements is of questionable value.

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APPENDICES

APPENDIX A

Cover Letters

Southeastern Louisiana University
UNIVERSITY STATION
HAMMOND, LOUISIANA
70402

September 17, 1981

Dear Chartered Financial Analyst:

To obtain research data for my doctoral dissertation at Louisiana State University, I ask you to examine and complete the brief questionnaire enclosed. Please review the attached information packet and record your responses on the self-mailer questionnaire.

The information presented in the information packet is for a hypothetical company, and therefore no "correct" net earnings exist to compare with your predictions. As a Chartered Financial Analyst, your response is important to my effort regardless of your current employment classification.

As a Certified Public Accountant and a university official, I recognize the value of your time. To complete your analysis and record your responses should take only a few minutes. I would very much appreciate your taking the time to enter your responses on the self-mailer questionnaire and returning them to me.

The control number on the questionnaire is for follow-up purposes only. If you wish to make comments please do so.

Thank you very much.

Sincerely,

Jim Honea
Assistant Vice President
for Administrative Affairs

JH:RLL

Enclosure

Southeastern Louisiana University
UNIVERSITY STATION
HAMMOND, LOUISIANA
70402

October 6, 1981

Dear Chartered Financial Analysts:

On September 17 you were mailed a questionnaire from which I am seeking research data dealing with certain financial disclosures in corporate financial statements. Your individual response is important to my overall research effort and certainly will aid in the successful completion of my Doctoral program at Louisiana State University.

I realize asking you to complete the questionnaire is an infringement on your valuable time. I have attempted to minimize the amount of time needed and yet have the responses be meaningful to my overall research objective. Please take a few minutes of your time to complete and return the duplicate postage-paid questionnaire attached.

Thank you very much for you assistance.

Sincerely,

Jim Honea
Assistant Vice President
for Administrative Affairs

JH:cd

Attachment

P.S. Many thanks if your completed questionnaire is already in transit.

APPENDIX B

Information Packets

INFORMATION PACKET
Company X-1

INSTRUCTIONS:

The following Balance Sheet and Income Statement for 1980 and a Five Year Summary of Operations, Financial Data, and Segment Data represents the historical performance of a hypothetical United States Corporation. Please restrict your analysis exclusively to the data which is presented. Utilize your personal investment, decision model to the extent possible and make a prediction of the company's net income for one year in the future (1981). You are also requested to indicate a range ($\pm$) which would make you feel 95% confident with your prediction.

THE FOLLOWING IS AN EXAMPLE OF HOW TO INDICATE YOUR PREDICTION:

If, after analyzing the Company data, you feel the 1981 net income will be $10,272,000, you will make the following response.

(1) What is your best prediction (000's) of the company's 1981 net income? 10,272

If you feel 95% confident that the true company net income will fall within a range of $10,248,000 to $10,290,000, you will make the following response.

(2) Within what range (in 000's) do you feel 95% confident that the true value of the company's 1981 net income will fall. That is, what is:

(a) The lower bound? 10,248

(b) The upper bound? 10,290

YOUR RESPONSES SHOULD BE PLACED BELOW IN THE SPACE PROVIDED ON THE SELF-MAILER QUESTIONNAIRE. AFTER COMPLETING YOUR RESPONSES, SIMPLY DETACH AND MAIL.

THANK YOU FOR YOUR ASSISTANCE.

(THE QUESTIONNAIRE WAS AN ATTACHED SELF-ADDRESSED POST CARD)

Sample Questionnaire

INFORMATION QUESTIONNAIRE

1. What is your best prediction (in 000's) of the company's 1981 net income?

1. _____

2. Within what range (in 000's) do you feel 95% confident that the true value of 1981 net income will fall. That is, what is:

a. The lower bound? $ _____

b. The upper bound? $ _____

3. How many years have you been a financial analyst?

3. _____

4. Approximately how many minutes has it taken you to make your analysis?

4. _____

Control No. _____

Company X-1
Balance Sheet
December 31, 1980

Assets			
Current Assets			
Cash and cash equivalents		$ 11,138,700	
Marketable Securities (lower of aggregate cost of market)		1,192,500	
Accounts Receivable (net)		45,555,700	
Inventories (LIFO):			
Finished Products	$ 57,804,400		
Goods in Process	8,891,200		
Raw Materials	15,831,100	82,526,700	
Other Current Assets		5,137,200	
Total Current Assets			$ 145,550,800
Property, Plant and Equipment			
Land and Mineral Deposits		5,682,600	
Buildings and Improvements		20,515,200	
Machinery and Equipment		48,509,700	
Leasehold Improvements and Store Fixtures		21,711,700	
Less allowances and depreciation, depletion, and amortization		- 49,840,700	
Total Property, Plant, and Equipment			46,578,500
Total Assets			$ 192,129,300
Liabilities and Stockholder's Equity			
Current Liabilities			
Accounts Payable and Accruals		35,632,700	
Federal Income Taxes		6,211,200	
Current Maturities of Long Term Debt		2,096,100	
Total Current Liabilities			43,940,000
Long-Term Debt - less Current Maturities			16,135,000
Deferred Federal Income Taxes			3,955,800
Stockholder's Equity			
Common Stock, par value $1.00 a share		4,049,000	
Additional Paid in Capital		13,756,600	
Retained Earnings		110,292,900	
Total Stockholders Equity			128,098,500
Total Liabilities and Stockholder's Equity			$ 192,129,300

Company X - 1
Income Statement
For the Year Ended December 31, 1980

Net Sales (See Note 1)	$ 417,841,100
Cost and Expenses	
Cost of goods sold	284,851,500
Operating expenses	95,553,400
Other expenses	1,359,000
Net Income before income taxes	36,077,200
Federal Income Taxes	15,100,000
Net Income	$ 20,977,200

Note 1:

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building Materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Handtools - Engaged in manufacture and marketing of lawn and garden tools.

Company X-1
Five Year Summary of Operations, Financial Data,
and Business Segment Information

SUMMARY OF OPERATIONS	YEAR ENDED DECEMBER 31 (Dollars in Millions) 1980	1979	1978	1977	1976
Net sales	$417.8	$344.6	$305.9	$284.6	$266.0
Cost, expenses, and other income:					
Cost of products sold	284.8	233.9	205.7	191.5	179.9
Selling, general, and administrative expenses	95.6	81.1	74.5	68.1	66.0
Interest and debt expense - net	1.4	1.5	1.6	2.7	2.5
	381.8	316.5	281.8	262.3	248.4
Earnings Before Income Taxes	36.0	28.1	24.1	22.3	17.6
Federal Income Taxes	15.0	11.5	11.4	8.9	7.0
Net Earnings	$ 21.0	$ 16.6	$ 12.7	$ 13.4	$ 10.6
FINANCIAL DATA					
Total assets	$192.1	$169.0	$155.5	$146.8	$144.0
Property, plant, and equipment-net	46.6	40.7	33.7	31.4	30.8
Working capital	101.6	92.8	87.8	78.3	70.6
Long-term debt	16.1	18.3	19.9	21.7	24.5
Stockholders' equity	128.1	111.7	99.2	85.9	75.0
Dividends	4.8	4.0	3.3	2.5	2.0
Depreciation and depletion	7.1	6.1	5.6	5.4	5.6
Capital expenditures - net	13.0	13.0	7.9	6.3	9.5

BUSINESS SEGMENT DATA

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Hand Tools - Engaged in manufacture and marketing of lawn and garden tools.

INFORMATION PACKET
Company X-2

INSTRUCTIONS:

The following Balance Sheet and Income Statement for 1980 and a Five Year Summary of Operations, Financial Data, and Segment Data represents the historical performance of a hypothetical United States Corporation. Please restrict your analysis exclusively to the data which is presented. Utilize your personal investment, decision model to the extent possible and make a prediction of the company's net income for one year in the future (1981). You are also requested to indicate a range ($\pm$) which would make you feel 95% confident with your prediction.

THE FOLLOWING IS AN EXAMPLE OF HOW TO INDICATE YOUR PREDICTION:

If, after analyzing the Company data, you feel the 1981 net income will be $10,272,000, you will make the following response.

(1) What is your best prediction (000's) of the company's 1981 net income? 10,272

If you feel 95% confident that the true company net income will fall within a range of $10,248,000 to $10,290,000, you will make the following response.

(2) Within what range (in 000's) do you feel 95% confident that the true value of the company's 1981 net income will fall. That is, what is:

(a) The lower bound? 10,248

(b) The upper bound? 10,290

YOUR RESPONSES SHOULD BE PLACED BELOW IN THE SPACE PROVIDED ON THE SELF-MAILER QUESTIONNAIRE. AFTER COMPLETING YOUR RESPONSES, SIMPLY DETACH AND MAIL.

THANK YOU FOR YOUR ASSISTANCE.

(THE QUESTIONNAIRE WAS AN ATTACHED SELF-ADDRESSED POST CARD)

Sample Questionnaire

INFORMATION QUESTIONNAIRE

1. What is your best prediction (in 000's) of the company's 1981 net income?

1. _____

2. Within what range (in 000's) do you feel 95% confident that the true value of 1981 net income will fall. That is, what is:

a. The lower bound? $ _____

b. The upper bound? $ _____

3. How many years have you been a financial analyst?

3. _____

4. Approximately how many minutes has it taken you to make your analysis?

4. _____

Control No. _____

Company X-2
Balance Sheet
December 31, 1980

Assets			
Current Assets			
Cash and cash equivalents		$ 11,138,700	
Marketable Securities (lower of aggregate cost of market)		1,192,500	
Accounts Receivable (net)		45,555,700	
Inventories (LIFO):			
Finished Products	$ 57,804,400		
Goods in Process	8,891,200		
Raw Materials	15,831,100	82,526,700	
Other Current Assets		5,137,200	
Total Current Assets			$ 145,550,800
Property, Plant and Equipment			
Land and Mineral Deposits		5,682,600	
Buildings and Improvements		20,515,200	
Machinery and Equipment		48,509,700	
Leasehold Improvements and Store Fixtures		21,711,700	
Less allowances and depreciation, depletion, and amortization		- 49,840,700	
Total Property, Plant, and Equipment			46,578,500
Total Assets			$ 192,129,300
Liabilities and Stockholder's Equity			
Current Liabilities			
Accounts Payable and Accruals		35,632,700	
Federal Income Taxes		6,211,200	
Current Maturities of Long Term Debt		2,096,100	
Total Current Liabilities			43,940,000
Long-Term Debt - less Current Maturities			16,135,000
Deferred Federal Income Taxes			3,955,800
Stockholder's Equity			
Common Stock, par value $1.00 a share		4,049,000	
Additional Paid in Capital		13,756,600	
Retained Earnings		110,292,900	
Total Stockholders Equity			128,098,500
Total Liabilities and Stockholder's Equity			$ 192,129,300

Company X - 2
Income Statement
For the Year Ended December 31, 1980

Net Sales (See Note 1)	$ 417,841,100
Cost and Expenses	
Cost of goods sold	284,851,500
Operating expenses	95,553,400
Other expenses	1,359,000
Net Income before income taxes	36,077,200
Federal Income Taxes	15,100,000
Net Income	$ 20,977,200

Note 1:

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building Materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Handtools - Engaged in manufacture and marketing of lawn and garden tools.

Company X-2
Five Year Summary of Operations, Financial Data,
and Business Segment Information

	YEAR ENDED DECEMBER 31 (Dollars in Millions)				
SUMMARY OF OPERATIONS	1980	1979	1978	1977	1976
Net sales	$417.8	$344.6	$305.9	$284.6	$266.0
Cost, expenses, and other income:					
Cost of products sold	284.8	233.9	205.7	191.5	179.9
Selling, general and administrative expenses	95.6	81.1	74.5	68.1	66.0
Interest and debt expense - net	1.4	1.5	1.6	2.7	2.5
	381.8	316.5	281.8	262.3	248.4
Earnings Before Income Taxes	36.0	28.1	24.1	22.3	17.6
Federal Income Taxes	15.0	11.5	11.4	8.9	7.0
Net Earnings	$ 21.0	$ 16.6	$ 12.7	$ 13.4	$ 10.6
FINANCIAL DATA					
Total Assets	$192.1	$169.0	$155.5	$146.8	$144.0
Property, plant, and equipment-net	46.6	40.7	33.7	31.4	30.8
Working capital	101.6	92.8	87.8	78.3	70.6
Long-term debt	16.1	18.3	19.9	21.7	24.5
Stockholders' equity	128.1	111.7	99.2	85.9	75.0
Dividends	4.8	4.0	3.3	2.5	2.0
Depreciation and depletion	7.1	6.1	5.6	5.4	5.6
Capital expenditures - net	13.0	13.0	7.9	6.3	9.5
BUSINESS SEGMENT DATA					
Net sales					
Footwear	$259.9	$222.1	$194.9	$182.7	$175.2
Building materials	73.8	68.6	55.6	47.1	36.0
Hand Tools	84.1	53.9	55.4	54.8	54.8
Consolidated Sales	$417.8	$344.6	$305.9	$284.6	$266.0

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Hand Tools - Engaged in manufacture and marketing of lawn and garden tools.

INFORMATION PACKET
Company X-3

INSTRUCTIONS:

The following Balance Sheet and Income Statement for 1980 and a Five Year Summary of Operations, Financial Data, and Segment Data represents the historical performance of a hypothetical United States Corporation. Please restrict your analysis exclusively to the data which is presented. Utilize your personal investment, decision model to the extent possible and make a prediction of the company's net income for one year in the future (1981). You are also requested to indicate a range ($\pm$) which would make you feel 95% confident with your prediction.

THE FOLLOWING IS AN EXAMPLE OF HOW TO INDICATE YOUR PREDICTION:

If, after analyzing the Company data, you feel the 1981 net income will be $10,272,000, you will make the following response.

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(2) Within what range (in 000's) do you feel 95% confident that the true value of the company's 1981 net income will fall. That is, what is:

(a) The lower bound? 10,248

(b) The upper bound? 10,290

YOUR RESPONSES SHOULD BE PLACED BELOW IN THE SPACE PROVIDED ON THE SELF-MAILER QUESTIONNAIRE. AFTER COMPLETING YOUR RESPONSES, SIMPLY DETACH AND MAIL.

THANK YOU FOR YOUR ASSISTANCE.

(THE QUESTIONNAIRE WAS AN ATTACHED SELF-ADDRESSED POST CARD)

Sample Questionnaire

INFORMATION QUESTIONNAIRE

1. What is your best prediction (in 000's) of the company's 1981 net income?

   1. _____

2. Within what range (in 000's) do you feel 95% confident that the true value of 1981 net income will fall. That is, what is:

   a. The lower bound? $ _____

   b. The upper bound? $ _____

3. How many years have you been a financial analyst?

   3. _____

4. Approximately how many minutes has it taken you to make your analysis?

   4. _____

Control No. _____

Company X-3
Balance Sheet
December 31, 1980

Assets			
Current Assets			
Cash and cash equivalents		$ 11,138,700	
Marketable Securities (lower of aggregate cost of market)		1,192,500	
Accounts Receivable (net)		45,555,700	
Inventories (LIFO):			
Finished Products	$ 57,804,400		
Goods in Process	8,891,200		
Raw Materials	15,831,100	82,526,700	
Other Current Assets		5,137,200	
Total Current Assets			$ 145,550,800
Property, Plant and Equipment			
Land and Mineral Deposits		5,682,600	
Buildings and Improvements		20,515,200	
Machinery and Equipment		48,509,700	
Leasehold Improvements and Store Fixtures		21,711,700	
Less allowances and depreciation, depletion, and amortization		- 49,840,700	
Total Property, Plant, and Equipment			46,578,500
Total Assets			$ 192,129,300
Liabilities and Stockholder's Equity			
Current Liabilities			
Accounts Payable and Accruals		35,632,700	
Federal Income Taxes		6,211,200	
Current Maturities of Long Term Debt		2,096,100	
Total Current Liabilities			43,940,000
Long-Term Debt - less Current Maturities			16,135,000
Deferred Federal Income Taxes			3,955,800
Stockholder's Equity			
Common Stock, par value $1.00 a share		4,049,000	
Additional Paid in Capital		13,756,600	
Retained Earnings		110,292,900	
Total Stockholders Equity			128,098,500
Total Liabilities and Stockholder's Equity			$ 192,129,300

Company X - 3
Income Statement
For the Year Ended December 31, 1980

Net Sales (See Note 1)	$ 417,841,100
Cost and Expenses	
Cost of goods sold	284,851,500
Operating expenses	95,553,400
Other expenses	1,359,000
Net Income before income taxes	36,077,200
Federal Income Taxes	15,100,000
Net Income	$ 20,977,200

Note 1:

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building Materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Handtools - Engaged in manufacture and marketing of lawn and garden tools.

Company X-3
Five Year Summary of Operations, Financial Data,
and Business Segment Information

	YEAR ENDED DECEMBER 31 (Dollars in Millions)				
SUMMARY OF OPERATIONS	1980	1979	1978	1977	1976
Net sales	$417.8	$344.6	$305.9	$284.6	$266.0
Cost, expenses, and other income:					
Cost of products sold	284.8	233.9	205.7	191.5	179.9
Selling, general and administrative expenses	95.6	81.1	74.5	68.1	66.0
Interest and debt expense - net	1.4	1.5	1.6	2.7	2.5
	381.8	316.5	281.8	262.3	248.4
Earnings before Income Taxes	36.0	28.1	24.1	22.3	17.6
Federal Income Taxes	15.0	11.5	11.4	8.9	7.0
Net Earnings	$ 21.0	$ 16.6	$ 12.7	$ 13.4	$ 10.6
FINANCIAL DATA					
Total Assets	$192.1	$169.0	$155.5	$146.8	$144.0
Property, plant, and equipment-net	46.6	40.7	33.7	31.4	30.8
Working capital	101.6	92.8	87.8	78.3	70.6
Long-term debt	16.1	18.3	19.9	21.7	24.5
Stockholders' equity	128.1	111.7	99.2	85.9	75.0
Dividends	4.8	4.0	3.3	2.5	2.0
Depreciation and depletion	7.1	6.1	5.6	5.4	5.6
Capital expenditures - net	13.0	13.0	7.9	6.3	9.5
BUSINESS SEGMENT DATA					
Operating Profit					
Footwear	$ 19.8	$ 16.2	$ 12.2	$ 11.6	$ 11.7
Building Materials	10.3	11.3	10.6	8.5	5.8
Hand Tools	8.6	3.0	4.0	5.4	3.5
Consolidated operating profit	38.7	30.5	26.8	25.5	21.0
General corporate expenses	2.7	2.4	2.7	3.2	3.4
Net Income before income taxes	$ 36.0	$ 28.1	$ 24.1	$ 22.3	$ 17.6

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Hand Tools - Engaged in manufacture and marketing of lawn and garden tools.

INFORMATION PACKET
Company X-4

INSTRUCTIONS:

The following Balance Sheet and Income Statement for 1980 and a Five Year Summary of Operations, Financial Data, and Segment Data represents the historical performance of a hypothetical United States Corporation. Please restrict your analysis exclusively to the data which is presented. Utilize your personal investment, decision model to the extent possible and make a prediction of the company's net income for one year in the future (1981). You are also requested to indicate a range (±) which would make you feel 95% confident with your prediction.

THE FOLLOWING IS AN EXAMPLE OF HOW TO INDICATE YOUR PREDICTION:

If, after analyzing the Company data, you feel the 1981 net income will be $10,272,000, you will make the following response.

(1) What is your best prediction (000's) of the company's 1981 net income? 10,272

If you feel 95% confident that the true company net income will fall within a range of $10,248,000 to $10,290,000, you will make the following response.

(2) Within what range (in 000's) do you feel 95% confident that the true value of the company's 1981 net income will fall. That is, what is:

(a) The lower bound? 10,248

(b) The upper bound? 10,290

YOUR RESPONSES SHOULD BE PLACED BELOW IN THE SPACE PROVIDED ON THE SELF-MAILER QUESTIONNAIRE. AFTER COMPLETING YOUR RESPONSES, SIMPLY DETACH AND MAIL.

THANK YOU FOR YOUR ASSISTANCE.

(THE QUESTIONNAIRE WAS AN ATTACHED SELF-ADDRESSED POST CARD)

Sample Questionnaire

INFORMATION QUESTIONNAIRE

1. What is your best prediction (in 000's) of the company's 1981 net income?

1. _____

2. Within what range (in 000's) do you feel 95% confident that the true value of 1981 net income will fall. That is, what is:

a. The lower bound? $ _____

b. The upper bound? $ _____

3. How many years have you been a financial analyst?

3. _____

4. Approximately how many minutes has it taken you to make your analysis?

4. _____

Control No. _____

Company X-4
Balance Sheet
December 31, 1980

Assets			
Current Assets			
Cash and cash equivalents		$ 11,138,700	
Marketable Securities (lower of aggregate cost of market)		1,192,500	
Accounts Receivable (net)		45,555,700	
Inventories (LIFO):			
Finished Products	$ 57,804,400		
Goods in Process	8,891,200		
Raw Materials	15,831,100	82,526,700	
Other Current Assets		5,137,200	
Total Current Assets			$ 145,550,800
Property, Plant and Equipment			
Land and Mineral Deposits		5,682,600	
Buildings and Improvements		20,515,200	
Machinery and Equipment		48,509,700	
Leasehold Improvements and Store Fixtures		21,711,700	
Less allowances and depreciation, depletion, and amortization		- 49,840,700	
Total Property, Plant, and Equipment			46,578,500
Total Assets			$ 192,129,300
Liabilities and Stockholder's Equity			
Current Liabilities			
Accounts Payable and Accruals		35,632,700	
Federal Income Taxes		6,211,200	
Current Maturities of Long Term Debt		2,096,100	
Total Current Liabilities			43,940,000
Long-Term Debt - less Current Maturities			16,135,000
Deferred Federal Income Taxes			3,955,800
Stockholder's Equity			
Common Stock, par value $1.00 a share		4,049,000	
Additional Paid in Capital		13,756,600	
Retained Earnings		110,292,900	
Total Stockholders Equity			128,098,500
Total Liabilities and Stockholder's Equity			$ 192,129,300

Company X - 4
Income Statement
For the Year Ended December 31, 1980

Net Sales (See Note 1)	$ 417,841,100
Cost and Expenses	
Cost of goods sold	284,851,500
Operating expenses	95,553,400
Other expenses	1,359,000
Net Income before income taxes	36,077,200
Federal Income Taxes	15,100,000
Net Income	$ 20,977,200

Note 1:

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building Materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Handtools - Engaged in manufacture and marketing of lawn and garden tools.

Company X-4
Five Year Summary of Operations, Financial Data,
and Business Segment Information

	YEAR ENDED DECEMBER 31 (Dollars in Millions)				
SUMMARY OF OPERATIONS	1980	1979	1978	1977	1976
Net sales	$417.8	$344.6	$305.9	$284.6	$266.0
Cost, expenses, and other income:					
Cost of products sold	284.8	233.9	205.7	191.5	179.9
Selling, general and administrative expenses	95.6	81.1	74.5	68.1	66.0
Interest and debt expense - net	1.4	1.5	1.6	2.7	2.5
	381.8	316.5	281.8	262.3	248.4
Earnings before Income Taxes	36.0	28.1	24.1	22.3	17.6
Federal Income Taxes	15.0	11.5	11.4	8.9	7.0
Net Earnings	$ 21.0	$ 16.6	$ 12.7	$ 13.4	$ 10.6
FINANCIAL DATA					
Total Assets	$192.1	$169.0	$155.5	$146.8	$144.0
Property, Plant, and equipment-net	46.6	40.7	33.7	31.4	30.8
Working capital	101.6	92.8	87.8	78.3	70.6
Long-term debt	16.1	18.3	19.9	21.7	24.5
Stockholders' equity	128.1	111.7	99.2	85.9	75.0
Dividends	4.8	4.0	3.3	2.5	2.0
Depreciation and depletion	7.1	6.1	5.6	5.4	5.6
Capital expenditures - net	13.0	13.0	7.9	6.3	9.5
BUSINESS SEGMENT DATA					
Net Sales					
Footwear	$259.9	$222.1	$194.9	$182.7	$175.2
Building Materials	73.8	68.6	55.6	47.1	36.0
Hand Tools	84.1	53.9	55.4	54.8	54.8
Consolidated Sales	$417.8	$344.6	$305.9	$284.6	$266.0
Operating Profit					
Footwear	$ 19.8	$ 16.2	$ 12.2	$ 11.6	$ 11.7
Building Materials	10.3	11.3	10.6	8.5	5.8
Hand Tools	8.6	3.0	4.0	5.4	3.5
Consolidated operating profit	$ 38.7	$ 30.5	$ 26.8	$ 25.5	$ 21.0
General Corporate Expenses	2.7	2.4	2.7	3.2	3.4
Net Income before income taxes	$ 36.0	$ 28.1	$ 24.1	$ 22.3	$ 17.6

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Hand Tools - Engaged in manufacture and marketing of lawn and garden tools.

INFORMATION PACKET
Company X-5

INSTRUCTIONS:

The following Balance Sheet and Income Statement for 1980 and a Five Year Summary of Operations, Financial Data, and Segment Data represents the historical performance of a hypothetical United States Corporation. Please restrict your analysis exclusively to the data which is presented. Utilize your personal investment, decision model to the extent possible and make a prediction of the company's net income for one year in the future (1981). You are also requested to indicate a range ($\pm$) which would make you feel 95% confident with your prediction.

THE FOLLOWING IS AN EXAMPLE OF HOW TO INDICATE YOUR PREDICTION:

If, after analyzing the Company data, you feel the 1981 net income will be $10,272,000, you will make the following response.

(1) What is your best prediction (000's) of the company's 1981 net income? 10,272

If you feel 95% confident that the true company net income will fall within a range of $10,248,000 to $10,290,000, you will make the following response.

(2) Within what range (in 000's) do you feel 95% confident that the true value of the company's 1981 net income will fall. That is, what is:

(a) The lower bound? 10,248

(b) The upper bound? 10,290

YOUR RESPONSES SHOULD BE PLACED BELOW IN THE SPACE PROVIDED ON THE SELF-MAILER QUESTIONNAIRE. AFTER COMPLETING YOUR RESPONSES, SIMPLY DETACH AND MAIL.

THANK YOU FOR YOUR ASSISTANCE.

(THE QUESTIONNAIRE WAS AN ATTACHED SELF-ADDRESSED POST CARD)

Sample Questionnaire

INFORMATION QUESTIONNAIRE

1. What is your best prediction (in 000's) of the company's 1981 net income?

1. _____

2. Within what range (in 000's) do you feel 95% confident that the true value of 1981 net income will fall. That is, what is:

a. The lower bound? $ _____

b. The upper bound? $ _____

3. How many years have you been a financial analyst?

3. _____

4. Approximately how many minutes has it taken you to make your analysis?

4. _____

Control No. _____

Company X-5
Balance Sheet
December 31, 1980

Assets			
Current Assets			
Cash and cash equivalents		$ 11,138,700	
Marketable Securities (lower of aggregate cost of market)		1,192,500	
Accounts Receivable (net)		45,555,700	
Inventories (LIFO):			
Finished Products	$ 57,804,400		
Goods in Process	8,891,200		
Raw Materials	15,831,100	82,526,700	
Other Current Assets		5,137,200	
Total Current Assets			$ 145,550,800
Property, Plant and Equipment			
Land and Mineral Deposits		5,682,600	
Buildings and Improvements		20,515,200	
Machinery and Equipment		48,509,700	
Leasehold Improvements and Store Fixtures		21,711,700	
Less allowances and depreciation, depletion, and amortization		- 49,840,700	
Total Property, Plant, and Equipment			46,578,500
Total Assets			$ 192,129,300
Liabilities and Stockholder's Equity			
Current Liabilities			
Accounts Payable and Accruals		35,632,700	
Federal Income Taxes		6,211,200	
Current Maturities of Long Term Debt		2,096,100	
Total Current Liabilities			43,940,000
Long-Term Debt - less Current Maturities			16,135,000
Deferred Federal Income Taxes			3,955,800
Stockholder's Equity			
Common Stock, par value $1.00 a share		4,049,000	
Additional Paid in Capital		13,756,600	
Retained Earnings		110,292,900	
Total Stockholders Equity			128,098,500
Total Liabilities and Stockholder's Equity			$ 192,129,300

Company X - 5
Income Statement
For the Year Ended December 31, 1980

Net Sales (See Note 1)	$ 417,841,100
Cost and Expenses	
Cost of goods sold	284,851,500
Operating expenses	95,553,400
Other expenses	1,359,000
Net Income before income taxes	36,077,200
Federal Income Taxes	15,100,000
Net Income	$ 20,977,200

Note 1:

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building Materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Handtools - Engaged in manufacture and marketing of lawn and garden tools.

Company X-5
Five Year Summary of Operations, Financial Data,
and Business Segment Information

	YEAR ENDED DECEMBER 31 (Dollars in Millions)				
SUMMARY OF OPERATIONS	1980	1979	1978	1977	1976
Net sales	$417.8	$344.6	$305.9	$284.6	$266.0
Cost, expenses, and other income:					
Cost of products sold	284.8	233.9	205.7	191.5	179.9
Selling, general and administrative expenses	95.6	81.1	74.5	68.1	66.0
Interest and debt expense - net	1.4	1.5	1.6	2.7	2.5
	381.8	316.5	281.8	262.3	248.4
Earnings before Income Taxes	36.0	28.1	24.1	22.3	17.6
Federal Income Taxes	15.0	11.5	11.4	8.9	7.0
Net Earnings	$ 21.0	$ 16.6	$ 12.7	$ 13.4	$ 10.6
FINANCIAL DATA					
Total assets	$192.1	$169.0	$155.5	$146.8	$144.0
Property, plant, and equipment-net	46.6	40.7	33.7	31.4	30.8
Working capital	101.6	92.8	87.8	78.3	70.6
Long-term debt	16.1	18.3	19.9	21.7	24.5
Stockholders' equity	128.1	111.7	99.2	85.9	75.0
Dividends	4.8	4.0	3.3	2.5	2.0
Depreciation and depletion	7.1	6.1	5.6	5.4	5.6
Capital expenditures - net	13.0	13.0	7.9	6.3	9.5
BUSINESS SEGMENT DATA					
Net Sales					
Footwear	$259.9	$222.1	$194.9	$182.7	$175.2
Building Materials	73.8	68.6	55.6	47.1	36.0
Hand Tools	84.1	53.9	55.4	54.8	54.8
Consolidated Sales	$417.8	$344.6	$305.9	$284.6	$266.0
Operating Profit					
Footwear	$ 19.8	$ 16.2	$ 12.2	$ 11.6	$ 11.7
Building Materials	10.3	11.3	10.6	8.5	5.8
Hand Tools	8.6	3.0	4.0	5.4	3.5
Consolidated Operating Profit	38.7	30.5	26.8	25.5	21.0
General Corporate Expenses	2.7	2.4	2.7	3.2	3.4
Net Income before income taxes	$ 36.0	$ 28.1	$ 24.1	$ 22.3	$ 17.6
Identifiable Assets					
Footwear	$106.6	$ 90.9	$ 83.8	$ 76.0	$ 78.0
Building Materials	31.1	27.2	23.1	24.0	21.8
Hand Tools	45.1	34.9	41.0	44.4	42.9
General Corporate	9.3	16.0	7.6	2.4	1.3
	$192.1	$169.0	$155.5	$146.8	$144.0

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Hand Tools - Engaged in manufacture and marketing of lawn and garden tools.

INFORMATION PACKET
Company X-6

INSTRUCTIONS:

The following Balance Sheet and Income Statement for 1980 and a Five Year Summary of Operations, Financial Data, and Segment Data represents the historical performance of a hypothetical United States Corporation. Please restrict your analysis exclusively to the data which is presented. Utilize your personal investment, decision model to the extent possible and make a prediction of the company's net income for one year in the future (1981). You are also requested to indicate a range (±) which would make you feel 95% confident with your prediction.

THE FOLLOWING IS AN EXAMPLE OF HOW TO INDICATE YOUR PREDICTION:

If, after analyzing the Company data, you feel the 1981 net income will be $10,272,000, you will make the following response.

(1) What is your best prediction (000's) of the company's 1981 net income? 10,272

If you feel 95% confident that the true company net income will fall within a range of $10,248,000 to $10,290,000, you will make the following response.

(2) Within what range (in 000's) do you feel 95% confident that the true value of the company's 1981 net income will fall. That is, what is:

(a) The lower bound? 10,248

(b) The upper bound? 10,290

YOUR RESPONSES SHOULD BE PLACED BELOW IN THE SPACE PROVIDED ON THE SELF-MAILER QUESTIONNAIRE. AFTER COMPLETING YOUR RESPONSES, SIMPLY DETACH AND MAIL.

THANK YOU FOR YOUR ASSISTANCE.

(THE QUESTIONNAIRE WAS AN ATTACHED SELF-ADDRESSED POST CARD)

Sample Questionnaire

INFORMATION QUESTIONNAIRE

1. What is your best prediction (in 000's) of the company's 1981 net income?

   1. _____

2. Within what range (in 000's) do you feel 95% confident that the true value of 1981 net income will fall. That is, what is:

   a. The lower bound? $ _____

   b. The upper bound? $ _____

3. How many years have you been a financial analyst?

   3. _____

4. Approximately how many minutes has it taken you to make your analysis?

   4. _____

Control No. _____

Company X-6
Balance Sheet
December 31, 1980

Assets			
Current Assets			
Cash and cash equivalents		$ 11,138,700	
Marketable Securities (lower of aggregate cost of market)		1,192,500	
Accounts Receivable (net)		45,555,700	
Inventories (LIFO):			
Finished Products	$ 57,804,400		
Goods in Process	8,891,200		
Raw Materials	15,831,100	82,526,700	
Other Current Assets		5,137,200	
Total Current Assets			$ 145,550,800
Property, Plant and Equipment			
Land and Mineral Deposits		5,682,600	
Buildings and Improvements		20,515,200	
Machinery and Equipment		48,509,700	
Leasehold Improvements and Store Fixtures		21,711,700	
Less allowances and depreciation, depletion, and amortization		- 49,840,700	
Total Property, Plant, and Equipment			46,578,500
Total Assets			$ 192,129,300
Liabilities and Stockholder's Equity			
Current Liabilities			
Accounts Payable and Accruals		35,632,700	
Federal Income Taxes		6,211,200	
Current Maturities of Long Term Debt		2,096,100	
Total Current Liabilities			43,940,000
Long-Term Debt - less Current Maturities			16,135,000
Deferred Federal Income Taxes			3,955,800
Stockholder's Equity			
Common Stock, par value $1.00 a share		4,049,000	
Additional Paid in Capital		13,756,600	
Retained Earnings		110,292,900	
Total Stockholders Equity			128,098,500
Total Liabilities and Stockholder's Equity			$ 192,129,300

Company X - 6
Income Statement
For the Year Ended December 31, 1980

Net Sales (See Note 1)	$ 417,841,100
Cost and Expenses	
Cost of goods sold	284,851,500
Operating expenses	95,553,400
Other expenses	1,359,000
Net Income before income taxes	36,077,200
Federal Income Taxes	15,100,000
Net Income	$ 20,977,200

Note 1:

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building Materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Handtools - Engaged in manufacture and marketing of lawn and garden tools.

Company X-6
Five Year Summary of Operations, Financial Data,
and Business Segment Information

	YEAR ENDED DECEMBER 31 (Dollars in Millions)				
SUMMARY OF OPERATIONS	1980	1979	1978	1977	1976
Net sales	$417.8	$344.6	$305.9	$284.6	$266.0
Cost, expenses, and other income:					
Cost of products sold	284.8	233.9	205.7	191.5	179.9
Selling, general, and administrative expenses	95.6	81.1	74.5	68.1	66.0
Interest and debt expense - net	1.4	1.5	1.6	2.7	2.5
	381.8	316.5	281.8	262.3	248.4
Earnings before Income Taxes	36.0	28.1	24.1	22.3	17.6
Federal income taxes	15.0	11.5	11.4	8.9	7.0
Net Earnings	$ 21.0	$ 16.6	$ 12.7	$ 13.4	$ 10.6
FINANCIAL DATA					
Total Assets	$192.1	$169.0	$155.5	$146.8	$144.0
Property, plant, and equipment-net	46.6	40.7	33.7	31.4	30.8
Working capital	101.6	92.8	87.8	78.3	70.6
Long-term debt	16.1	18.3	19.9	21.7	24.5
Stockholders' equity	128.1	111.7	99.2	85.9	75.0
Dividends	4.8	4.0	3.3	2.5	2.0
Depreciation and depletion	7.1	6.1	5.6	5.4	5.6
Captial expenditures - net	13.0	13.0	7.9	6.3	9.5
BUSINESS SEGMENT DATA					
Net Sales					
Footwear	$259.9	$22-.1	$194.9	$182.7	$175.2
Building Materials	73.8	68.6	55.6	47.1	36.0
Hand Tools	84.1	53.9	55.4	54.8	54.8
Consolidated Sales	$417.8	$344.6	$305.9	$284.6	$266.0
Operating Profit					
Footwear	$ 19.8	$ 16.2	$ 12.2	$ 11.6	$ 11.7
Building Materials	10.3	11.3	10.6	8.5	5.8
Hand Tools	8.6	3.0	4.0	5.4	3.5
Consolidated Operating Profit	$ 38.7	$ 30.5	$ 26.8	$ 25.5	$ 21.0
General Corporate Expenses	2.7	2.4	2.7	3.2	3.4
Net Income before Income Taxes	$ 36.0	$ 28.1	$ 24.1	$ 22.3	$ 17.6
Identifiable Assets					
Footwear	$106.6	$ 90.9	$ 83.8	$ 76.0	$ 78.0
Building Materials	31.1	27.2	23.1	24.0	21.8
Hand Tools	45.1	34.9	41.0	44.4	42.9
General Corporate	9.3	16.0	7.6	2.4	1.3
	$192.1	$169.0	$155.5	$146.8	$144.0
Depreciation and Amortization					
Footwear	$ 2.6	$ 2.4	$ 2.1	$ 1.9	$ 2.3
Building Materials	2.8	2.3	2.2	2.2	2.2
Hand Tools	1.5	1.3	1.3	1.3	1.1
General Corporate	.2	.1	--	--	--
	$ 7.1	$ 6.1	$ 5.6	$ 5.4	$ 5.6

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Hand Tools - Engaged in manufacture and marketing of lawn and garden tools.

INFORMATION PACKET
Company Y-1

INSTRUCTIONS:

The following Balance Sheet and Income Statement for 1980 and a Five Year Summary of Operations, Financial Data, and Segment Data represents the historical performance of a hypothetical United States Corporation. Please restrict your analysis exclusively to the data which is presented. Utilize your personal investment, decision model to the extent possible and make a prediction of the company's net income for one year in the future (1981). You are also requested to indicate a range (±) which would make you feel 95% confident with your prediction.

THE FOLLOWING IS AN EXAMPLE OF HOW TO INDICATE YOUR PREDICTION:

If, after analyzing the Company data, you feel the 1981 net income will be $10,272,000, you will make the following response.

(1) What is your best prediction (000's) of the company's 1981 net income? 10,272

If you feel 95% confident that the true company net income will fall within a range of $10,248,000 to $10,290,000, you will make the following response.

(2) Within what range (in 000's) do you feel 95% confident that the true value of the company's 1981 net income will fall. That is, what is:

(a) The lower bound? 10,248

(b) The upper bound? 10,290

YOUR RESPONSES SHOULD BE PLACED BELOW IN THE SPACE PROVIDED ON THE SELF-MAILER QUESTIONNAIRE. AFTER COMPLETING YOUR RESPONSES, SIMPLY DETACH AND MAIL.

THANK YOU FOR YOUR ASSISTANCE.

(THE QUESTIONNAIRE WAS AN ATTACHED SELF-ADDRESSED POST CARD)

Sample Questionnaire

INFORMATION QUESTIONNAIRE

1. What is your best prediction (in 000's) of the company's 1981 net income?

1. _____

2. Within what range (in 000's) do you feel 95% confident that the true value of 1981 net income will fall. That is, what is:

a. The lower bound? $ _____

b. The upper bound? $ _____

3. How many years have you been a financial analyst?

3. _____

4. Approximately how many minutes has it taken you to make your analysis?

4. _____

Control No. _____

Company Y-1
Balance Sheet
December 31, 1980

Assets			
Current Assets			
Cash and cash equivalents		$ 11,138,700	
Marketable Securities (lower of aggregate cost of market)		1,192,500	
Accounts Receivable (net)		45,555,700	
Inventories (LIFO):			
Finished Products	$ 57,804,400		
Goods in Process	8,891,200		
Raw Materials	15,831,100	82,526,700	
Other Current Assets		5,137,200	
Total Current Assets			$ 145,550,800
Property, Plant and Equipment			
Land and Mineral Deposits		5,682,600	
Buildings and Improvements		20,515,200	
Machinery and Equipment		48,509,700	
Leasehold Improvements and Store Fixtures		21,711,700	
Less allowances and depreciation, depletion, and amortization		- 49,840,700	
Total Property, Plant, and Equipment			46,578,500
Total Assets			$ 192,129,300
Liabilities and Stockholder's Equity			
Current Liabilities			
Accounts Payable and Accruals		35,632,700	
Federal Income Taxes		6,211,200	
Current Maturities of Long Term Debt		2,096,100	
Total Current Liabilities			43,940,000
Long-Term Debt - less Current Maturities			16,135,000
Deferred Federal Income Taxes			3,955,800
Stockholder's Equity			
Common Stock, par value $1.00 a share		4,049,000	
Additional Paid in Capital		13,756,600	
Retained Earnings		110,292,900	
Total Stockholders Equity			128,098,500
Total Liabilities and Stockholder's Equity			$ 192,129,300

Company Y - 1
Income Statement
For the Year Ended December 31, 1980

Net Sales (See Note 1)	$ 421,841,100
Cost and Expenses	
Cost of goods sold	284,851,500
Operating expenses	95,553,400
Other expenses	1,359,000
Net Income before Income Taxes	40,077,200
Federal Income Taxes	15,100,000
Net Income	$ 24,977,200

Note 1:

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building Materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Handtools - Engaged in manufacture and marketing of lawn and garden tools.

Company Y-1
Five Year Summary of Operations, Financial Data,
and Business Segment Information

	YEAR ENDED DECEMBER 31 (Dollars in Millions)				
SUMMARY OF OPERATIONS	1980	1979	1978	1977	1976
Net sales	$421.8	$340.4	$302.5	$286.8	$267.4
Cost, expenses, and other income:					
Cost of products sold	284.8	233.9	205.7	191.5	179.9
Selling, general, and administrative expenses	95.6	81.1	74.5	68.1	66.0
Interest and debt expense - net	1.4	1.5	1.6	2.7	2.5
	381.8	316.5	281.8	262.3	248.4
Earnings before Income Taxes	40.0	23.9	20.7	24.5	19.0
Federal Income Taxes	15.0	11.5	11.4	8.9	7.0
Net Earnings	$ 25.0	$ 12.4	$ 9.3	$ 15.6	$ 12.0
FINANCIAL DATA					
Total assets	$192.1	$169.0	$155.5	$146.8	$144.0
Property, plant, and equipment-net	46.6	40.7	33.7	31.4	30.8
Working capital	101.6	92.8	87.8	78.3	70.6
Long-term debt	16.1	18.3	19.9	21.7	24.5
Stockholders' equity	128.1	111.7	99.2	85.9	75.0
Dividends	4.8	4.0	3.3	2.5	2.0
Depreciation and depletion	7.1	6.1	5.6	5.4	5.6
Capital expenditures - net	13.0	13.0	7.9	6.3	9.5

BUSINESS SEGMENT DATA

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.
(2) Building materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.
(3) Hand Tools - Engaged in manufacture and marketing of lawn and garden tools.

INFORMATION PACKET
Company Y-2

INSTRUCTIONS:

The following Balance Sheet and Income Statement for 1980 and a Five Year Summary of Operations, Financial Data, and Segment Data represents the historical performance of a hypothetical United States Corporation. Please restrict your analysis exclusively to the data which is presented. Utilize your personal investment, decision model to the extent possible and make a prediction of the company's net income for one year in the future (1981). You are also requested to indicate a range (±) which would make you feel 95% confident with your prediction.

THE FOLLOWING IS AN EXAMPLE OF HOW TO INDICATE YOUR PREDICTION:

If, after analyzing the Company data, you feel the 1981 net income will be $10,272,000, you will make the following response.

(1) What is your best prediction (000's) of the company's 1981 net income? 10,272

If you feel 95% confident that the true company net income will fall within a range of $10,248,000 to $10,290,000, you will make the following response.

(2) Within what range (in 000's) do you feel 95% confident that the true value of the company's 1981 net income will fall. That is, what is:

(a) The lower bound? 10,248

(b) The upper bound? 10,290

YOUR RESPONSES SHOULD BE PLACED BELOW IN THE SPACE PROVIDED ON THE SELF-MAILER QUESTIONNAIRE. AFTER COMPLETING YOUR RESPONSES, SIMPLY DETACH AND MAIL.

THANK YOU FOR YOUR ASSISTANCE.

(THE QUESTIONNAIRE WAS AN ATTACHED SELF-ADDRESSED POST CARD)

Sample Questionnaire

INFORMATION QUESTIONNAIRE

1. What is your best prediction (in 000's) of the company's 1981 net income?

1. _____

2. Within what range (in 000's) do you feel 95% confident that the true value of 1981 net income will fall. That is, what is:

a. The lower bound? $ _____

b. The upper bound? $ _____

3. How many years have you been a financial analyst?

3. _____

4. Approximately how many minutes has it taken you to make your analysis?

4. _____

Control No. _____

Company Y-2
Balance Sheet
December 31, 1980

Assets			
Current Assets			
Cash and cash equivalents		$ 11,138,700	
Marketable Securities (lower of aggregate cost of market)		1,192,500	
Accounts Receivable (net)		45,555,700	
Inventories (LIFO):			
Finished Products	$ 57,804,400		
Goods in Process	8,891,200		
Raw Materials	15,831,100	82,526,700	
Other Current Assets		5,137,200	
Total Current Assets			$ 145,550,800
Property, Plant and Equipment			
Land and Mineral Deposits		5,682,600	
Buildings and Improvements		20,515,200	
Machinery and Equipment		48,509,700	
Leasehold Improvements and Store Fixtures		21,711,700	
Less allowances and depreciation, depletion, and amortization		- 49,840,700	
Total Property, Plant, and Equipment			46,578,500
Total Assets			$ 192,129,300
Liabilities and Stockholder's Equity			
Current Liabilities			
Accounts Payable and Accruals		35,632,700	
Federal Income Taxes		6,211,200	
Current Maturities of Long Term Debt		2,096,100	
Total Current Liabilities			43,940,000
Long-Term Debt - less Current Maturities			16,135,000
Deferred Federal Income Taxes			3,955,800
Stockholder's Equity			
Common Stock, par value $1.00 a share		4,049,000	
Additional Paid in Capital		13,756,600	
Retained Earnings		110,292,900	
Total Stockholders Equity			128,098,500
Total Liabilities and Stockholder's Equity			$ 192,129,300

Company Y - 2
Income Statement
For the Year Ended December 31, 1980

Net Sales (See Note 1)	$ 421,841,100
Cost and Expenses	
Cost of goods sold	284,851,500
Operating expenses	95,553,400
Other expenses	1,359,000
Net Income before Income Taxes	40,077,200
Federal Income Taxes	15,100,000
Net Income	$ 24,977,200

Note 1:

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building Materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Handtools - Engaged in manufacture and marketing of lawn and garden tools.

Company Y-2

Five Year Summary of Operations, Financial Data, and Business Segment Information

	YEAR ENDED DECEMBER 31 (Dollars in Millions)				
SUMMARY OF OPERATIONS	1980	1979	1978	1977	1976
Net sales	$421.8	$340.4	$302.5	$286.8	$267.4
Cost, expenses, and other income:					
Cost of products sold	284.8	233.9	205.7	191.5	179.9
Selling, general, and administrative expenses	95.6	81.1	74.5	68.1	66.0
Interest and debt expense - net	1.4	1.5	1.6	2.7	2.5
	381.8	316.5	281.8	262.3	248.4
Earnings before income taxes	40.0	23.9	20.7	24.5	19.0
Federal income taxes	15.0	11.5	11.4	8.9	7.0
Net Earnings	$ 25.0	$ 12.4	$ 9.3	$ 15.6	$ 12.0
FINANCIAL DATA					
Total assets	$192.1	$169.0	$155.5	$146.8	$144.0
Property, plant, and equipment-net	46.6	40.7	33.7	31.4	30.8
Working capital	101.6	92.8	87.8	78.3	70.6
Long-term debt	16.1	18.3	19.9	21.7	24.5
Stockholders' equity	128.1	111.7	99.2	85.9	75.0
Dividends	4.8	4.0	3.3	2.5	2.0
Depreciation and depletion	7.1	6.1	5.6	5.4	5.6
Capital expenditures-net	13.0	13.0	7.9	6.3	9.5
BUSINESS SEGMENT DATA					
Net Sales					
Footwear	$262.5	$221.7	$190.7	$181.5	$178.4
Building materials	71.0	70.2	58.2	47.9	33.8
Hand Tools	88.3	48.5	53.6	57.4	55.2
Consolidated Sales	$421.8	$340.4	$302.5	$286.8	$267.4

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commerical construction.

(3) Hand Tools - Engaged in manufacture and marketing of lawn and garden tools.

INFORMATION PACKET
Company Y-3

INSTRUCTIONS:

The following Balance Sheet and Income Statement for 1980 and a Five Year Summary of Operations, Financial Data, and Segment Data represents the historical performance of a hypothetical United States Corporation. Please restrict your analysis exclusively to the data which is presented. Utilize your personal investment, decision model to the extent possible and make a prediction of the company's net income for one year in the future (1981). You are also requested to indicate a range ($\pm$) which would make you feel 95% confident with your prediction.

THE FOLLOWING IS AN EXAMPLE OF HOW TO INDICATE YOUR PREDICTION:

If, after analyzing the Company data, you feel the 1981 net income will be $10,272,000, you will make the following response.

(1) What is your best prediction (000's) of the company's 1981 net income? 10,272

If you feel 95% confident that the true company net income will fall within a range of $10,248,000 to $10,290,000, you will make the following response.

(2) Within what range (in 000's) do you feel 95% confident that the true value of the company's 1981 net income will fall. That is, what is:

(a) The lower bound? 10,248

(b) The upper bound? 10,290

YOUR RESPONSES SHOULD BE PLACED BELOW IN THE SPACE PROVIDED ON THE SELF-MAILER QUESTIONNAIRE. AFTER COMPLETING YOUR RESPONSES, SIMPLY DETACH AND MAIL.

THANK YOU FOR YOUR ASSISTANCE.

(THE QUESTIONNAIRE WAS AN ATTACHED SELF-ADDRESSED POST CARD)

Sample Questionnaire

INFORMATION QUESTIONNAIRE

1. What is your best prediction (in 000's) of the company's 1981 net income?

1. _____

2. Within what range (in 000's) do you feel 95% confident that the true value of 1981 net income will fall. That is, what is:

a. The lower bound? $ _____

b. The upper bound? $ _____

3. How many years have you been a financial analyst?

3. _____

4. Approximately how many minutes has it taken you to make your analysis?

4. _____

Control No. _____

Company Y-3
Balance Sheet
December 31, 1980

Assets			
Current Assets			
Cash and cash equivalents		$ 11,138,700	
Marketable Securities (lower of aggregate cost of market)		1,192,500	
Accounts Receivable (net)		45,555,700	
Inventories (LIFO):			
Finished Products	$ 57,804,400		
Goods in Process	8,891,200		
Raw Materials	15,831,100	82,526,700	
Other Current Assets		5,137,200	
Total Current Assets			$ 145,550,800
Property, Plant and Equipment			
Land and Mineral Deposits		5,682,600	
Buildings and Improvements		20,515,200	
Machinery and Equipment		48,509,700	
Leasehold Improvements and Store Fixtures		21,711,700	
Less allowances and depreciation, depletion, and amortization		- 49,840,700	
Total Property, Plant, and Equipment			46,578,500
Total Assets			$ 192,129,300
Liabilities and Stockholder's Equity			
Current Liabilities			
Accounts Payable and Accruals		35,632,700	
Federal Income Taxes		6,211,200	
Current Maturities of Long Term Debt		2,096,100	
Total Current Liabilities			43,940,000
Long-Term Debt - less Current Maturities			16,135,000
Deferred Federal Income Taxes			3,955,800
Stockholder's Equity			
Common Stock, par value $1.00 a share		4,049,000	
Additional Paid in Capital		13,756,600	
Retained Earnings		110,292,900	
Total Stockholders Equity			128,098,500
Total Liabilities and Stockholder's Equity			$ 192,129,300

Company Y - 3
Income Statement
For the Year Ended December 31, 1980

Net Sales (See Note 1)	$ 421,841,100
Cost and Expenses	
Cost of goods sold	284,851,500
Operating expenses	95,553,400
Other expenses	1,359,000
Net Income before Income Taxes	40,077,200
Federal Income Taxes	15,100,000
Net Income	$ 24,977,200

Note 1:

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building Materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Handtools - Engaged in manufacture and marketing of lawn and garden tools.

Company Y-3
Five Year Summary of Operations, Financial Data,
and Business Segment Information

	YEAR ENDED DECEMBER 31 (Dollars in Millions)				
SUMMARY OF OPERATIONS	1980	1979	1978	1977	1976
Net sales	$421.8	$340.4	$302.5	$286.8	$267.4
Cost, expenses, and other income:					
Cost of products sold	284.8	233.9	205.7	191.5	179.9
Selling, general, and administration expenses	95.6	81.1	74.5	68.1	66.0
Interest and debt expense-net	1.4	1.5	1.6	2.7	2.5
	381.8	316.5	281.8	262.3	248.4
Earnings before Income Taxes	40.0	23.9	20.7	24.5	19.0
Federal income taxes	15.0	11.5	11.4	8.9	7.0
Net Earnings	$ 25.0	$ 12.4	$ 9.3	$ 15.6	$ 12.0
FINANCIAL DATA					
Total assets	$192.1	$169.0	$155.5	$146.8	$144.0
Property, plant, and equipment-net	46.6	40.7	33.7	31.4	30.8
Working capital	101.6	92.8	87.8	78.3	70.6
Long-term debt	16.1	18.3	19.9	21.7	24.5
Stockholders' equity	128.1	111.7	99.2	85.9	75.0
Dividends	4.8	4.0	3.3	2.5	2.0
Depreciation and depletion	7.1	6.1	5.6	5.4	5.6
Capital expenditures - net	13.0	13.0	7.9	6.3	9.5
BUSINESS SEGMENT DATA					
Operating Profit					
Footwear	$ 22.4	$ 15.8	$ 8.0	$ 10.4	$ 14.9
Building Materials	7.5	12.9	13.2	9.3	3.6
Hand Tools	12.8	- 2.4	2.2	8.0	3.9
Consolidated Operating Profit	$ 42.7	$ 26.3	$ 23.4	$ 27.7	$ 22.4
General Corporate Expenses	2.7	2.4	2.7	3.2	3.4
Net Income before Income Taxes	$ 40.0	$ 23.9	$ 20.7	$ 24.5	$ 19.0

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Hand Tools - Engaged in manufacture and marketing of lawn and garden tools.

INFORMATION PACKET
Company Y-4

INSTRUCTIONS:

The following Balance Sheet and Income Statement for 1980 and a Five Year Summary of Operations, Financial Data, and Segment Data represents the historical performance of a hypothetical United States Corporation. Please restrict your analysis exclusively to the data which is presented. Utilize your personal investment, decision model to the extent possible and make a prediction of the company's net income for one year in the future (1981). You are also requested to indicate a range ($\pm$) which would make you feel 95% confident with your prediction.

THE FOLLOWING IS AN EXAMPLE OF HOW TO INDICATE YOUR PREDICTION:

If, after analyzing the Company data, you feel the 1981 net income will be $10,272,000, you will make the following response.

(1) What is your best prediction (000's) of the company's 1981 net income? 10,272

If you feel 95% confident that the true company net income will fall within a range of $10,248,000 to $10,290,000, you will make the following response.

(2) Within what range (in 000's) do you feel 95% confident that the true value of the company's 1981 net income will fall. That is, what is:

(a) The lower bound? 10,248

(b) The upper bound? 10,290

YOUR RESPONSES SHOULD BE PLACED BELOW IN THE SPACE PROVIDED ON THE SELF-MAILER QUESTIONNAIRE. AFTER COMPLETING YOUR RESPONSES, SIMPLY DETACH AND MAIL.

THANK YOU FOR YOUR ASSISTANCE.

(THE QUESTIONNAIRE WAS AN ATTACHED SELF-ADDRESSED POST CARD)

Sample Questionnaire

INFORMATION QUESTIONNAIRE

1. What is your best prediction (in 000's) of the company's 1981 net income?

1. _____

2. Within what range (in 000's) do you feel 95% confident that the true value of 1981 net income will fall. That is, what is:

a. The lower bound? $ _____

b. The upper bound? $ _____

3. How many years have you been a financial analyst?

3. _____

4. Approximately how many minutes has it taken you to make your analysis?

4. _____

Control No. _____

Company Y-4
Balance Sheet
December 31, 1980

Assets			
Current Assets			
Cash and cash equivalents		$ 11,138,700	
Marketable Securities (lower of aggregate cost of market)		1,192,500	
Accounts Receivable (net)		45,555,700	
Inventories (LIFO):			
Finished Products	$ 57,804,400		
Goods in Process	8,891,200		
Raw Materials	15,831,100	82,526,700	
Other Current Assets		5,137,200	
Total Current Assets			$ 145,550,800
Property, Plant and Equipment			
Land and Mineral Deposits		5,682,600	
Buildings and Improvements		20,515,200	
Machinery and Equipment		48,509,700	
Leasehold Improvements and Store Fixtures		21,711,700	
Less allowances and depreciation, depletion, and amortization		- 49,840,700	
Total Property, Plant, and Equipment			46,578,500
Total Assets			$ 192,129,300
Liabilities and Stockholder's Equity			
Current Liabilities			
Accounts Payable and Accruals		35,632,700	
Federal Income Taxes		6,211,200	
Current Maturities of Long Term Debt		2,096,100	
Total Current Liabilities			43,940,000
Long-Term Debt - less Current Maturities			16,135,000
Deferred Federal Income Taxes			3,955,800
Stockholder's Equity			
Common Stock, par value $1.00 a share		4,049,000	
Additional Paid in Capital		13,756,600	
Retained Earnings		110,292,900	
Total Stockholders Equity			128,098,500
Total Liabilities and Stockholder's Equity			$ 192,129,300

Company Y - 4
Income Statement
For the Year Ended December 31, 1980

Net Sales (See Note 1)	$ 421,841,100
Cost and Expenses	
Cost of goods sold	284,851,500
Operating expenses	95,553,400
Other expenses	1,359,000
Net Income before Income Taxes	40,077,200
Federal Income Taxes	15,100,000
Net Income	$ 24,977,200

Note 1:

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building Materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Handtools - Engaged in manufacture and marketing of lawn and garden tools.

Company Y-4
Five Year Summary of Operations, Financial Data,
and Business Segment Information

	YEAR ENDED DECEMBER 31 (Dollars in Millions)				
SUMMARY OF OPERATIONS	1980	1979	1978	1977	1976
Net sales	$421.8	$340.4	$302.5	$286.8	$267.4
Cost, expenses, and other income:					
Cost of products sold	284.8	233.9	205.7	191.5	179.9
Selling, general, and administrative expenses	95.6	81.1	74.5	68.1	66.0
Interest and debt expense - net	1.4	1.5	1.6	2.7	2.5
	381.8	316.5	281.8	262.3	248.4
Earnings before income taxes	40.0	23.9	20.7	24.5	19.0
Federal income taxes	15.0	11.5	11.4	8.9	7.0
Net Earnings	$ 25.0	$ 12.4	$ 9.3	$ 15.6	$ 12.0
FINANCIAL DATA					
Total assets	$192.1	$169.0	$155.5	$146.8	$144.0
Property, plant, and equipment-net	46.6	40.7	33.7	31.4	30.8
Working capital	101.6	92.8	87.8	78.3	70.6
Long-term debt	16.1	18.3	19.9	21.7	24.5
Stockholders' equity	128.1	111.7	99.2	85.9	75.0
Dividends	4.8	4.0	3.3	2.5	2.0
Depreciation and depletion	7.1	6.1	5.6	5.4	5.6
Capital expenditures - net	13.0	13.0	7.9	6.3	9.5
BUSINESS SEGMENT DATA:					
Net Sales					
Footwear	$262.5	$221.7	$190.7	$181.5	$178.4
Building Materials	71.0	70.2	58.2	47.9	33.8
Hand Tools	88.3	48.5	53.6	57.4	55.2
Consoldiated Sales	$421.8	$340.4	$302.5	$286.8	$267.4
Operating Profit					
Footwear	$ 22.4	$ 15.8	$ 8.0	$ 10.4	$ 14.9
Building Materials	7.5	12.9	13.2	9.3	3.6
Hand Tools	12.8	- 2.4	2.2	8.0	3.9
Consolidated Operating Profit	$ 42.7	$ 26.3	$ 23.4	$ 27.7	$ 22.4
General Corporate Expenses	2.7	2.4	2.7	3.2	3.4
Net Income before income taxes	$ 40.0	$ 23.9	$ 20.7	$ 24.5	$ 19.0

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Hand Tools - Engaged in manufacture and marketing of lawn and garden tools.

INFORMATION PACKET
Company Y-5

INSTRUCTIONS:

The following Balance Sheet and Income Statement for 1980 and a Five Year Summary of Operations, Financial Data, and Segment Data represents the historical performance of a hypothetical United States Corporation. Please restrict your analysis exclusively to the data which is presented. Utilize your personal investment, decision model to the extent possible and make a prediction of the company's net income for one year in the future (1981). You are also requested to indicate a range ($\pm$) which would make you feel 95% confident with your prediction.

THE FOLLOWING IS AN EXAMPLE OF HOW TO INDICATE YOUR PREDICTION:

If, after analyzing the Company data, you feel the 1981 net income will be $10,272,000, you will make the following response.

(1) What is your best prediction (000's) of the company's 1981 net income? 10,272

If you feel 95% confident that the true company net income will fall within a range of $10,248,000 to $10,290,000, you will make the following response.

(2) Within what range (in 000's) do you feel 95% confident that the true value of the company's 1981 net income will fall. That is, what is:

(a) The lower bound? 10,248

(b) The upper bound? 10,290

YOUR RESPONSES SHOULD BE PLACED BELOW IN THE SPACE PROVIDED ON THE SELF-MAILER QUESTIONNAIRE. AFTER COMPLETING YOUR RESPONSES, SIMPLY DETACH AND MAIL.

THANK YOU FOR YOUR ASSISTANCE.

(THE QUESTIONNAIRE WAS AN ATTACHED SELF-ADDRESSED POST CARD)

Sample Questionnaire

INFORMATION QUESTIONNAIRE

1. What is your best prediction (in 000's) of the company's 1981 net income?

1. _____

2. Within what range (in 000's) do you feel 95% confident that the true value of 1981 net income will fall. That is, what is:

a. The lower bound? $ _____

b. The upper bound? $ _____

3. How many years have you been a financial analyst?

3. _____

4. Approximately how many minutes has it taken you to make your analysis?

4. _____

Control No. _____

Company Y-5
Balance Sheet
December 31, 1980

Assets			
Current Assets			
Cash and cash equivalents		$ 11,138,700	
Marketable Securities (lower of aggregate cost of market)		1,192,500	
Accounts Receivable (net)		45,555,700	
Inventories (LIFO):			
Finished Products	$ 57,804,400		
Goods in Process	8,891,200		
Raw Materials	15,831,100	82,526,700	
Other Current Assets		5,137,200	
Total Current Assets			$ 145,550,800
Property, Plant and Equipment			
Land and Mineral Deposits		5,682,600	
Buildings and Improvements		20,515,200	
Machinery and Equipment		48,509,700	
Leasehold Improvements and Store Fixtures		21,711,700	
Less allowances and depreciation, depletion, and amortization		- 49,840,700	
Total Property, Plant, and Equipment			46,578,500
Total Assets			$ 192,129,300
Liabilities and Stockholder's Equity			
Current Liabilities			
Accounts Payable and Accruals		35,632,700	
Federal Income Taxes		6,211,200	
Current Maturities of Long Term Debt		2,096,100	
Total Current Liabilities			43,940,000
Long-Term Debt - less Current Maturities			16,135,000
Deferred Federal Income Taxes			3,955,800
Stockholder's Equity			
Common Stock, par value $1.00 a share		4,049,000	
Additional Paid in Capital		13,756,600	
Retained Earnings		110,292,900	
Total Stockholders Equity			128,098,500
Total Liabilities and Stockholder's Equity			$ 192,129,300

Company Y - 5
Income Statement
For the Year Ended December 31, 1980

Net Sales (See Note 1)	$ 421,841,100
Cost and Expenses	
Cost of goods sold	284,851,500
Operating expenses	95,553,400
Other expenses	1,359,000
Net Income before Income Taxes	40,077,200
Federal Income Taxes	15,100,000
Net Income	$ 24,977,200

Note 1:

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building Materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Handtools - Engaged in manufacture and marketing of lawn and garden tools.

Company Y-5
Five Year Summary of Operations, Financial Data,
and Business Segment Information

	YEAR ENDED DECEMBER 31 (Dollars in Millions)				
SUMMARY OF OPERATIONS	1980	1979	1978	1977	1976
Net sales	$421.8	$340.4	$302.5	$286.8	$267.4
Cost, expenses, and other income:					
Cost of products sold	284.8	233.9	205.7	191.5	179.9
Selling, general, and administrative expenses	95.6	81.1	74.5	68.1	66.0
Interest and debt expense - net	1.4	1.5	1.6	2.7	2.5
	381.8	316.5	281.8	262.3	248.4
Earnings before income taxes	40.0	23.9	20.7	24.5	19.0
Federal income taxes	15.0	11.5	11.4	8.9	7.0
Net Earnings	$ 25.0	$ 12.4	$ 9.3	$ 15.6	$ 12.0
FINANCIAL DATA					
Total assets	$192.1	$169.0	$155.5	$146.8	$144.0
Property, plant, and equipment-net	46.6	40.7	33.7	31.4	30.8
Working capital	101.6	92.8	87.8	78.3	70.6
Long-term debt	16.1	18.3	19.9	21.7	24.5
Stockholders' equity	128.1	111.7	99.2	85.9	75.0
Dividends	4.8	4.0	3.3	2.5	2.0
Depreciation and depletion	7.1	6.1	5.6	5.4	5.6
Capital expenditures-net	13.0	13.0	7.9	6.3	9.5
BUSINESS SEGMENT DATA					
Net Sales					
Footwear	$262.5	$221.7	$190.7	$181.5	$178.4
Building Materials	71.0	70.2	58.2	47.9	33.8
Hand Tools	88.3	48.5	53.6	57.4	55.2
Consolidated Sales	$421.8	$340.4	$302.5	$286.8	$267.4
Operating Profit					
Footwear	$ 22.4	$ 15.8	$ 8.0	$ 10.4	$ 14.9
Building Materials	7.5	12.9	13.2	9.3	3.6
Hand Tools	12.8	- 2.4	2.2	8.0	3.9
Consolidated Operating Profit	$ 42.7	$ 26.3	$ 23.4	$ 27.7	$ 22.4
General Corporate Expenses	2.7	2.4	2.7	3.2	3.4
Net Income before Income tax	$ 40.0	$ 23.9	$ 20.7	$ 24.5	$ 19.0
Identifiable Assets					
Footwear	$106.6	$ 90.9	$ 83.8	$ 76.0	$ 78.0
Building Materials	31.1	27.2	23.1	24.0	21.8
Hand Tools	45.1	34.9	41.0	44.4	42.9
General Corporate	9.3	16.0	7.6	2.4	1.3
	$192.1	$169.0	$155.5	$146.8	$144.0

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Hand Tools - Engaged in manufacture and marketing of lawn and garden tools.

INFORMATION PACKET
Company Y-6

INSTRUCTIONS:

The following Balance Sheet and Income Statement for 1980 and a Five Year Summary of Operations, Financial Data, and Segment Data represents the historical performance of a hypothetical United States Corporation. Please restrict your analysis exclusively to the data which is presented. Utilize your personal investment, decision model to the extent possible and make a prediction of the company's net income for one year in the future (1981). You are also requested to indicate a range (±) which would make you feel 95% confident with your prediction.

THE FOLLOWING IS AN EXAMPLE OF HOW TO INDICATE YOUR PREDICTION:

If, after analyzing the Company data, you feel the 1981 net income will be $10,272,000, you will make the following response.

(1) What is your best prediction (000's) of the company's 1981 net income? 10,272

If you feel 95% confident that the true company net income will fall within a range of $10,248,000 to $10,290,000, you will make the following response.

(2) Within what range (in 000's) do you feel 95% confident that the true value of the company's 1981 net income will fall. That is, what is:

(a) The lower bound? 10,248

(b) The upper bound? 10,290

YOUR RESPONSES SHOULD BE PLACED BELOW IN THE SPACE PROVIDED ON THE SELF-MAILER QUESTIONNAIRE. AFTER COMPLETING YOUR RESPONSES, SIMPLY DETACH AND MAIL.

THANK YOU FOR YOUR ASSISTANCE.

(THE QUESTIONNAIRE WAS AN ATTACHED SELF-ADDRESSED POST CARD)

Sample Questionnaire

INFORMATION QUESTIONNAIRE

1. What is your best prediction (in 000's) of the company's 1981 net income?

1. _____

2. Within what range (in 000's) do you feel 95% confident that the true value of 1981 net income will fall. That is, what is:

a. The lower bound? $ _____

b. The upper bound? $ _____

3. How many years have you been a financial analyst?

3. _____

4. Approximately how many minutes has it taken you to make your analysis?

4. _____

Control No. _____

Company Y-6
Balance Sheet
December 31, 1980

Assets			
Current Assets			
Cash and cash equivalents		$ 11,138,700	
Marketable Securities (lower of aggregate cost of market)		1,192,500	
Accounts Receivable (net)		45,555,700	
Inventories (LIFO):			
Finished Products	$ 57,804,400		
Goods in Process	8,891,200		
Raw Materials	15,831,100	82,526,700	
Other Current Assets		5,137,200	
Total Current Assets			$ 145,550,800
Property, Plant and Equipment			
Land and Mineral Deposits		5,682,600	
Buildings and Improvements		20,515,200	
Machinery and Equipment		48,509,700	
Leasehold Improvements and Store Fixtures		21,711,700	
Less allowances and depreciation, depletion, and amortization		- 49,840,700	
Total Property, Plant, and Equipment			46,578,500
Total Assets			$ 192,129,300
Liabilities and Stockholder's Equity			
Current Liabilities			
Accounts Payable and Accruals		35,632,700	
Federal Income Taxes		6,211,200	
Current Maturities of Long Term Debt		2,096,100	
Total Current Liabilities			43,940,000
Long-Term Debt - less Current Maturities			16,135,000
Deferred Federal Income Taxes			3,955,800
Stockholder's Equity			
Common Stock, par value $1.00 a share		4,049,000	
Additional Paid in Capital		13,756,600	
Retained Earnings		110,292,900	
Total Stockholders Equity			128,098,500
Total Liabilities and Stockholder's Equity			$ 192,129,300

Company Y - 6
Income Statement
For the Year Ended December 31, 1980

Net Sales (See Note 1)	$ 421,841,100
Cost and Expenses	
Cost of goods sold	284,851,500
Operating expenses	95,553,400
Other expenses	1,359,000
Net Income before Income Taxes	40,077,200
Federal Income Taxes	15,100,000
Net Income	$ 24,977,200

Note 1:

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building Materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Handtools - Engaged in manufacture and marketing of lawn and garden tools.

Company Y-6
Five Year Summary of Operations, Financial Data,
and Business Segment Information

	YEAR ENDED DECEMBER 31 (Dollars in Millions)				
SUMMARY OF OPERATIONS	1980	1979	1978	1977	1976
Net sales	$421.8	$340.4	$302.5	$286.8	$267.4
Cost, expenses, and other income:					
Cost of products sold	284.8	233.9	205.7	191.5	179.9
Selling, general, and administrative expenses	95.6	81.1	74.5	68.1	66.0
Interest and debt expense - net	1.4	1.5	1.6	2.7	2.5
	381.8	316.5	281.8	262.3	248.4
Earnings before income taxes	40.0	23.9	20.7	24.5	19.0
Federal income taxes	15.0	11.5	11.4	8.9	7.0
Net Earnings	$ 25.0	$ 12.4	$ 9.3	15.6	12.0
FINANCIAL DATA					
Total assets	$192.1	$169.0	$155.5	$146.8	$144.0
Property, plant, and equipment-net	46.6	40.7	33.7	31.4	30.8
Working capital	101.6	92.8	87.8	78.3	70.6
Long-term debt	16.1	18.3	19.9	21.7	24.5
Stockholders' equity	128.1	111.7	99.2	85.9	75.0
Dividends	4.8	4.0	3.3	2.5	2.0
Depreciation and depletion	7.1	6.1	5.6	5.4	5.6
Capital expenditures - net	13.0	13.0	7.9	6.3	9.5
BUSINESS SEGMENT DATA					
Net Sales					
Footwear	$262.5	$221.7	$190.7	$181.5	$178.4
Building Materials	71.0	70.2	58.2	47.9	33.8
Hand Tools	88.3	48.5	53.6	57.4	55.2
Consolidated Sales	$421.8	$340.4	$302.5	$286.8	$267.4
Operating Profit					
Footwear	$ 22.4	$ 15.8	$ 8.0	$ 10.4	$ 14.9
Building Materials	7.5	12.9	13.2	9.3	3.6
Hand Tools	12.8	- 2.4	2.2	8.0	3.9
Consolidated Operating Profit	42.7	26.3	23.4	27.7	22.4
General Corporate Expenses	2.7	2.4	2.7	3.2	3.4
Net Income before income taxes	40.0	23.9	20.7	24.5	19.0
Identifiable Assets					
Footwear	$106.6	$ 90.9	$ 83.8	$ 76.0	$ 78.0
Building Materials	31.1	27.2	23.1	24.0	21.8
Hand Tools	45.1	34.9	41.0	44.4	42.9
General Corporate	9.3	16.0	7.6	2.4	1.3
	$192.1	$169.0	$155.5	$146.8	$144.0
Depreciation and Amortization					
Footwear	$ 2.6	$ 2.4	$ 2.1	$ 1.9	$ 2.3
Building Materials	2.8	2.3	2.2	2.2	2.2
Hand Tools	1.5	1.3	1.3	1.3	1.1
General Corporate	.2	.1	--	--	--
	$ 7.1	$ 6.1	$ 5.6	$ 5.4	$ 5.6

The company has three basic lines of business which contribute to profit (loss). They are:

(1) Footwear - Engaged in manufacturing, importing, wholesaling, and retailing of family footwear.

(2) Building materials - Engaged in production and sales of basic foundation (concrete) materials for residential and commercial construction.

(3) Hand Tools - Engaged in manufacture and marketing of lawn and garden tools.

VITA

James Harold Honea was born October 9, 1941 in Amite County, Mississippi, the son of Carey Smith and Gladys Johnson Honea. In May, 1959, he graduated from Baton Rouge High School of Baton Rouge, Louisiana, and proceeded to attend Louisiana State University in Baton Rouge, Louisiana. He enlisted in the U.S. Marine Corps in October of 1961 where he served as a Personnel Technician. While in the Marine Corps, he attended Austin Peay State University in Clarksville, Tennessee. In 1965, upon discharge from the Marine Corps he transferred to Southeastern Louisiana University and received a Bachelor of Arts Degree in Accounting in August, 1968. In August, 1969, he obtained a Master of Professional Accountancy Degree from Mississippi State University, Starkville, Mississippi. In September, 1969, he joined the Accounting faculty of Southeastern Louisiana University, Hammond, Louisiana. In the years following he served as Instructor of Accounting, Assistant Professor of Accounting, Purchasing Agent, Assistant Auditor, and Auditor at Southeastern Louisiana University. He joined the U.S. Army Reserve in 1971 and served as Unit Commanding Officer during 1972. He entered Louisiana State University in Baton Rouge in Spring, 1976 to pursue a doctorate in Accounting. In June of 1980, he was named to his present

position of Associate Professor of Accounting and Assistant Vice President for Administrative Affairs at Southeastern Louisiana University.

While in college, James Honea became a member of Phi Kappa Phi, Beta Alpha Psi and Beta Gamma Sigma. In 1969, upon graduation from Southeastern Louisiana University he was awarded the President's Medal for Academic Excellence, the highest academic award granted by the university.

James Honea is a member of the American Institute of Certified Public Accountants, the Louisiana Society of Certified Public Accountants, and the National Association of Accountants. He served as first President of the Southeast Louisiana Chapter of the National Association of Accountants during 1981-82. He is married to the former Vera Elizabeth Wagner of Albany, Louisiana, and is the father of three daughters; Tara, 16; Paula, 12; and Jamie, 8.

EXAMINATION AND THESIS REPORT

Candidate: James Harold Honea

Major Field: Accounting

Title of Thesis: An Empirical Study of Usefulness and Communicative Ability of Segment Disclosures Among Sophisticated Users of Corporate Financial Statements

Approved:

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

Date of Examination:

April 27, 1982