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REPORTING OF EXTRAORDINARY ITEMS AND THE BEHAVIOR OF SECURITY PRICES

BY

THOMAS ARTHUR BUCHMAN

B.S., University of Illinois, 1965
M.A.S., University of Illinois, 1970

THESIS

Submitted in partial fulfillment of the requirements
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THE DEGREE OF DOCTOR OF PHILOSOPHY

James C McKeown
Director of Thesis Research

Norton M Bedford
Head of Department

Committee on Final Examination†

Norton M Bedford
Chairman

James C McKeown

Joseph J. Schultz, Jr.

Richard E. Flaherty

Marvin Frankel

† Required for doctor's degree but not for master's

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CHAPTER I

INTRODUCTION

This chapter briefly outlines the problems surrounding the reporting of extraordinary items in published financial statements, the purpose and motivation of the study, and the approach and organization of the research.

1.1 Statement of the Problem

The accounting profession has long been concerned with determining the best method of presenting nonrecurring, nonoperating items in published financial statements. Initially the argument centered around presenting these items on the income statement or presenting them in the statement of retained earnings. Concurrent with the decision to place extraordinary items on the income statement was the question of where on the income statement these items should appear: in the main body of the statement or in a separate section.

Essentially, the question has been one of where is the "best" place to put this bit of accounting data so that it is "properly" utilized by financial statement users in their decision models.

Most arguments for a particular method of presenting extraordinary items have one weakness: they make assumptions about the decision models used by the financial statement users. For example, those arguing for inclusion of extraordinary items in the income statement believed

that this presentation would be more easily understood by the reader and would allow the reader to make appropriate classifications to arrive at an "appropriate" measurement of income (American Institute of Certified Public Accountants, 1961, Chapter 8), while the advocates for the presentation of extraordinary items in the statement of retained earnings (the current operating concept of income) argued that income calculated in this manner provided a more meaningful net income for interperiod and interfirm comparison and for decisions regarding future income of the firm (American Institute of Certified Public Accountants, 1961, Chapter 8). Unfortunately, there has been little research about this aspect of investors' decisions to confirm or disprove either of these arguments.

Since "[a]cccounting information is the chief means of reducing the uncertainty under which external users act as well as a primary means of reporting on stewardship" (American Accounting Association, 1966, p. 19), it follows that accountants should consider what items affect and don't affect user decisions.

A Statement of Basic Accounting Theory points out that the ". . . past earnings of the firm are considered to be the most important single item of information relevant to the prediction of future earnings" (American Accounting Association, 1966, pp. 23-24). These predictions are necessary in the case of present and potential equity investors because future dividends and market prices of stock are a function of future earnings. Accountants must therefore measure and report earnings information in such a manner as to give the investors as much information

as practicable so they may make their predictions with a minimum of uncertainty.

Studies of the Efficient Market Hypothesis (EMH) (Fama, 1970) indicate that the capital market is efficient in the semi-strong form. The semi-strong form of the EMH asserts that a firm's current security price reflects all publicly available information concerning the firm. If this is true, it would indicate that it doesn't matter where information is disclosed on the financial statements; investors will use the information to adjust the firm's security market price swiftly and in an unbiased manner.

1.2 Historical Development of Views Toward Extraordinary Items

To obtain a clear understanding of the present attitude toward the presentation of extraordinary items, it may be beneficial to briefly review the positions taken by the American Institute of Certified Public Accountants (AICPA), American Accounting Association (AAA), and the Securities and Exchange Commission (SEC).

1.2.a American Institute of Certified Public Accountants

The AICPA's initial position on extraordinary items essentially favored the current operating concept of net income. Accounting Research Bulletin Number 32, Income and Earned Surplus (American Institute of Accountants, 1947, pp. 262-263) contains the following statement:

> The committee has previously indicated that, in its opinion, it is plainly desirable that over the years all profits and losses of a business be reflected in net income but at the same time has recognized that, under appropriate circumstances, it is proper to exclude certain material charges and credits from the determination

of the net income of a single year, even though they clearly affect the cumulative total of income of a series of years. In harmony with this view, it is the opinion of the committee that there should be a general presumption that all items of profit and loss recognized during the period are to be used in determining the figure reported as net income. The only possible exception to this presumption relates to items which in the aggregate are material in relation to the company's net income and are clearly not identifiable with or do not result from the usual or typical business operations of the period. Thus, only extraordinary items such as the following may be excluded from the determination of net income for the year, and they should be excluded when their inclusion would impair the significance of net income so that misleading inferences might be drawn therefrom:

(a) Material charges or credits (other than ordinary adjustments of a recurring nature) specifically related to operations of prior years, such as the elimination of unused reserves provided in prior years and adjustments of income taxes for prior years;
(b) Material charges or credits resulting from unusual sales of assets not acquired for resale and not of the type in which the company generally deals;
(c) Material losses of a type not usually insured against, such as those resulting from wars, riots, earthquakes, and similar calamities or catastrophes except where such losses are a recurrent hazard of the business;
(d) The write-off of a material amount of intangibles;
(e) The write-off of material amounts of unamortized bond discount or premium and bond issue expenses at the time of the retirement or refunding of the debt before maturity.

However, there seemed to be some uncertainty as to whether this was the best way to handle extraordinary items because the bulletin added (p. 264):

The committee directs attention to the undesirability in many cases of the dissemination of information in which major prominence is given to a single figure of net income or net income per share. However, if such income data are reported (as in newspapers, investors' services, and annual corporate reports), the committee strongly urges that any determination of income per share be related to the amount designated in the income statement as net income and that where material extraordinary charges or credits have been excluded from the determination of net income, the corresponding total or per-share amount of such charges and credits also be reported separately and simultaneously. In this connection the committee earnestly solicits the cooperation of all organizations, both governmental and private, engaged in the compilation of business earnings statistics from annual reports.

This bulletin was subsequently reprinted as Chapter 8 of Accounting Research Bulletin, Number 43 (American Institute of Certified Public Accountants, 1961).

In 1966, the Accounting Principles Board (APB) issued Opinion Number 9, Reporting the Results of Operations (American Institute of Certified Public Accountants, 1966) which superseded Chapter 8 of ARB No. 43. Opinion No. 9 modified the previous stand of the AICPA in that it concluded that net income should reflect all items of profit and loss recognized during the period except for prior period adjustments, with extraordinary items being shown separately as an element of net income of the period. Extraordinary items were to be identified primarily by the nature of their underlying occurrence in that they would ". . . be of a character significantly different from the typical or customary business activities of the entity . . ." and would not ". . . be expected to recur frequently and which would not be considered as recurring factors in any evaluation of the ordinary operating process of the business" (pp. 114-115).

Opinion No. 26, Early Extinguishment of Debt (American Institute of Certified Public Accountants, 1972) stated that gains or losses resulting from the extinguishment of debt before scheduled maturity should be recognized in the period of extinguishment and that the criteria in Opinion No. 9 should be used to determine whether the gains or losses are ordinary or extraordinary.

In 1973, the APB issued Opinion Number 30, Reporting the Results of Operations (American Institute of Certified Public Accountants, 1973) in which they attempt to tighten the requirements for classifying items

as extraordinary by stating that "Extraordinary items are events and transactions that are distinguished by their occurrence" (p. 564). The board indicates that it feels that events or transactions that meet both criteria will be rare (p. 566).

In summary, the AICPA seems to have changed its position drastically on the handling of extraordinary items from excluding extraordinary items from the calculation of net income to including extraordinary items in the calculation of net income.

1.2.b American Accounting Association

In 1936, the AAA published A Tentative Statement of Accounting Principles Underlying Corporate Financial Statements (American Accounting Association, 1957) in which that organization stated its position regarding the inclusion of extraordinary items in the income statement:

> The income statement for any given period should reflect all revenues properly given accounting recognition and all costs written off during the period, regardless of whether or not they are the results of operations in that period: to the end that for any period of years in the history of the enterprise the assembled income statements will express completely all gains and losses. (p. 62)

Specifically with regard to extraordinary items it said:

> The income statement for any period should, where necessary, be divided into two sections, one showing particulars of operations for the period measured as accurately as may be at the time, and the other showing realized capital gains and losses and extraordinary credits and charges resulting from income realization and cost amortization not connected with the operation of that period. (p. 62)

In 1957, the AAA issued Accounting and Reporting Standards for Corporate Financial Statements--1957 Revision (American Accounting Association, 1957) in which it advocated the use of two income figures: realized net income of an enterprise and net income to shareholders:

> The realized net income of an enterprise measures its effectiveness as an operating unit and is the change in its net assets arising out of (a) the excess or deficiency of revenue compared with related expired cost and (b) other gains or losses to the enterprise from sales, exchanges, or other conversions of assets. Interest charges, income taxes, and true profit-sharing distributions are not determinants of enterprise net income.
>
> In determining net income to shareholders, however, interest charges, income taxes, profit-sharing distributions, and credits or charges arising from such events as forgiveness of indebtedness and contributions are properly included. In financial reports and discussions alike, care should be exercised to indicate whether enterprise net income or net income to the shareholders is at issue. (p. 5)

Although not explicitly stated, the definition of realized net income implies that extraordinary items would be included in its determination.

A Statement of Basic Accounting Theory (American Accounting Association, 1966), while on a different level than the previous AAA works cited earlier, implies in its illustration income statement (p. 85) that extraordinary items should appear on the income statement.

Thus it appears that the AAA has consistently recommended that extraordinary items appear on the income statement as a regular item of income or expense before net income is calculated.

1.2.c Securities and Exchange Commission

The SEC has always encouraged development and improvement in accounting practice. While the SEC has the authority to enforce adherence to its rules, it has usually let the accounting profession determine the principles and practices it will follow, for the SEC ". . . will look to the APB to play the major role in the development of accounting principles and disclosure requirements so as to improve corporate financial reporting" (Rappaport, 1972, p. 3.8).

However, at ". . . the same time the Commission has not hesitated to criticize and prod, and to discipline members of the profession when circumstances warranted" (The Journal of Accountancy, 1964, pp. 56-58).

The SEC expressed its opinion of the income statement in Accounting Series Release Number 53 in 1945 (Bernstein, 1967, p. 24):

> We conclude, then that the proper function of an income statement is to present an accurate historical record. On this basis, it is evident that the items included therein should clearly and accurately reflect only actual operations.

SEC Regulation S-X contains the following provision under Rule 5-03 (Rappaport, 1972, pp. 18.21, 18.22):

> (a) All items of profit and loss given recognition in the accounts during each period covered by the income statements, except retroactive adjustments, shall be included in the income statement for each such period . . .
> (b) Only items entering into the determination of net income or loss may be included.

This rule also requires that extraordinary items are to be stated separately after net income before extraordinary items.

In a recent Accounting Series Release (Securities and Exchange Commission, 1973, p. 2), the SEC restated its belief that the disclosure, to investors, of extraordinary items is very important:

> . . . the Commission believes that substantial additional disclosure in regard to extraordinary items and material unusual charges and credits to income or major provisions for loss is necessary to enable public investors to assess the impact of such items. This would include transactions that are classified as extraordinary items under generally accepted accounting principles and other unusual or non-recurring material transactions or provisions for loss . . .

1.3 Purpose and Motivation of the Study

The purpose of this study is to provide additional information on what influences investor decisions regarding the purchase and sale of

securities. Specifically, the study attempts to answer the question: which figure, net income or net income before extraordinary items, do investors appear to utilize in their investment decisions when buying or selling securities.

While this study is not intended to be a critique of Accounting Principles Board Opinion Number 30, Reporting the Results of Operations (American Institute of Certified Public Accountants, 1973) dealing with extraordinary items, it may be found that the proposed method of dealing with extraordinary items might not lead to "optimal" investment decisions from the point of view of the investment community.

Investors presently have the alternative of deciding for themselves which figure, net income, or net income before extraordinary items, best represents a firm's yearly income for their investment decisions and they can act accordingly. When the proposed opinion takes effect, however, the extraordinary item classification will practically be eliminated--leaving only net income. If investors are found to appear to use net income before extraordinary items in their decision-making, then they might make investment "errors" after Opinion 30 takes effect if functional fixation exists. However, if investors use the final net income figure in decision-making or if the capital market is efficient in the semi-strong form, these classifications on the income statement should not matter.

The method of accounting for extraordinary items for the period covered by this study (assuming Opinion No. 9 has been followed) should

provide a method of studying the effect of extraordinary item on investors' decisions. There are important implications for those preparing financial statements depending on how investors "react" to extraordinary items. If investors base their decisions on net income before extraordinary items, then it may be possible for firms to manipulate stock prices by classifying (or not classifying) something as an extraordinary item. As Cushing (1969) points out, a firm is more likely to report an extraordinary item in the years that their net income would otherwise reverse the trend that has been established by their net income figures over the past several years.

Several writers have been prolific in discussions concerning what materiality means in reference to extraordinary items reported in the income statement. Past researchers have used experimental (Rose, Beaver, Becker, and Sorter, 1970) or questionnaire (Bernstein, 1967) techniques and have assumed that the items in question are important to decision makers. Their research has shown that an item that is (approximately) 10% of net income influenced decision makers. It has not shown, however, that a material unusual, nonrecurring item should be reported in a separate section in the income statement.

1.4 The Approach and Organization of the Research

The approach of this study will be to infer from measured security price changes investors' reaction to the reporting of extraordinary items in annual financial statements.

Chapter II examines the model to be used in this research and also past research on stock price behavior in response to accounting information.

Chapter III describes the research methodology to be used in the study.

Chapter IV presents the research findings of the study.

Chapter V states the conclusions and recommendations reached by the study.

CHAPTER II

LITERATURE REVIEW AND DISCUSSION OF THE MODEL

2.1 Introduction

The first portion of this chapter will review past empirical research investigating possible managerial motivation for reporting extraordinary items on the income statement and also stock market responses to accounting information.

The second portion of this chapter will review the development of the Sharpe-Lintner model, which will be used to ascertain the stock market response to extraordinary items presented in the income statement and will discuss some relevant research which has used the model, including some dealing with extraordinary items.

2.2 Stock Prices, Investor Expectations and Information

Stock prices have long been regarded as being a function of several factors (Graham, Dodd, and Cottle, 1962, p. 443):

$$P_t = f(Y,D,M,A)$$

where

P_t = price that an investor is willing to pay for the security at time t,

Y = expected future earnings,

D = expected future dividends,

M = multiplier (or capitalization rate) of the earnings and dividend,

A = asset values.

A change in the price of the security could be caused by a change in investor expectations regarding one or all of the factors of the relationships above. Expectations can be modified because stimuli received do not coincide with anticipated stimuli (expectations held immediately prior to stimuli reception). In the model of stock prices above, new information received that modifies the investors' priors concerning the model elements may cause a change in the price.

Thus, as May (1971) has pointed out, ". . . in theory at least, one can gauge the effect of a particular bit of new information by measuring the change in a stock's price that resulted from it."

However, in practice it is more difficult to isolate the effect of a particular bit of information on a stock's price change. This study, however, attempted to do that using the model described in section 2.3.

Following Sharpe's diagonal model (1963), King (1966), using factor analysis, attempted to isolate the impact of various "lumps" of information on stock prices. Using 63 firms on the New York Stock Exchange from 6 industries (based on the SEC's 2-digit classification) for 403 months, King attempted to determine whether three effects--market, industry, and individual firm--"account for the complex interrelationships of the ensemble of security price changes" (p. 143).

His results indicated that for the entire period (June, 1927 through December, 1960) the market effect accounted for about 50 percent of the variation in stock prices and industry about 10 percent; while for the period August, 1952 through December, 1960 the market effect dropped to 31 percent and the industry effect was 11 percent.

More recently Meyers (1973) conducted a study to determine if King's findings, in regard to the importance of the industry effect, were overstated because of (1) his sample choice and/or (2) his methodology.

Using two samples of sixty firms each (one sample was composed of the same six industries King used, while the other was a sample of five firms in each of twelve industries) and using different methods (the most important of which were)

> . . . the use of true principal components analysis in lieu of the Guttman-Harris and centroid techniques and the omission of the multiple factor analysis of industry factors, which has been the primary basis for exaggeration of the strength of industry factors, (p. 696)

Meyers concluded,

> While the results of the analyses described in this report generally support King's observations that industry relationships are an important source of interdependence among securities in samples in which each industry is represented by at least five companies, there is also substantial evidence that such factors are considerably less important than was suggested by King. (p. 704)

The importance of these studies will be discussed further in section 2.3 in which the market model is discussed.

2.3 The Market Model

In the 1950's Harry Markowitz published what became the foundation (based on the pioneering work of Irving Fisher in the 1930's) of modern portfolio theory.

The major contributions that Markowitz made to portfolio theory were the incorporation of (1) the riskiness of an asset, and (2) the additional return demanded for investing in a riskier asset (Ball and Brown, 1969). Uncertainty about future returns from an investment is

measured by the variance or standard deviation of the expected returns about its expected value. If investors are rational, they will prefer a higher average return to a lower average return, other things being equal, and if they are risk averse they will prefer less variance to more variance of future returns for a given expected return.

In Illustration II-1, portfolio B would be preferable to portfolio A because at a given level of expected return (r_2) portfolio B has less variance (v_1 versus v_2). Portfolio B would also be preferable to portfolio C because at a given level of risk (v_1) portfolio B has a greater expected return (r_2 versus r_1) than portfolio C.

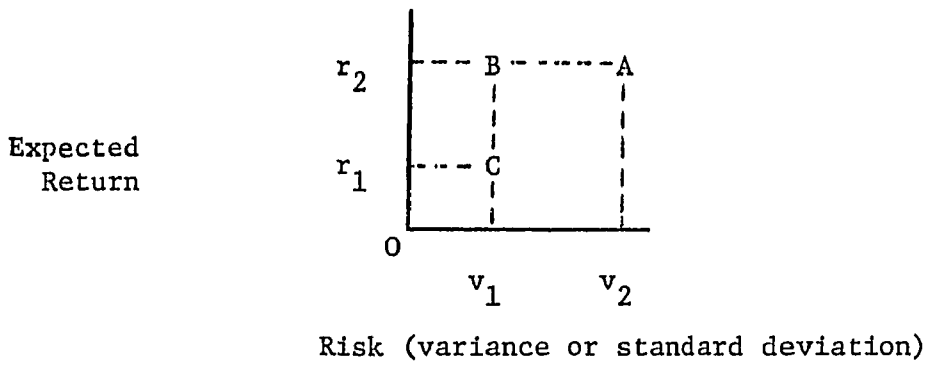

Illustration 1
PORTFOLIO SELECTION GIVEN RISK AND EXPECTED RETURN

What is important in regard to an investment in a single security is its contribution to the expected return and variance of the total portfolio. This can be shown below for a two-security case:

$$E(\tilde{R}_p) = x \cdot E(\tilde{R}_1) + (1-x) \cdot E(\tilde{R}_2) \tag{1}$$

and

$$\overset{v}{R}_p = x^2 \cdot \overset{v}{R}_1 + (1-x)^2 \cdot \overset{v}{R}_2 + 2 \cdot x \cdot (1-x) \cdot \mathrm{cov}(R_1, R_2) \tag{2}$$

where:

E = expectation operator,

$\tilde{R}_p$ = return for portfolio (tilde denotes random variable),

x = proportion of wealth invested in security 1,

$\tilde{R}_1$, $\tilde{R}_2$ = return on securities 1 and 2,

$\overset{v}{R}_p$ = variance of the portfolio return,

$\overset{v}{R}_1)\overset{v}{R}_2$ = variance of the returns of securities 1 and 2.

The covariance between the return on the two securities is:

$$\text{cov}\ (\tilde{R}_1, \tilde{R}_2) = \rho_{12} \cdot \sigma(\tilde{R}_1) \cdot \sigma(\tilde{R}_2),$$

so the standard deviation for the portfolio may be expressed:

$$\sigma(\tilde{R}_p) = \tilde{R}_p = x^2 \cdot \overset{v}{R}_1 + (1-x)^2 \cdot \overset{v}{R}_2 + 2 \cdot x \cdot (x-1) \cdot \rho_{12} \cdot \sigma(\tilde{R}_1) \cdot \sigma(\tilde{R}_2) \quad (3)$$

As is seen in (2), as a portfolio grows in size, the contribution that any one security makes to the variance of the portfolio becomes less important (the contribution of security 1 to the variance of the portfolio is the proportion of wealth invested in security 1, squared, times the variance of security 1's return). For a portfolio consisting of a large number of securities, the individual security would be a relatively unimportant contributor to total portfolio risk, and might safely be ignored. In a portfolio of 17 securities, approximately 90% of the individual security risk has been eliminated, assuming equal wealth investment in each security and ρ equals .5 (Mao, 1970, p. 1112).

Thus, portfolio theory suggests that risk-averse investors should concentrate on each security's contribution to total portfolio uncertainty rather than on each security's uncertainty. A security with a large average covariance, regardless of its variance, adds more to the uncertainty of the returns of the portfolio and is therefore more risky.

For a given set of securities, the feasible set of portfolios consists of all single-security portfolios and all possible combinations of them. Those portfolios which are efficient (offer maximum return for a given level of risk and minimum risk for a given level of return) will form the upper border of the feasible set which is called the efficient frontier. See Illustration II-2.

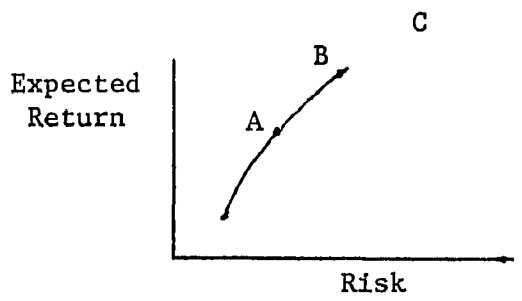

Illustration 2
THE FEASIBLE SET AND EFFICIENT FRONTIER

Since it is also possible to invest in riskless assets-R_f (such as short-term government securities), a line can be drawn from the appropriate intersection on the vertical axis to a point tangent to the efficient frontier as is shown in Illustration II-3.

Portfolios can be constructed, then, based on a combination of risk-free assets and risky assets along line R_fM, and assuming that an investor can borrow at the risk-free rate, portfolios can be constructed which lie along line MD.

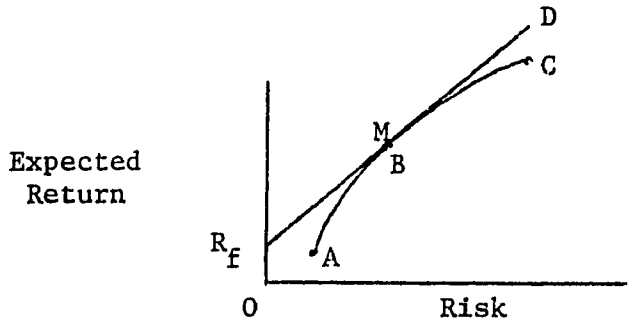

Illustration 3
THE FEASIBLE SET AND EFFICIENT FRONTIER
WITH RISKLESS ASSETS

The straight line $R_f M D$ is what Sharpe called the "capital market line" (Sharpe, 1964, p. 425).

The capital market line can be mathematically written as

$$E(R_p) = R_f + [(E(R_m) - R_f) / \sigma(R_m)]\sigma(R_p)$$

where symbols are as given before and:

$E(R_m)$ = expected return on the market portfolio (portfolio at point M),

$\sigma(R_m)$ = risk of the market portfolio.

Portfolio analysis using Markowitz's methodology requires a large amount of data: for each security one must know its expected return, its variance (or standard deviation), and its covariance with each other security. If an efficient set were to be constructed from 100 securities, one would need 100 statistics for expected return, 100 variances, and 4,950 covariances (Sharpe, 1963, p. 282).

Sharpe suggested that, since almost all securities are significantly correlated with the market as a whole, a satisfactory simplification would be to utilize information on the relationship of each

security to the market rather than the covariance of each security with each other security.

Hence:

$$R_i = A_i + B_i \cdot I + C_i \qquad \text{(Sharpe, 1963, p. 281)}$$

where:

R_i = return on security i,

A_i, B_i = parameters,

C_i = random variable with expected value of zero,

I = level of some index ". . . thought to be the most important single influence on the return of securities."

Using this model, only 302 estimates need be made for 100 securities.

Sharpe later wrote an article in which he discussed the relationship between portfolio theory and the determination of financial asset prices (Sharpe, 1964). The model he presented states that the expected return on an asset is related to the riskless rate of return and the return on the market portfolio:

$$E(R_i) = R_f + b_1 \cdot (E(R_m) - R_f)$$

where all symbols are as defined before and

b_i = a measure of the sensitivity of R_i to movements in R_m.

While the above equation deals with the expected return on an asset, the relationship between the actual risk premium on an asset (its actual return less the riskless rate of return) and the return on the market is represented by a linear equation directly derived from the equation above:

$$R_i - R_f = a_i + b_i \cdot (R_m - R_f) + C_i$$ (Lorie and Hamilton, 1973, p. 201)

This model is based upon several simplifying assumptions (Sharpe, 1970):

I. Investor Characteristics:

A. All are one period utility maximizers,

B. All have the same one-period horizon,

C. All are risk averse (exhibit diminishing marginal utility),

D. All are rational, investing in efficient portfolios,

E. All base judgments on expected mean and variance of returns,

F. All hold homogeneous, i.e., identical, expectations of distributions of future returns,

II. Market Characteristics:

A. All investors can borrow or lend freely at the riskless rate,

B. There are no transaction costs,

C. All assets are perfectly divisible,

D. The market is in equilibrium.

A great deal of research has been conducted on this model to see how closely it conforms to reality and to see how critical the assumptions are. Rather than review each study and comment on them, the author suggests the interested reader read Jensen (1972), Downes and Dyckman (1973), or Beaver (1972). These studies, in general, indicate that, while some assumptions are more critical than others, the model is a fairly good representation of reality.

2.4 Accounting Implications of the Market Model

Ideally, since the market model can abstract market and industry effects from price changes, it can be used to study the residual (C) term which is referred to as the individual firm effect. By examining the residual movements when information becomes available to investors, one can evaluate how investors (as a whole) "react" to the information. If news is received which would increase investors' expectations of the discounted cash flows to be received from a firm (other things such as the risk associated with the firm's security and the risk and returns of all other securities remaining the same), we would expect the stock's price to rise. If the reverse were true (information were received that would cause investors to lower their expectations), we would expect the security's price to decline.

Beaver (1968) found, using the market model and examining the absolute value of the residuals, that ". . . there is abnormal price activity when earnings reports are announced" supporting ". . . the contention that earnings reports possess information content" (p. 82). Ball and Brown (1968) found that investors are able to "anticipate" favorable or unfavorable earnings announcements.

This study was interested in finding out if investors "react" (in reality a more precise wording should be "act as if they react," but the shorter terminology will be used throughout this study) to the net income figure reported by firms or if they react to income before extraordinary items.

No attempt was made to identify those extraordinary items which did convey information that there would, in fact, be a decrease or increase in future cash flows. Hence no conclusions may be drawn regarding whether investors reacted "properly" or not. All that may be said is that they appear to use one number more than another.

2.5 Possible Motivation in Regard to Extraordinary Item Presentation

Cumming's research (1973) was an effort to identify instances where apparently similar unusual events were treated differently in published annual income statements and to empirically evaluate possible explanations for those differing treatments.

Cumming examined the 1970 published annual reports of 754 corporations to find instances where apparently similar events[1] were segregated in the extraordinary item section of the income statement by some corporations and reflected in the income before extraordinary items by others.

Cumming investigated several hypotheses regarding the reporting of extraordinary items in annual financial statements. The hypotheses that are of interest to this research are those concerned with whether firms treat apparently similar unusual events differently because: (1) they seek to maintain a trend established by income before extraordinary items, and/or (2) they try to maximize or smooth net income before extraordinary items.

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[1]Similar events are defined as those events whose qualitative dimensions (their general nature, Cumming had 43 different categories) and quantitative dimensions (measured by net of tax magnitude of the event divided by the corporation income without the unusual event) appeared to be quite similar.

Both of these hypotheses are relevant to this study because they infer that the management of a firm may be interested in presenting the figures that they believe will be most beneficial to the firm by manipulating income before extraordinary items. Presumably, one group of people that they would try to "impress" would be the investors. Whether or not investors are subject to such "suasions" is the concern of this research.

Cumming classified the unusual events he found into the categories found in Table 1 based upon responses to a questionnaire sent to a sample of partners in "Big 8" CPA firms. He then calculated a "target level of income before extraordinary items" which he calculated as the earnings

TABLE 1

CUMMING'S CLASSIFICATION OF EVENTS

Quantitative Dimension	Unusual Event Category: Extraordinary in Nature	Unusual Event Category: Other in Nature
Immaterial 2% ≤	A	B
Borderline > 2% but < 6%	C	D
Material ≥ 6%	E	F

projected from the firms' earnings trend.[2] The target figure was compared with income before extraordinary items recomputed assuming

[2]Earnings trend was determined for each firm by seeing which of the following five curves minimized the sum of the squared residuals:

$Y=a+bX$ $\quad Y=1/(a+bX)$ $\quad Y=aX^b$

$Y=A+b\log X$ $\quad Y=ab^X$

where: Y=reported earnings before extraordinary items,
X=years 1966 through 1969.

that the event has been classified in the alternative section of the income statement.

He then inferred the following managerial behavior based on their comparison: (1) management exhibited maximizing behavior if inclusion of the event increased income before extraordinary items, and (2) management exhibited smoothing behavior if their classification decision reduced the difference between income before extraordinary items and target income before extraordinary items.

He obtained significant results at the .05 level for the "other in nature" events whose materiality had been classified as borderline (group D in Table 1) for the hypothesis that management smooths income, but not for the maximization hypothesis.

White (1970) attempted to determine if a firm's management selected alternative accounting methods in an effort to smooth income. His data was drawn from four samples:

(1) ten firms randomly selected from the chemical industry,

(2) ten firms randomly selected from the building materials industry,

(3) the ten firms exhibiting the highest degree of smoothness from the chemical industry,

(4) the ten firms exhibiting the highest degree of smoothness from the building materials industry.[3]

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[3]Degree of smoothness for samples 3 and 4 was based on the highest R^2 from either linear or logarithmic least squares regression of reported EPS, adjusted for splits, etc., over the ten-year period 1957-1966.

White compared the net marginal earnings per share effect of the discretionary accounting decisions in the year of effect with the difference between actual earnings per share and a normal or target earnings per share (calculated as the projection of the better of the least squares linear or the logarithmic regression line and also as being equal to the prior year's earnings).

White rejected his null hypothesis (a non smoothing hypothesis) at the .025 level of significance for the building materials random sample (group 2 above) under the least squares criterion and the chemicals smoothing sample (group 3) under the prior year's earnings per share criterion.

Since White's study was conducted before APB Opinion No. 9 became effective, his data included firms that had greater freedom with respect to either reporting extraordinary items in the income statement or statement of retained earnings. From that respect his results reported here are somewhat dated, but there still is the element of the timing of the reporting of extraordinary items that is a relevant issue; for that reason it is mentioned that for the random sample of building material firms (group 2), extraordinary items were predominately involved in smooth decision years under the least squares criterion.

In another study on potential income smoothing, Dascher and Malcom (1970) studied the effect on earnings trends of four accounting variables: (1) extraordinary charges and credits, (2) pension costs, (3) research and development costs, and (4) dividends from unconsolidated subsidiaries reported by the parent using the cost method.

Their data was from 52 firms in the chemical and chemical preparations industry and was analyzed for two time periods, eleven years (1956-1966) and six years (1961-1966). They compared a measure of the smoothness of reported income adjusted to take out the effect (net of income taxes) of the four variables mentioned above. Their results were ". . . consistent with the hypothesis that deliberate smoothing practices have been employed [with respect to these four variables in total]. The results are more conclusive for observations of the six year period than for the eleven year period" (p. 258).

Although the authors do not give details as to the importance of each of the variables studied and although their research was also pre-Opinion No. 9, this study again illustrates that management may recognize and utilize the fact that the timing of reporting extraordinary items can influence earnings in such a way as to present a smoother earnings trend.

2.6 Research on Stock Market Prices and Extraordinary Items

Benston (1967) investigated the question of what accounting data investors find useful by computing regressions of several alternative data (in rate of change form) with the rate of change of the market price of the security of several firms.

Benston began with the model:

$$P_{jt} - P_{jt-1} = \Delta P_{jt} = f(A_{jt}, D_{jt}, \Delta D_{jt}, \Delta M_t, I_{kt}, Y_{jt}, U_{jt}) \qquad (4)$$

where:

P_{jt} = stock price of common shares of firm j in period t,

A_{jt} = published accounting data of firm j in period t when the data becomes "known,"

D_{jt} = distribution of assets or claims to assets to stockholders of firm J,

ΔD_{jt} = changes in dividends of firm j in period t that affect investors' expectations,

ΔM_t = changes in general market conditions in period t,

I_{kt} = information that affects market valuation of all firms in industry k that becomes known in period t,

Y_{jt} = economic income generated by the assets of firm j in period t, that changes the present value of the firm,

U_{jt} = other information about firm j that becomes "known" in period t.

To avoid possible domination of his regression by large firms (he states ". . . corporations with large absolute price changes are likely to have several changes in accounting data" (p. 4)), he deflated several of the variables given in (4) before calculating the regression:

ΔP_{jt} was operationalized as

$$PR_{jt} = \log_e [(P_{jt} + D_{jt})/(P_{jt-1} + D_{jt-1})]$$

(the denominator was adjusted for capital changes in period t), which is the rate of return (continuously compounded) provided by security j held during time t.

A_{jt} was operationalized as $AR_{jt} = \log_e (A_{jt}/A_{jt-1})$; five alternative constructs of accounting data were used in the regression (data was taken from the Compustat tape):

1. net sales (Compustat item 12),
2. net income before deduction of depreciation and amortization, income taxes and nonrecurring items (Compustat item 13),
3. net income before deduction or addition of nonrecurring expense or income (Compustat item 18 less item 17),
4. net income before deduction or addition of non-recurring expense or income that is stated in the published reports as being net of tax (Compustat item 18),
5. net income after all deductions and additions (Compustat item 18 less item 48).

ΔD_{jt} was operationalized as $DR_{jt} = \log_e (\Delta D_{jt})$.

Further, the industry effect, I_{kt}, was accounted for by using dummy variables (24 industry classifications were used, based on the first two digits of the Compustat industry code).

Y_{jt} was disregarded because Benston felt it would either be relatively small (he used a time period of one month) and/or it would be accounted for by the AR_{jt} variable.

Using the market model to abstract the market effect on the price change of a firm's stock:

$$\text{Log}_e R_{jt} = \alpha_j + \beta_j \cdot \log_e L_t + p^a_{jt}$$

where:

L_t = Fisher's Link Relative for period t (a surrogate for ΔM_t in (4)),

α_j, β_j = individualistic parameters,

p^a_{jt} = disturbance term which estimates the rate of change of security prices adjusted for the average effect of changes in general market condition during period t.

Hence, equation (4) was operationalized as:

$$p^a_{jt} = f(AR_{jt}, \Delta D_{jt}, I_{kt}, u_{jt})$$

where all symbols are natural logs, except I_{kt}.

To measure the effect on p^a_{jt} of the difference between investor expectations and reported accounting figures, Benston had to determine what investors expected. He therefore determined AR^*_t (expected accounting data in period t) as being:

(1) $AR^*_t = AR_{t-1}$;

(2) $AR^*_t = \sum_{i=1}^{3}(1/3)\cdot AR_{t-1}$, (past 3-year average);

(3) $AR^*_t = \sum_{i=1}^{5}(1/5)\cdot AR_{t-1}$, (past 5-year average);

(4) $AR^*_t - b_o \cdot \sum_{i=1}^{\infty} w^i \cdot AR_{t-1}$, (declining distributed lags, the most recent rates of change are weighted most heavily with the weights (b's) declining geometrically), where:

b_o = the general coefficient,

w = the weights, $0 \leq W < 1$, and $\sum_{i=1}^{\infty} w^i = 1$,

$i = 1, \ldots, \infty$ (time periods assumed to run to ∞).

The regression then became:

$$p^a_{jt} = a_j + a_{2j} (AR_{jt} - AR^*_{jt}) + a_{4j} \cdot DR_t + a_5 I_j + \ldots a_{28} I_{28} + u_t \quad (5)$$

Using 483 firms for the year t = 1964, Benston's results indicated that there was a high correlation between net income before extraordinary items and final net income (all correlations were between .72 and .81) for the 4 models tested. For this reason Benston stated that it appears

> . . . that the companies sampled experienced similar high and low rates of change in the three constructs of net income [constructs 3, 4, and 5]. Therefore it is unlikely that much difference between these alternative constructs can be found . . ., although such a difference might exist in another, more extreme sample of companies. (pp. 12-13)

Since the variables are measured as natural logarithms, the coefficients of the variables in equation (5) are estimates of the elasticities of the accounting data relative (rate of change) with respect to the rate of change in stock price (i.e., if a coefficient, or elasticity, for a particular AR is .02, this would mean that a 100% change in the rate of change of the accounting variable would be associated with a 2% change in the monthly rate of change of the stock price).

Benston's results indicated that the net sales construct is "used more" by investors than were the other constructs tested.

With regard to the two constructs relevant to this study, net income and income before extraordinary items (net of taxes), he found that the coefficients were so similar that one could not conclude

that investors use one rather than another. In fact this was true of all four net income constructs.

His results regarding net income and income before extraordinary items are not surprising since his data was gathered prior to the issuance of APB Opinion No. 9, when the meaning of the extraordinary item classification was unclear and was not utilized consistently across all firms (see Bernstein, 1967).

Ball and Brown (1968) correlated the sign of the unexpected earnings of a firm (the difference between a firm's actual earnings for a year and the earnings predicted for that year using a regression based on the overall market earnings) and that portion of the firm's stock price change that could not be explained by market fluctuations. They found that using income before nonrecurring items was not ". . . as successful in predicting the signs of the stock return residuals as net income. . . ." (p. 172-173)

The authors (relying on their previous research findings that about one half of the variability of a firm's earnings per share can be associated with economy-wide effects (Brown and Ball, 1967) calculated the coefficients $\hat{a}_{1jt}$ and $\hat{a}_{2jt}$ using a linear regression:

$$\Delta\hat{I}_{j,t-r} = \hat{a}_{1jt} + \hat{a}_{2jt} \cdot M_{j,t-r} + \hat{u}_{j,t-2}, \quad r = 1, 2, \ldots, t-1$$

where:

$\Delta\hat{I}_{j,t-r}$ = change in firm j's income in period t-r (calculated for both net income and earnings per share),

a_{1jt}, a_{2jt} = coefficients from the linear regression,

$M_{j,t-r}$ = change in the average income of all firms on the New York Stock Exchange.

The authors also used a naive model in which $I_{jt} = I_{jt-1}$. The results for this model were reported only for EPS.

Thus, the expected change in income for firm j in period t is defined as:

$$\Delta I_{jt} = \hat{a}_{1jt} + \hat{a}_{2jt} \cdot M_{jt}.$$

So the unexpected income change, or forecast error is actual income change (ΔI_{jt}) less the expected income change.

$$u_{jt} = \Delta I_{jt} - \Delta I_{jt}.$$

Using the following equation to determine market stock price movement:

$$PR_{jm} - 1 = \hat{b}_{1j} + \hat{b}_{2j} \cdot (L_m - 1) + \hat{v}_{jm}$$

where:

PR_{jm} = the price relative for firm j in month m, calculated as being the closing price in month m plus dividends (in the month the stock went ex-dividend) divided by the opening price; $PR_{jm} - 1$ is thus the discrete monthly rate of return on stock j in month m),

b_{1j}, b_{2j} = regression coefficients,

L_m = link relative developed by Fisher; $L_m - 1$ is an estimate of the market's monthly rate of return,

v_{jm} = stock return residual for firm j in month m.

Using reported income for 261 firms for the years 1957 through 1965, Ball and Brown concluded that their results ". . . demonstrated that the information contained in the annual income number is useful in that if a true income differs from expected income, the market has reacted in the same direction" (pp. 169-170). They also state that ". . . it is most unlikely that there is no relationship between the sign of the income forecast error and the sign of the rate of return residual in most of the months up to the annual report announcement" (p. 170). While the authors state that they computed results for the regression model using income defined as net income before nonrecurring items, they presented no data on the results.

2.7 Implications of Past Research

The preceding two sections have illustrated two points that provide a basis for this study. Section 2.5 presented research findings from three studies indicating that firms try to smooth reported earnings (two of these studies, Cumming, and Dasher and Malcolm, were directly concerned with firms reporting extraordinary items).

Section 2.6 presented research dealing with the relationship between security prices and reported earnings. Both studies indicated that there was only a slight difference between the association of net incomes and income before extraordinary items with security prices. By using a methodology different than was used in the studies discussed in Section 2.6, this study was undertaken to find whether investors are influenced by reported extraordinary items in the income statement.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Overview of Methodology

As indicated in Chapter I, this research was interested in determining if investors appear to react to net income or income before extraordinary items in the income statement. The research was based on Ball and Brown's (1968) findings that the residual of the return on a firm's security moves in the same direction as does the firm's unexpected earnings. If a firm reports higher earnings than "expected," its security's returns are greater than those of the security market in general. The major idea of this research was to investigate those cases where unexpected net income is positive while unexpected income before extraordinary items is negative and vice-versa. By examining the sign of the firm's security's return relative to the market return, one could infer which figure investors appear to react to.

The design of the study may be broken down into three major steps summarized below.

Step 1: Selection of firms included in the study. The population of firms on the New York Stock Exchange listed from January 1, 1967, through December 31, 1972, was divided into two groups--those reporting extraordinary items during this period and those not reporting extraordinary items during this period. The annual financial statements of those reporting extraordinary items were examined to determine if the firm

satisfied the criteria discussed in Section 3.2 and to gather necessary data. For each firm reporting an extraordinary item, a "control" firm was randomly selected from the group of firms not reporting an extraordinary item.

Step 2: Portfolio Construction. For each firm selected in Step 1, expected earnings were calculated using several earnings expectations models (discussed in Section 3.3). Actual earnings were then compared to expected earnings and the firms were classified into portfolios based on the signs of their unexpected net income and unexpected income before extraordinary items.

Step 3: Analysis of Portfolio Returns. An Abnormal Performance Index was calculated for each portfolio to see if there were abnormal returns to be made by holding any of the portfolios.

3.2 Firm Selection and Data Sources

All firms listed on the NYSE that appear on Standard and Poor's Annual Industrial Compustat tape formed the population from which the firms for this study were selected.

The Compustat tape was scanned to identify NYSE firms that reported extraordinary items during the years 1967 through 1972. The annual reports of the firms identified were examined to determine if the firms met these criteria:

(1) the firm must have reported no extraordinary item for three years prior to and two years after the year in which the extraordinary item was reported,

(2) the firm must not have restated past earnings or reported an "adjustment" to retained earnings in the year the extraordinary item was reported,

(3) the net effect of two or more extraordinary items was not zero.

In addition, Standard and Poor's Corporation Records was examined for each firm to see whether the following criteria were satisfied:

(4) the firm must have been listed on the NYSE for at least two years prior to and one year after the extraordinary item was reported.

(5) there was not a change in year-end for the year the extraordinary item was reported.

Finally, the Wall Street Journal Index was examined to verify that there was:

(6) no reported change in the amount of dividend paid during the same week as the earnings were announced for the year that the extraordinary item was reported.

Since this research was interested in determining the effect of an extraordinary item on the market aggregate expectations, rather than the effect of a series of extraordinary items, the first criterion was included to prevent confounding of the results in this respect.

The second criterion insured that the price movements exhibited by a firm's securities in the year the extraordinary items were reported were not due to a change in expectations because of a restatement of prior years' earnings (usually done in conjunction with a business combination) or a correction of prior years' earnings.

The third criterion was needed to eliminate firms for which both income figures were the same.

The fourth criterion insured that enough price data was available to have at least 105 price relatives for use in the regression equation.

The fifth criterion was needed because the forecast models included in the study forecast a full year's earnings.

The sixth criterion prevented any confounding that could result because of the impact of this extraneous (to this study) information.

The financial statements of the 98 firms (listed in Appendix B) that reported extraordinary items and meet the criteria above were examined to obtain the information required by the study (see Data Gathering Sheet, Appendix A). Appendix C lists the extraordinary item firms used in this study along with their two-digit SIC code, earnings per share (adjusted for stock splits and dividends) for the three years prior to the year the extraordinary item was reported, earnings per share (EPS) for the year the extraordinary item was reported, the extraordinary items (net) per share, and the year in which the extraordinary item was reported. Appendix D summarizes the coded type of extraordinary items reported by year. Appendix E explains the coding for the extraordinary items.

The date the public received the income figure (for the year the extraordinary item was reported) was assumed to be the date the income figure was published in the Midwest edition of the Wall Street Journal. That date was found by checking the Wall Street Journal Index and verified by examining the cited day's paper.

Once the extraordinary item firm group was determined, another group of firms was selected in the following manner: for each firm in

the extraordinary item group in a given Standard and Poor's two-digit industry classification, one firm was randomly selected from among the firms that did not report an extraordinary item during the study period. The purpose for selecting the second group in this manner was to partially control for industry effects of changes in stock market prices and also to provide a "control" group with which to compare the stock price movements of the extraordinary item group of firms. Firms selected for this group were subject to criteria (2), (4), (5), and (6) discussed earlier. In cases where a match could not be made based on the firm's 2-digit code, a firm was randomly selected from those firms not reporting an extraordinary item based on the first digit of the industry code. When even this did not generate a firm meeting the criteria, a firm was randomly selected without regard to industry code. There were five firms that were matched by only the first digit of the industry code and five cases where the control firm was selected without regard to the industry code. Appendix F lists the firms in the control group. Appendix G lists the two-digit SIC code, EPS (adjusted for stock splits and dividends) for the three years prior to the year of interest, EPS for the year of interest, and the year of interest. Appendix H contains an explanation of each two-digit SIC code.

Price data was gathered by hand from Standard and Poor's Daily Stock Price Record-New York Stock Exchange. Dividend data was gathered from Standard and Poor's Dividend Record. The securities' price and dividend data were used to calculate the price relatives necessary for use with the Sharpe model by a computer program written for that purpose using the equation:

$$R_{iw} = \frac{S_{i,w} \cdot (P_{i,w} + D_{iw})}{S_{i,w-1} \cdot P_{i,w-1}}$$

where:

$R_{i,w}$ = the rate of return on security i between Friday 2-1 and Friday w (designated as week w),[1,2]

$S_{i,w-1}$, $S_{i,w}$ = adjustment factors for stock splits and stock dividends for firm i; if there were a 2 for 1 stock split in week w, then $S_{i,w-1} = 1$ and $S_{i,w} = 2$.

$P_{i,w-1}$, $P_{i,w}$ = price of security i on Fridays w-1 and w,

$D_{i,w}$ = the amount of cash dividend on security i, where week w is the week the security sold ex-dividend.

3.3 Income Expectation Models

Ideally, when forecasting, one should choose the forecast that provides the greatest uncertainty reduction (provided that all forecasts become available at the same time) (Theil, 1966, p. 2). Given the limited amount of data collected on each firm (the income numbers for four years including the year of interest) for this study, it would be difficult to choose a "best" model for each firm. Therefore, the four models

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[1] In cases where there was no trading of a security on a Friday, the bid price was used. If the exchange was closed on a Friday, then Thursday's closing price was used. (See the discussion in Section 3.6.)

[2] In cases where the stock sold ex-cash-dividend the same week in which there was a stock split or stock dividend and the cash dividend was applicable to the old number of shares outstanding D_{iw} was removed from the parentheses in the equation above before $R_{i,w}$ was calculated.

discussed below were used. (See Appendix I for a discussion of why three other expectation models used in other studies were rejected.)

Model 1: $E(X_t) = X_{t-1} + (\frac{1}{2}) \sum_{j=1}^{2} (X_{t-j} - X_{t-j-1})$,

Model 2: $E(X_t) = X_{t-1} - (\frac{1}{2}) \sum_{J=1}^{2} (X_{t-j} - X_{t-j-1})$,

Model 3: $E(X_t) = X_{t-1} + [X_{t-1}/2] \left[\sum_{J=1}^{2} (X_{t-j} - X_{t-j-1})/(X_{t-j-1}) \right]$,

Model 4: $E(X_t) = X_{t-1}$.

Where:

$E(X_t)$ = the expected value of the earnings variable (primary earnings per share) in period t,

X_t = the actual value of the earnings variable in period t,

Model 1 defines expected earnings as being the earnings of the prior year plus the average dollar amount of change in earnings between each pair of the three years prior to the year of interest. It assumes that a firm's income changes by a constant dollar amount over time. Beaver and Dukes used this model (1972 and 1973).

Model 2 defines expected earnings as the earnings of the prior year less the average dollar amount of change in earnings between each pair of the three years prior to the year of interest. It assumes that earnings are described by a moving average process. This model was also used by Beaver and Dukes (1972 and 1973).

Model 3 predicts earnings to be the earnings of the prior year plus the average rate of change between each pair of the three years prior to the year of interest. It assumes that a firm's earnings increase at a constant rate rather than a constant amount.

Model 4 defines expected earnings to be the same as the prior year's earnings. Beaver and Dukes (1972 and 1973) also used this model.

Models 1 and 3 describe earnings as being the result of a submartingale process.[3] In a study by Ball and Watts (1972, p. 688) they conclude that ". . . measured accounting income is a submartingale or some very similar process."

Model 2 was included because of past research findings indicating that this model may approximate the earnings process. Beaver (1970, p. 86) states that, for some of his measures of earnings, mean reversion was observed.

Model 4 was included because of the research that indicates earnings may follow a random walk or martingale[4] (Brealey, 1969, pp. 88-103). Further, as pointed out by Ball and Watts (1972, p. 666), Ball and Brown (1969) found that this model led to less error in measurement of the expectation of income than did a model based on an average of past incomes.

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[3] If Y_1, Y_2 ... are random variables and E is an expectation operator, then the sequence Y_t is a submartingale if:

$$E(Y_{t+1} \mid Y_o, \ldots Y_t) \geq Y_t \text{ for all } t.$$

[4] A martingale is a specific case of a submartingale; the sequence Y_t is a martingale if

$$E(Y_{t+1} \mid Y_o, \ldots Y_t) = Y_t \text{ for all } t.$$

3.4 Determination of Forecast Error

Forecast error (e) is defined as the difference between a firm's expected earnings, $E(X_t)$, from each of the four models and the firm's published actual net income, X_t. Forecast error was considered the unexpected earnings that a firm exhibited for the year being studied. Mathematically, e is expressed:

$$e_{i,t,f} = E(X_{i,t,f}) - X_{i,t},$$

where:

$e_{i,t,f}$ = unexpected net income per share for firm i in period t given the forecast model f (f = 1,2,3,4).

$E(X_{i,t,f})$ = expected net income per share for firm i in period t using forecast model f,

$X_{i,t}$ = actual net income per share for firm i in period t.

As in the research by Ball and Brown (1968), this forecast error will be assumed to be new information conveyed by the earnings per share figure.

A second forecast error, e', is defined as the unexpected earnings per share that would have been announced by a firm had no extraordinary item been reported. It was calculated as:

$$e'_{i,t,f} = e_{i,t,f} - EI_{i,t},$$

where:

$e'_{i,t,f}$ = unexpected net income per share that would have been announced for firm i in period t given the forecast

model f if the firm had not reported an extraordinary item. (This is equivalent to unexpected income per share before extraordinary items),

$e_{i,t,f}$ = defined as above,

$EI_{i,t}$ = net extraordinary item per share reported by firm i in period t.

3.5. Portfolio Construction

By comparing the signs of e and e', one can determine if unexpected earnings are the results of normal, recurring operations or are the result of extraordinary items.

The firms studied were categorized in portfolios based on the sign of their unexpected earnings variables as follows:

TABLE 2

SIGNS OF UNEXPECTED EARNINGS VARIABLES BY PORTFOLIO

Unexpected Earnings Variable	Portfolio Number								
	1	2	3	4	5	6	7	8	9
e'	+	−	*	−	+	*	0	±	*
e	+	+	+	−	−	−	±	0	0

*No extraordinary items reported for firms in this portfolio.

The following intuitive descriptions can be given to the portfolios.

Portfolio 1: Composed of firms that reported an extraordinary item whose earnings per share before and after extraordinary items was

greater than expected (hence, the extraordinary items were either a net gain of any amount or were a net loss of less than unexpected earnings).

Portfolio 2: Firms that reported an extraordinary item whose EPS was greater than expected solely because of the magnitude of the extraordinary gain; that is earnings per share before extraordinary item was less than expected earnings, but earnings per share after extraordinary item was greater than expected earnings.

Portfolio 3: Firms that did not report an extraordinary item whose EPS was greater than expected (part of the control group of firms).

Portfolio 4: Firms that reported an extraordinary item whose EPS before the extraordinary item and EPS after the extraordinary item were less than expected (hence, the extraordinary item was either a loss of any amount or a gain of less than unexpected earnings).

Portfolio 5: Firms that reported an extraordinary item whose EPS was less than expected because of the magnitude of the extraordinary loss (earnings per share before extraordinary item was greater than expected earnings, but earnings per share after extraordinary item was less than expected earnings).

Portfolio 5: Firms that did not report an extraordinary item whose EPS was less than expected (part of the control group of firms).

The above six portfolios are those of interest to this research. However, three additional portfolios had to be constructed because in certain cases either e or e' turned out to be 0. Portfolios 7, 8 and 9 were constructed for these cases. No analyses will be made of the latter three portfolios.

Appendix J contains the expected earnings by model and resulting portfolio classification for firms reporting extraordinary items. Appendix K contains the expected earnings by model and resulting portfolio classification for forms not reporting extraordinary items.

Table 3 summarizes the number of firms in each portfolio by earnings forecast model.

TABLE 3

NUMBER OF FIRMS IN EACH PORTFOLIO BY MODEL

	Portfolio									
	1	2	3	4	5	6	7	8	9	Total
(sign of e')[a]	+	-	*	-	+	*	0	±	*	
(sign of e)[b]	+	+	+	-	-	-	±	0	0	
MODEL										
1	28	6	54	57	6	43	1	0	1	196
2	8	8	57	42	9	41	0	1	0	196
3	22	10	45	57	8	53	0	1	0	196
4	33	8	59	51	6	39	0	0	0	196

[a]Sign of unexpected earnings before extraordinary items.

[b]Sign of unexpected earnings (after extraordinary items).

*No extraordinary items reported for firms in this portfolio.

Table 4 presents a further breakdown by model within portfolios one, two, four and five, showing the number of firms reporting extraordinary gains and losses.

TABLE 4

NUMBER OF FIRMS REPORTING NET EXTRAORDINARY GAINS OR LOSSES IN PORTFOLIOS ONE, TWO, FOUR AND FIVE

			Portfolio 1	2	4	5
(Sign of e')			+	-	-	+
(Sign of e)			+	+	-	-
MODEL:	1	extraordinary gains	20	6	19	0
		extraordinary losses	8	0	38	6
	2	extraordinary gains	28	8	8	0
		extraordinary losses	10	0	34	9
	3	extraordinary gains	15	10	19	0
		extraordinary losses	7	0	38	8
	4	extraordinary gains	23	8	14	0
		extraordinary losses	10	0	37	6

Combining portfolios of similar signs of unexpected earnings before extraordinary items (e') reveals something of interest. Table 5 shows that, for all models, more firms reporting extraordinary items had negative unexpected earnings before extraordinary items than positive unexpected earnings before extraordinary items. For the control group more firms reported positive unexpected earnings than negative unexpected earnings in models 1, 2 and 4. Model 3 apparently forecasted earnings at such a high level that for the control group more firms reported negative unexpected earnings before extraordinary items. This model has the largest number of firms in the minus e' cell also. The final column in Table 5 is the chi-square statistic (corrected for continuity)

for a 2 x 2 classification of sign of unexpected earnings before extraordinary items (+ or -) and group the firm is in (EI or Control).

Tables 4 and 5 lend support to the belief that management may use timing of reporting extraordinary items to manipulate net income (e).

TABLE 5

COMBINATION OF PORTFOLIOS OF FIRMS WITH THE SAME SIGN OF UNEXPECTED EARNINGS BEFORE EXTRAORDINARY ITEMS

PORTFOLIO

MODEL	1+5 Sign of e' +	2+4 Sign of e' -	3 Sign of e +	6 Sign of e -	7+8+9	Total	Chi Square[a] (2 x 2 Classification)
1	34	63	54	43	2	196	7.51
2	47	50	57	41	1	196	1.48
3	30	67	45	53	1	196	4.01
4	39	59	59	39	0	196	9.00

[a]Chi^2 significant at the .01 level for 1 df = 6.64.
Chi^2 significant at the .05 level for 1 df = 3.04.

3.6 Measurement of Stock Market Response

As discussed in Chapter II, the measure of the stock market's response to the earnings announcement was calculated using Sharpe's market model (Sharpe, 1963):

$$\ln R_{it} = \alpha_i + \beta_i \ln R_{mt} + u_{it}$$

where:

R_{it} = the price relative of security in period t,

α_i, β_i = intercept and slope of the linear relationship between R_{it} and R_{mt},

R_{mt} = the value of a market index in period t (the market index used was Standard and Poor's Industrial Price Index),[5]

u_{it} = stochastic portion of individualistic component of R_{it}.

The estimates of α_i and β_i were determined by regressing the natural logarithm of the weekly price relative for each security against the corresponding natural logarithm of the weekly Standard and Poor's 425 Industrial Price Index for the five-year period centered around the earnings announcement (with the exception of the 52 weeks prior to and 1 week after the announcement). In the cases of firms reporting extraordinary items in 1971 and 1972, the five-year period was shifted "forward" since the latest date was December 31, 1972.

Appendix L lists the α and β for firms reporting extraordinary items; Appendix M lists the α and β for the control firms.

To examine the effect of reporting an extraordinary item on the regression coefficients, an analysis was made of the coefficients for the periods before and after the earnings announcement. See Appendix N.

For purposes of this research a week is defined as the 7-day period from the close of trading Friday to the close of trading the next Friday. If a security was not traded on a Friday, then the bid price was used. If the exchange was closed on Friday, the closing price the previous day was used. If the security return spanned six or

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[5]As Fisher points out (Fisher, 1966) the Standard and Poor Indexes are not the best indexes to use in the model. His "link relative," which is a weighted average of arithmetic and geometric means is somewhat superior. The S & P Industrial Price Index was used in this study for expedience; to calculate a weekly index as described by Fisher would be extremely time consuming

eight days, then the market return spanned the same interval. While one study adjusted weekly returns "to an equivalent per annum return" (Kaplan and Roll, 1972, p. 233) this study did not adjust the data because the effect was expected to be very minimal for two reasons: (1) both R_{it} and R_{mt} covered the same period and (2) the expected effect on the API (discussed in the following section) is mathematically close to zero because one component of the API is the product of the weekly returns.

Since the hypothesis under study is concerned with the unusual action of u_{it} during the period of earnings announcement, including the announcement period observations of R_i and R_m in the regression would violate the linear regression assumption that $E(u_{it}) = 0$. Therefore, data for the 52 weeks prior to and one week after the earnings announcement were omitted from the regression for each firm. An exclusion period of this long may seem extreme, but it still left 207 observations for the regression calculations. Further, since the mechanics of least squares regression forces the sum of the squared residuals to be zero, there is a bias in the computed residual that is the opposite direction of the "true" residual if the exclusion period does not cover all of the observations that it should.

Once the appropriate α's and β's were obtained from the regression equation the value of the u's was determined by rerunning the regression using the appropriate values of R_i, R_m, α_i and β_i:

$$u_{it} = \ln R_{it} - (\alpha_i + \beta_i \ln R_{mt}),$$

where the symbols are as defined previously.

It will be noted that the market model used in this research does not contain a term to account for the industry effect on stock prices. The industry effect is generally ignored in research studying the market reaction to accounting information for three reasons: (1) there is a problem in operationalizing the concept of an industry and defining specific industry classifications that would be acceptable (as suggested in Brown and Ball (1967)); (2) it is felt that the industry effect is not significant (Baskin, 1962);[6] and (3) there were so few firms in most of the SIC industry classifications that abstracting industry effects could also reduce individual firm effects (see Appendix D for a classification of firms by their two-digit SIC code).

For the reasons discussed above, an industry term was not included in the market model. However, the method of determining the firms to be included in the control group, as explained in section 3.2, should minimize potential industry effects when portfolios made up of firms reporting extraordinary items are assigned to portfolios made up of firms not reporting extraordinary items. It must be noted that this method will not control for industry effects (if they exist) between extraordinary item portfolios.

To evaluate the reasonableness of defining week 0 as the week of expected market reaction to earnings announcements, the day of earnings announcement (in the WSJ) was determined. (A problem might arise, if, say, all earnings announcements appeared on Friday. Although

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[6]Two studies discussed in Section 2.2 (King, 1966 and Meyers, 1973) lend empirical support to this statement. In addition, Kaplan and Roll (1972, p. 245) reported that, in their study, the industry effect was negligible.

the market would be expected to react swiftly, the complete market reaction to the earnings announcement might not be manifested until Monday of the following week.) The number of firms announcing on each day appears in Appendix P. The problem described above does not appear to exist.

3.7 Evaluating Security and Portfolio Returns

An Abnormal Performance Index was constructed for each security:

$$API_{W,i} = \prod_{w=-52} e^{R_{i,w}} - \prod_{w=-52} e^{E(R_{i,w} \mid R_{m,w})}$$

where:

$API_{W,i}$ = Abnormal Performance Index for security i from week -52 through week W,[7]

$e^{R_{i,w}}$ = the natural anti-logarithm of the return on security i in week w,

$e^{E(R_{i,w}|R_{m,w})} = e^{(R_{i,w}-u_{i,w})}$ = the natural anti-logarithm of the (ex-post) expected rate of return on security i given the market return.

Firm's weekly API's were averaged by portfolio:

$$API_{W,p} = \frac{1}{N_p} \cdot \sum_{n=1}^{N_p} API_{W,i}$$

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[7]For purposes of the API, week 0 is defined as the week a firm's earnings were announced; hence week-52 is one year prior to earnings announcement.

where

$API_{W,p}$ = Abnormal Performance Index for portfolio p for week W,

N_p = number of firms in portfolio p.

Beaver and Dukes (1972) have explained the API as being the net proceeds that would be realized by pursuing a trading strategy based on forecast error.

If one had knowledge of the forecast error W weeks in advance of the announcement and if unexpected earnings changes are associated with unexpected price changes, the expected value of u_{iw} would be positive for firms with a positive forecast error because actual earnings would be greater than expected; the converse would be true for the expected value of u_{iw} for the negative forecast error group.

Assume that there exists a market for contracts in which an investor can buy and sell claims to deliver an amount equal to one dollar plus the expected return on security i, given the ex post value of the market return ($E(R_{i,w}|R_{m,w})$). For each security that has a positive forecast error, the investor will purchase one dollar of the security (take a "long" position on that security) and will sell a contract which promises to pay one dollar plus the conditional expected return on security i, at the time of the announcement of the earnings report (W weeks from now). The current price of such a contract will be one dollar exactly. Hence the proceeds from the short position in the contract can be used to pay for the long position. The investor has none of his own funds invested in security i. At the end of W weeks the investor will sell security i and use the proceeds to cover the short contract.

For those firms with negative forecast errors, exactly the opposite trading strategy would be executed; the investor would take a long position in the conditional return contract and would go short in the security itself. For the entire portfolio the net proceeds would be precisely the negative of the API. (Beaver and Dukes, 1972, p. 325.)[8]

3.8 Descriptive Statistics

In addition to the calculation of the API for each portfolio, the firms were classified within each portfolio by sign of their individual API's to see if there is a difference between the number of firms with positive or negative API's between portfolios. Either a chi square or Fischer exact probability test were used to test for significance.

The Kolmogorov-Smirnov two sample test (Siegel, 127-136) and the Kruskal-Wallis one-way analysis of variance by ranks test (Siegel, 184-194) were also used to compare API's at week zero for different combinations of firms.

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[8]Professor James C. McKeown is currently conducting research on the differences between the Beaver and Dukes API formulation (illustrated in Section 3.7) and the Ball and Brown API formulation (which would be (Ball and Brown, 1968,

$$API_W = \frac{1}{N} \sum_{n}^{N} \prod_{w=-52}^{W} (1+u_{nw})$$

p. 168)). His initial findings indicate that the Beaver and Dukes formulation has a constant negative bias of about 3%.

CHAPTER IV

RESULTS OF RESEARCH

4.1 Introduction

Chapter IV reports the outcome of the tests proposed in the preceding chapter.

4.2 Results of Tests

The major question which prompted this research was whether the securities market appears to react to firms' net income figures or income before extraordinary items. To investigate this question we examined the API's of companies that did and did not report extraordinary items.

The API's for the firms were calculated so as to provide " . . . an operational index of association between accounting data and security prices" (Beaver and Dukes, 1972, p. 326). In addition chi square, Kolmogrov-Smirnov and Kruskal-Wallis tests were made to further study the relationship between API's and earnings information.

4.2.a API and Statistical Tests by Model and Portfolio

Appendix Q lists all the API's for weeks -52 to +26 for each portfolio. Rather than engage in ex post suppositions of what information the market may have been impounding, given the movements of the API's for each portfolio, the API's at week zero were analyzed. Appendix Y contains the week zero API for the firms in this study.

Table 6 contains the API for each portfolio at week zero, the number of firms in each portfolio, the t value comparing the portfolio API (which is the mean of the firm API's at week zero) and the results of the Kruskal-Wallis test (Siegel, 184-194). The signs of the API's at week zero (except for model 2 portfolio 6, which was, however, negative for 38 weeks prior to week zero) are what we would expect if investors impounded net income "signals" during the year. The API's for portfolio 1 are significantly different from zero at the .01 level for two models (1 and 4) and at the .05 level for one model (3). Portfolios 3 and 4 are significantly different from zero for three models (1, 3 and 4) at the .01 level and portfolio 3 is significantly different from zero for model 2 at the .05 level. In addition, the Kruskal-Wallis statistic indicates that the API's at week zero within each of the four models differ significantly at less than the .05 level (although there is no significant difference between portfolios of like sign of e_t).

Since the API is a mean figure, it can be influenced by one or two extremely variant individual securities; therefore, Table 7 was prepared showing the number of firms reporting positive and negative API's at week zero for each model. This table shows that for portfolios 1, 3, 4 and 6 the sign of the API for the majority of the securities agreed with the sign of unexpected earnings after extraordinary items (e_t). Portfolio 5 results indicate that, as of week zero, the sign of the API for most of the securities agreed with the sign of e_t, while for portfolio 2 the results are mixed. For models 1 and 2 there were

TABLE 6

WEEK ZERO API BY PORTFOLIO

		Portfolio 1	2	3	4	5	6	H[a]	P[b]
Sign of:	e'	+	−	*	−	+	*		
	e	+	+	+	−	−	−		
Model									
1	$API_{0,p}$	0.229506	0.035348	0.187077	−0.094185	−0.062879	−0.081518	1.3485	0.518
	n	28	6	54	57	6	43	0.2330	0.897
	t	3.087[c]	0.421	4.012[c]	−3.191[c]	−1.025	−0.1861	34.7970	0.000
2	$API_{0,p}$	0.089085	0.030244	0.105390	−0.054400	−0.059450	0.014305	1.6907	0.435
	n	38	8	57	42	9	41	0.7194	0.704
	t	1.617	0.197	2.666[d]	−1.335	−0.832	0.232	12.4094	0.030
3	$API_{0,p}$	0.225241	0.169863	0.196516	−0.094185	−0.030566	−0.042443	0.4721	0.977
	n	22	10	45	57	8	53	1.3239	0.522
	t	2.463[d]	2.154	3.849[c]	−3.191[c]	−0.592	−1.010	31.4075	0.000
4	$API_{0,p}$	0.182004	0.132461	0.159608	−0.113049	−0.068812	−0.072389	0.0059	0.997
	n	33	8	59	51	6	39	0.1570	0.570
	t	2.814[c]	1.484	3.539[c]	−3.666[c]	−1.237	−1.559	30.4055	0.000

*No extraordinary items reported for firms in this portfolio.

[a]The Kruskal-Wallis statistic corrected for ties (API's within 5×10^{-5} of each other were arbitrarily decided to be ties). The first H statistic in each cell is a comparison of the API in portfolios 1, 2 and 3; the second H statistic in each cell is a comparison of the API's in portfolios 4, 5 and 6; the third H statistic in each cell is a comparison of the API's in all portfolios.

[b]The probability of exceeding H if the null hypothesis of identical populations is true.

[c]API's significantly different from zero using a two-tailed t-test at $\alpha = .01$.

[d]API's significantly different from zero using a two-tailed t-test at $\alpha = .05$.

TABLE 7

CLASSIFICATION OF FIRMS BY PORTFOLIO BY SIGN OF FIRM API AS OF WEEK ZERO

		Portfolio[a]					
		1	2	3	4	5	6
Sign of:	e_t'	+	-	*	-	+	*
Model	e_t	+	+	+	-	-	-
1	API+	19	3	39	19	2	17
	API-	9	3	15	38	4	26
		(-1.70)	(0.00)	(-3.13)	(-2.38)	(-0.41)	(-1.22)
2	API+	21	4	37	14	3	19
	API-	17	4	20	28	6	22
		(-0.49)	(0.00)	(-2.12)	(-2.01)	(-0.67)	(-0.31)
3	API+	14	7	33	19	3	23
	API-	8	3	12	38	5	30
		(-1.07)	(-0.95)	(-2.98)	(-2.38)	(-0.35)	(-0.82)
4	API+	21	5	38	16	1	17
	API-	12	3	21	35	5	22
		(-1.39)	(-0.35)	(-2.08)	(-2.52)	(-1.22)	(-0.64)

[a]The number in parenthesis is the Z statistic from the binomial test, corrected for continuity, of the null hypothesis that the proportions in the cell are equal to .5 (Siegel, 36-42); $_{.975}Z = \pm 1.96$.

*No extraordinary items reported for firms in this portfolio.

an equal number of firms agreeing with each of the unexpected income measures, but for models 3 and 4 most of the securities API's agreed with the sign of e_t. However, the Z statistic indicates that the only portfolios having observations significantly different from .5 at the .05 level are portfolios 3 and 4.

It was anticipated that a chi square test for 3 samples would be made on portfolios 1, 2 and 3; and on portfolios 4, 5 and 6 using the data presented in Table 7 to test the significance of the proportion of firms falling in each category. However, that could not be done

because the chi square test requires that the expected frequencies in each cell should not be too small. "When this requirement is violated, the results of the tests are meaningless. Cochran (1954) recommends that for χ^2 tests with df larger than 1 . . . fewer than 20 percent of the cells should have an expected frequency of less than 5. . . ." (Siegel, p. 178.) Since portfolios 2 and 5 would have had expected frequencies of less than 5, no comparison could be made between portfolios 1, 2 and 3 or between 4, 5 and 6.

As an alternative to the chi square test for 3 samples, the Fischer exact probability test (Siegel, 69-104) was made between <u>each</u> of the portfolios 1, 2 and 3; between <u>each</u> of the portfolios 4, 5 and 6; and between portfolios 2 and 4. The test determines whether the two portfolios differ in the proportion of positive API firms and negative API firms contained. The null hypothesis was that any two tested portfolios show equal proportions of positive and negative API. None of the statistics (see Table 8) were significant at the .05 level which leads to the conclusion that the proportion of firms whose API agreed in sign with e_t is not significantly different between each of portfolios 1, 2, or 3; between each of portfolios 4, 5 or 6; or between portfolios 2 and 4.

4.2.b <u>API and Statistical Tests of Portfolio Combinations</u>

To obtain a more comprehensive API measure, a composite API, like that used by Beaver and Dukes (1972), was constructed as follows (deleting the w subscript):

TABLE 8

FISCHER EXACT PROBABILITY TEST RESULTS ON CLASSIFICATION OF FIRMS BY PORTFOLIO BY SIGN OF FIRM API AS OF WEEK ZERO

	p Value for Model[a]			
Portfolios:	1	2	3	4
1 and 2	.3506	.5438	.5265	.6274
1 and 3	.4337	.2323	.2950	.5582
2 and 3	.2473	.3278	.5547	.6012
4 and 5	.6861	.6598	.5518	.4140
4 and 6	.3332	.1620	.18701	.1657
5 and 6	.5712	.3708	.5331	.2148
2 and 5	.5000	.4194	.1842	.1212

[a]Probability for a one-tailed test achieving a 2 x 2 matrix as extreme or more extreme than the one tested.

$$API_{(A,B)} = \frac{N(A)\cdot API(A) - N(B)\cdot API(B)}{N(A) + N(B)}$$

where:

$API_{(A,B)}$ = composite API composed of portfolios A and B,

A,B = portfolios (when A=1 then B=3, when A=2 then B=5, when A=3 then B=6),

N(A),N(B) = number of securities in portfolios A and B respectively

This form of average API would give a nonzero API if a positive association does exist between the forecast errors and the API's. Appendix R presents the composite API's for models 1-4. Models 1, 3 and 4 indicate that if one knew (at week -52) the composition of each composite portfolio and invested in the securities composing the composite portfolios (by buying long those securities in portfolio A and selling short those securities in portfolio B), he would be able to earn a return

above that on the market portfolio. In model 2 the composite API for portfolios 2 and 5 indicates that an investor could earn above average returns if he held the securities from week -52 to week 0, but after that there would be a risk of a negative return.

Table 9 contains the week zero composite API for the portfolio combinations along with their t and H statistics. For all models the smallest API is associated with the group composed of portfolios 1 and 4 (except for model 1). The t test indicates that all the composite week zero API for combinations 1 and 4, and 3 and 6 are significantly different from zero at the .01 level except for model 2. The Kruskal-Wallis test statistic shows that none of the API's are significantly different from each other in any given model.

As a further test, the portfolio combinations were tested to see if there were any differences between the combinations as to the number of times the sign of the individual securities API's agreed with the sign of e_t at week zero. Since the expected frequencies of all the cells were now greater than five, a chi-square test for three groups was made. As shown in Table 10 in all models the majority of the API's agree with e_t as of week zero. As the Z statistics indicate, the ratios of times firm API's agreed with e_t to the total in each cell are significantly different from .5 at the .05 level for all portfolio combinations except combination 2 and 5. The insignificant chi square statistics leads us to accept the null hypothesis that there is no difference in the proportions of security API's agreeing with e_t between the portfolios.

TABLE 9

WEEK ZERO API BY MODEL AND PORTFOLIO COMBINATIONS

	Portfolio Combinations 1 + 4	2 + 5	3 + 6	H^a	P^b
Sign of e_t'; and e_t	Agree	Differ	No E.I.		
1. API_0	.138761	.049114	.140283		
n	85	12	97	.959961	.623
t	4.339^c	0.987	4.290^c		
2. API_0	.070875	.045706	.055313		
n	80	17	98	.397539	.822
t	2.107^d	0.579	1.586		
3. API_0	.130681	.107953	.113191		
n	79	18	98	.051842	.975
t	3.900^c	2.119^d	3.388^c		
4. API_0	.140139	.105183	.124898		
n	84	14	98	.274979	.874
t	4.442^c	1.909	3.788^c		

[a]The Kruskal-Wallis statistic corrected for ties (API's within 5×10^{-5} of each other were arbitrarily decided to be ties).

[b]The probability of exceeding H if the null hypothesis of identical population is true.

[c]API's significantly different from zero using a one-tailed t-test at $\alpha = .01$.

[d]API's significantly different from zero using a one-tailed t-test at $\alpha = .05$.

TABLE 10

NUMBER OF TIMES THE SIGN OF FIRM API AGREES WITH THE SIGN OF e_t

Sign of e_t and e'_t:		Portfolio Combinations[a] 1 and 4 the same	2 and 5 opposite	3 and 6 no E.I.	Chi-square Test of Difference in Proportions Between Portfolios[b]
Model 1	Agree	57	7	65	
Sign of API at week 0 and e_t:	Disagree	28	5	32	0.400
		(-3.04)	(-0.29)	(-3.75)	
Model 2	Agree	49	10	59	
Sign of API at week 0 and e_t:	Disagree	31	7	39	0.045
		(-1.40)	(-0.49)	(-1.92)	
Model 3	Agree	52	12	63	
Sign of API at week 0 and e_t:	Disagree	27	6	35	0.065
		(-2.70)	(-1.18)	(-2.73)	
Model 4	Agree	56	10	60	
Sign of API at week 0 and e_t:	Disagree	28	4	38	0.919
		(-2.95)	(-1.34)	(-2.12)	

[a]The numbers in parentheses are the Z statistic from the binomial test, corrected for continuity, of the null hypothesis that the proportion in the cell is significantly different from .5; $_{.975}Z = \pm 1.96$.

[b]Chi-square significant at the .05 level for df = 2: 5.99.

4.2.c <u>API and Statistics Calculated by Sign of Net Extraordinary Item(s) and Whether the Firms Announced or Did Not Announce that They Would Report Extraordinary Item(s)</u>

The average API for firms that announced that items classified as extraordinary would be reported on their annual financial statements was calculated and compared to the average API for firms that did not announce this fact. A firm was classified in the "announced" group if, prior to week zero, there was notification in the Wall Street Journal that what would be reported as an extraordinary item had or would occur (i.e., a plant had been sold or would be sold in the current fiscal year). If a firm reported several extraordinary items, it was placed in the "announced" group if one or more of the extraordinary items was announced.

Appendix S contains a listing of these API's and shows that those firms that announced that they would report (at least) one extraordinary item were poorer performing firms on average, while those firms that did not announce performed somewhat better. Table 11 contains week zero statistics for these groups and shows that neither API is significantly different from zero using the t-test. Nor is the difference between them significant using the Kolmogrov-Smirnov two sample test.

To further analyze the announcement of extraordinary items and stock price movements, the API's were calculated for firms by the sign of their net extraordinary items and whether they announced or not. Appendix T shows the API for firms reporting net extraordinary losses classified by whether they announced or did not announce. This Appendix shows that firms reporting net extraordinary losses did not perform

TABLE 11

WEEK ZERO API FOR FIRMS ANNOUNCING AND NOT ANNOUNCING

	API_0	n[a]	t[b]	Z[c]	Probability[d]
Firms Announcing	-.026258	39	-0.458	1.023	.246
Firms Not Announcing	.358001	59 (-1.92)	-0.910		

[a]The number in parentheses is the Z statistic from the binomial test, corrected for continuity, of the null hypothesis that the proportion in the cell is significantly different from .5; $_{.975}Z = \pm 1.96$.

[b]API's not significantly different from zero at the .05 level.

[c]Z statistic calculated using the Kolmogrov-Smirnov two sample test.

[d]The probability of the statistic exceeding Z if the hypothesis of equality of the API's is true and the alternative is two sided.

well during the year for which the extraordinary items were reported. However, shortly after week zero, the API turned positive and stayed positive.

Appendix V contains the weekly API for those firms reporting net extraordinary gains that did and did not announce that they would have extraordinary items. It appears that firms that had net extraordinary gains and did not announce were "good" performing firms for the entire period while firms that had net extraordinary gains and did announce were "poor" performing firms. Perhaps firms that were not performing well thought they could improve investor expectations by announcing "good" news (at least news having a positive effect on current earnings per share). If this was their intent, it did not meet with much success. (See Appendix U for the ticker symbols of firms that

announced and did not announce classified by the sign of the net extraordinary items.)

Table 12 contains the week zero API's for the firms that announced and didn't announce classified by the sign of their net extraordinary items. The t-test indicates that none of the API are significantly different from zero at the .05 level. The Kolmogrov-Smirnov statistic indicates that the differences between API's within the net extraordinary gain and within its net extraordinary loss groups are not significantly different from each other at the .05 level.

TABLE 12

WEEK ZERO API FOR FIRMS ANNOUNCING OR NOT ANNOUNCING BY SIGN OF NET EXTRAORDINARY ITEMS

		Announced	Didn't Announce	Z^a	P^b
Net Extraordinary Gains	API_0	-.031919	.084613	.79401	.55
	n	16	29		
	t^c	-0.489	-1.538		
Net Extraordinary Losses	API_0	-.022280	-.018107	.89402	.40
	n	23	30		
	t^c	-0.255	-0.407		

[a]The value of the Kolmogrov-Smirnov statistic.

[b]The probability of the statistic exceeding Z if the hypothesis of equality of the API's is true and the alternative is two-sided.

[c]API's not significantly different from zero at the .05 level.

4.2.d API and Statistics by Sign and Materiality of Extraordinary Item(s)

Appendix W contains the average API for firms reporting net positive and net negative extraordinary items; each group was divided into two subgroups based on the materiality of the net extraordinary items reported. Materiality was measured by dividing the extraordinary items per share by the earnings per share before extraordinary items (three firms reporting negative earnings per share before extraordinary items were omitted from this analysis). The large, small classification was arbitrarily made by placing the half of the firms with the largest net extraordinary gain (loss) in the large gain (loss) group. The remainder of the firms were placed in the small gain (loss) group. In the case of an odd number of firms reporting extraordinary gains, the extra firm was placed in the small group. See Appendix X for the ticker symbols of firms in each classification.

It is interesting to note that firms reporting small net extraordinary items (either a gain or a loss) performed poorly up until about 16 weeks prior to earnings announcement; from that time on these securities performed well, especially those in the small extraordinary loss group. Firms that reported large extraordinary losses performed somewhat poorly during the entire period, while firms that reported large extraordinary gains fluctuated around zero during the year the extraordinary gain occurred, but in week +7 the API turned and stayed negative. However, as Table 13 shows, the API's were not significantly different from zero or from each other at week zero.

TABLE 13

WEEK ZERO API FOR FIRMS BY SIGN AND MATERIALITY OF NET EXTRAORDINARY ITEMS

		Large	Small	Z^a	P^b
Extraordinary Gain	API_0	- .038007	.048127	.65996	.78
	n	22	23		
	t^c	0.595	0.822		
Extraordinary Loss	API_0	- .066754	- .029194	.84044	.48
	n	25	25		
	t^c	-1.269	0.363		

[a]The value of the Kolmogrov-Smirnov statistic.

[b]The probability of the statistic exceeding Z if the hypothesis of equality of the API's is true and the alternative is two-sided.

[c]API's not significantly different from zero at the .05 level.

In an attempt to determine why firms reporting small extraordinary items performed better than those reporting large extraordinary gains in the weeks following week zero, Table 14 was constructed. It shows the percent of times that firms classified in the large, small materiality group were placed in each portfolio (summed across all four models).

The table may shed some light on why the small extraordinary loss group performed better than the large extraordinary loss group. A larger percent of the time the small extraordinary loss firms were classified in portfolio 1 and a fewer percent of the time in portfolios 4 or 5 as compared with the large extraordinary loss firms. Table 14, however,

TABLE 14

PORTFOLIO CLASSIFICATIONS FOR FIRMS BY SIGN AND MATERIALITY OF EXTRAORDINARY ITEMS[a]

	Portfolio 1	2	4	5
Sign of: e'	+	-	-	+
e	+	+	-	-
Extraordinary Gain:				
Large	43%	26%	30%	0
Small	47%	9%	43%	0
Extraordinary Loss:				
Large	6%	0	74%	20%
Small	30%	0	60%	9%

[a]Numbers in this table are the percent of times that firms were classified in a given portfolio (summed across all models). The rows may not total 100% because of firms classified in portfolios 7, 8, or 9.

does not shed any light on the differences in performance of the positive extraordinary item groups.

4.2.e Lag between Fiscal Year End and Earnings Announcement

Since there has been some interest expressed in the length of time taken to announce the annual earnings of a firm (Chapman), an analysis was made of the lag between fiscal year end and the earnings announcement date for the firms used in this study.

Chapman tested various hypotheses concerning the period between fiscal year end and earnings announcement dates. One hypothesis was that there is a difference in the amount of time required to release

"good" news, "bad" news and "no" news based on income before extraordinary items. In his study he found that there was no significant difference in the "lag" periods.

Chapman classified firms into "good," "bad," or "no" news groups if the ratio of actual earnings to expected earnings was >, <, ≃ 1 respectively. Chapman defined expected earnings as the mean projected annual EPS before extraordinary items as predicted by Standard & Poor's Earnings Forecaster. (The calculation used projections made after the contributors had access to a firm's third quarter earnings report.)

To see if his results held for the firms and the models used in this study, an ANOVA was made of the number of weeks between fiscal year end and the earnings announcement. The results (see Table 15) indicate there is no significant difference in the lag period between portfolios.

To test if the sign of extraordinary items influenced the lag (which we might expect if there were some disagreement between a firm's management and their auditors as to the amount of and/or classification of the item in question or if firms were reluctant to announce extraordinary losses), the length of time, in weeks, was examined. A summary of the data is presented in Table 16(A).

Table 16(B) contains the ANOVA statistics from the test of the lag data. The F ratio indicates that there is a significant difference, at the .06 level, between the three groups. To see which lags caused these results of the ANOVA, the Scheffe' method (Glass and Stanley, p. 388-397) of multiple comparisons was applied to the three groups. The results (shown in Table 16(C)) indicate that there is a difference at the .10 level in the lags for the net extraordinary loss group and both

TABLE 15

MEAN WEEKLY LAG BETWEEN FISCAL YEAR END AND EARNINGS ANNOUNCEMENT DATE BY PORTFOLIO

Model	Portfolio 1	2	3	4	5	6	F^a Ratio
1	6.21	7.00	6.06	6.82	6.17	6.44	0.64
2	6.50	5.75	6.16	6.95	6.67	6.29	0.64
3	6.27	6.20	5.80	5.07	6.63	6.57	0.89
4	6.39	6.25	6.10	7.06	6.00	6.38	0.92

[a] $_{.95}F_{5,188} = {}_{.95}F_{5,189} = {}_{.95}F_{5,190} = 2.26$

TABLE 16

TEST OF LAG BETWEEN FISCAL YEAR END AND EARNINGS ANNOUNCEMENT DATE FOR FIRMS REPORTING NET EXTRAORDINARY GAINS, NET EXTRAORDINARY LOSSES AND NO EXTRAORDINARY ITEMS

(A)

WEEKLY LAG BETWEEN FISCAL YEAR END AND THE EARNINGS ANNOUNCEMENT DATE

	No Extra-ordinary Items (n=98)	Net Extra-ordinary Gains (n=45)	Net Extra-ordinary Losses (n=53)
Mean Lag	6.2	6.0	7.2
Standard Deviation	2.4	2.8	2.4

(B)

ANOVA STATISTICS FOR THE TEST OF THE LAG PERIOD BETWEEN FISCAL YEAR END AND EARNINGS ANNOUNCEMENT DATE

Source	SS	df	MS	F Ratio
Between Groups	37.56	2	18.78	3.039
Within Groups	1192.83	193	6.18	

TABLE 16 (continued)

(C)

MULTIPLE COMPARISON OF LAG PERIODS USING
THE SCHEFFE' METHOD

Comparison between Groups Reporting	$\lvert\hat{\psi}/\hat{\sigma}_{\psi}\rvert^{b}$
No Extraordinary Item and Net Extraordinary Gains	0.45
Net Extraordinary Gains and Net Extraordinary Losses	2.40
No Extraordinary Items and Net Extraordinary Losses	2.35

[a] $_{.95}F_{2,193} = 3.04$

[b] $_{.90}F_{2,193} = 2.34$

the net extraordinary gain groups and the group that didn't report any extraordinary items.

The data used in Tables 15 and 16 were not tested to see if they satisfied the assumptions of normality and homogeneity of variance implicit in the one-way fixed-effects ANOVA because " . . . F tests are robust with respect to departures from homogeneity of variance" (Winer, 206) and "[m]any years of study have shown clearly that the effects of nonnormality of the nominal level of significance of the F-test are extremely slight" (Glass and Stanley, 372).

4.3 Summary of Research Results

Examination of the weekly API's for the four models leads to only tentative conclusions. The API's for all portfolios in all models (except one) had the sign that we would expect at week zero if the securities market impounded net income rather than income before

extraordinary items. The one exception was portolio 6 of model 2 which had a positive sign. Several of the API, at week zero, were significantly different from zero for portfolios 1, 3 and 4 using the two-tailed t-test. Within each model, the Kruskal-Wallis test indicated there was a significant difference in API at week zero between portfolios (although there was no significant difference between portfolios of like sign of e_t).

A study of the number of firms that had positive or negative week zero API by portfolio found that there was no significant difference in the ratios between portfolios for a given model.

The composite API's at week zero for portfolio combinations 1 and 4, and 3 and 6 were significantly different from zero at the .01 level (except for model 2). The Kruskal-Wallis statistic indicated that the portfolio combinations were not significantly different from each other within a given model.

A study of the number of firms that had positive or negative week zero API by portfolio combinations showed that there was no difference in the ratio between portfolio combinations for a given model.

The ratio of times that a firm's API agreed with the sign of e_t was significantly different from .5 at the .05 level for portfolio combinations 1 and 4, and 3 and 6.

The study of the week zero API for firms announcing or not announcing showed that firms not announcing had a higher API than those announcing, but the difference was not significant. A more detailed study of firms announcing or not announcing subclassified by (1) the sign of the net extraordinary items and (2) the materiality of the net

extraordinary items also showed no significant differences in week zero API's.

An investigation of the lag time between fiscal year end and earnings announcement date revealed no significant difference between portfolios for a given model. However, there was a difference (at the .10 level) between the group of firms reporting net extraordinary losses and both the groups of firms reporting net extraordinary gains and no extraordinary items.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The objective of this study was to determine if the securities market impounds net income or income before extraordinary items. This was accomplished partly by analyzing firms' API's.

Justification for such a study centered on a belief that more should be known about what affects investors' decisions, particularly in light of the AICPA's decision that firms should minimize the use of the extraordinary item classification on the income statement, and the findings of other studies that firms may try to influence investors' actions by manipulating extraordinary items.

Firms reporting extraordinary items were selected for inclusion in this study based on the following:

(1) the firm reported extraordinary item(s) in their fiscal year ended during the period January 1, 1967 (when APB Opinion No. 9 went into effect) through December 31, 1972 (the last date data were available),

(2) the firm reported no extraordinary item(s) for 3 years prior to and 2 years after the year in which the extraordinary item was reported,

(3) the firm did not restate past earnings or report an adjustment to retained earnings in the year the extraordinary item was reported,

(4) the net effect of two or more extraordinary items was not zero,

(5) the firm was listed on the NYSE for at least two years prior to the year the extraordinary item was reported, and

(6) there was no announcement of a change in the amount of dividends paid in the week the earnings was announced for the year the extraordinary item was reported.

Ninety-eight firms were found to meet the above criteria. For each firm that reported an extraordinary item, one "control" firm was selected from those firms that did not report an extraordinary item during the period 1967-1972. The control firms were selected by trying to select firms from the same industries as the firms reporting extraordinary items. These firms were subjected to these criteria:

(1) there was no restatement of earnings or adjustment to retained earnings in the year of interest (the year the corresponding extraordinary item firm reported its extraordinary item),

(2) the firm was on the NYSE at least two years prior to the year of interest, and

(3) there was no announcement of a change in the amount of dividend paid in the week the earnings for the year of interest was announced.

For all firms, reported weekly stock price data and dividend data were obtained and weekly price relatives were calculated. The price relatives were used to calculate an Abnormal Performance Index for each firm.

To obtain measures of expected earnings for the year of interest for the firms in the study, four expectation models were used. For each model, expected earnings was compared with the income number(s) reported

by the firms used in the study and the firms were placed in portfolios depending on the sign of their unexpected earnings. The signs of the unexpected earnings for each portfolio are shown in Table 17.

TABLE 17

SIGN OF UNEXPECTED EARNINGS IN EACH PORTFOLIO

	Portfolio Number					
	1	2	3	4	5	6
Unexpected Income before Extraordinary Item(s): e'_t	+	-	*	-	+	*
Unexpected Net Income: e_t	+	+	+	-	-	-

*No extraordinary items reported for this portfolio.

An API was calculated for each portfolio by averaging the individual firm's API's; in addition composite API's were calculated (by combining complementary portfolios within each model).

Analysis was also done on API's based on the sign of net extraordinary items, whether the extraordinary items were announced or not, and by the materiality of the net extraordinary items. In addition, an analysis was made of the lag between the fiscal year end and when earnings were announced.

Various statistical tests, including chi square, Fischer exact probability, Kolmogrov-Smirnov, and the Kruskal-Wallis one-way analysis of variance, were run on the data.

5.2 Limitations

There were rather severe criteria that firms had to meet to be included in this study. Therefore, one limitation is the generalizability of the results. One can only draw conclusions about those firms included in the study and about those investors entering into transactions involving those securities during the period studied.

The market model that was used to derive each security's u_{it} term includes several assumptions about investors' characteristics and securities market characteristics. To the extent that these assumptions led to a misspecification of the model, the results of this study are affected.

5.3 Conclusions

From an analysis of the API and the statistical tests performed the following conclusions were reached.

(1) There is some indication that the securities market impounds (or acts as if it relies more on) net income information rather than income before extraordinary items. This conclusion is based on the findings of Table 6 that the API for portfolios 2 and 5 have the same sign as e_t rather than the sign of e_t'. This conclusion must be considered very tentative, however, since (a) none of these portfolio API's are significantly different from zero, and (b) the proportion of firms in each of these portfolios whose API's agree in sign with e_t is not significantly different from .5.

(2) The evidence does not allow us to draw a firm conclusion regarding the information content of the extraordinary item category,

although the information content (if there is any) appears to be small. The reason for this ambiguous conclusion is because of the t and H statistics in Table 9 and the chi-square statistic in Table 10. Table 9 shows that for 3 models the composite API's for portfolio combinations 1 and 4, and 3 and 6 are significantly different from zero (at the .01 level) at week zero while none of the API's for portfolio combinations 2 and 5 are significant at that level. This implies that if e_t and e_t' are of different signs, the securities market reacts differently than if the signs agree or if there is no extraordinary item. However, since the API's across portfolio combinations for a given model are not significantly different from each other, we cannot place too much faith in that conclusion. Further, the chi-square statistic in Table 10 reveals that there is no significant difference, between portfolio combinations, of the proportion of times that the sign of a firm's e_t agrees with the sign of its API. (Although, for models 1, 3 and 4 the proportion of firms whose API sign agrees with their e_t sign is significantly different from .5 (at the .05 level) for portfolio combinations 1 and 4, and 3 and 6; while for portfolio combination 2 and 5 they are not. This most probably is the result of the small N in portfolio combination 2 and 5.)

(3) As Table 11 shows, more firms didn't announce that they would have items classified as extraordinary items than did announce (significant at the .07 level). This might be evidence that the majority of firms reporting extraordinary items did not feel that extraordinary items are of interest to investors.

(4) Firms announcing that they would report net positive extraordinary items had (insignificantly) lower API's than those firms that

didn't announce that they would have net positive extraordinary items. This leads to the tentative conclusion that those firms announcing tried (unsuccessfully) to favorably impress investors by announcing the positive item.

(5) Firms reporting net extraordinary losses had a longer lag time (significant at the .10 level) between fiscal year end and earnings announcement date than either firms reporting positive extraordinary items or firms not reporting extraordinary items. This could indicate that firms reporting net extraordinary losses either (1) take longer to prepare or have their financial statements audited or (2) try to delay issuing the financial statements containing the negative amount. Given the evidence collected, one cannot determine which conclusion to draw.

5.4 Recommendations for Future Research

Inasmuch as this study does not conclusively show that the extraordinary items classification has an effect on investor decisions, future research might study investor reactions to specific types of extraordinary items in an attempt to acertain if investors react differently to different types of extraordinary items. In addition it might have been fruitful to study investors' responses to various sized single (rather than net as used in this study) extraordinary items in order to empirically measure materiality. However, since the APB issued Opinion No. 30, the incidence of reported extraordinary items should decrease so as to negate the ability to obtain sufficient data to accomplish the above studies.

However, classification may not be that significant a factor in investors' decisions as long as disclosure is adequate. Further research

might investigate investors' decisions regarding post-APB Opinion 30 classifications as compared to pre-APB Opinion 30 classifications to see if classification of an item rather than the item itself is important.

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APPENDICES

APPENDIX A

DATA GATHERING SHEETS

FIRM NAME:_____

		Card Column
	Ticker Listing:----	1-4
	Card Number: 1	5
	Year:--	6,7
	Industry:----	8-11
Reported Primary Earnings per Share (Before Extraordinary Items, if Reported)	1964:-----	12-16
	1965:-----	17-21
	1966:-----	22-26
	1967:-----	27-31
	1968:-----	32-36
	1969:-----	37-41
	1970:-----	42-46
	1971:-----	47-51
	1972:-----	52-56
	Fiscal Year-End (Mo/Day):----	57-60
	Amount of Extraordinary Item (000):------	61-66
	Extraordinary Item per Share:-----	67-71
	Number of Extraordinary Items Reported:-	72
	Type of Extraordinary Item:--	73,74
	Type of Extraordinary Item:--	75,76
	Type of Extraordinary Item:--	77,78

	Card Column
Date on Financial Statements:------	
Date was on President's Letter (P) Auditor's Report (A) or Other (O)	
Ticker Listing:----	1-4
Card Number: 2	5
Date E. I. Reported in WSJ (Mo/Day/Yr): ------	6-11
Day E. I. Reported in WSJ (1=Mon,...,5=Fri):-	12
EPS Figure Reported in WSJ:	
(1) NI Before EI, (2) NI, (3) Both:-	13
If (1), Date NI Reported in WSJ (Yr/Mo/Day):------	14-19
Corresponding Day (1=Mon,..,5=Fri):-	20

APPENDIX B

FIRMS REPORTING EXTRAORDINARY ITEMS USED IN THIS STUDY

Firm Ticker Symbol	Firm Name
AA	Aluminum Co. of America
ABT	Abbott Laboratories
ACK	Armstrong Cork Co.
ACH	American Chain and Cable Co., Inc.
ACY	American Cyanamid Co.
ALS	Allied Stores
APX	Ampex Corp.
AVT	Avnet Inc.
BA	Boeing Co.
BAI	Basic Inc.
BDK	Black and Decker Mfg. Co.
BEC	Beckman Instruments
BFC	Buffalo Forge Co.
BIG	Big Three Inds.
BY	Bucyrus-Erie Co.
CAX	Conrac Corp.
CNF	Consolidated Freightways Inc.
CTS	CTS Corp.
CUM	Cummins Engine, Inc.
CV	Commercial Solvents Corp.
CWD	Conwood Corp.
DCS	Distillers Corp. - Seagrams Ltd.
DIS	Walt Disney Productions
DR	National Distillers & Chemical
DSP	Dentoply Intl. Inc.
DSH	Dennison Mfg. Co.
EHG	Englehard Minerals & Chemicals
FAM	Family Finance Corp.
FJQ	Fedders Corp.
FLD	Fieldcrest Mills
FMO	Federal-Mogul Corp.
GID	Giddings & Lewis Corp.
GLR	Grolier Inc.
GNN	Great Northern Nekosa Corp.
GO	Gulf Oil Corp.
GPO	Grant Portland Cement Co.
GSX	General Signal Corp.
GVL	Graniteville Co.
HAY	Hays Albion Corp.
HGH	Hughes & Hatcher Inc.
HLR	Heller (Walter E.) Intl. Corp.

APPENDIX B (continued)

Firm Ticker Symbol	Firm Name
JMD	Hammond Corporation
HNS	Hanes Corporation
HOB	Hobart Mfg. Co.
HPC	W. F. Hall Printing Co.
HTW	Houghton Mifflin Co.
IK	Interlake, Inc.
IKN	Inmont Corp.
KMB	Kimberley-Clark Corp.
KW	Kelsey Hayes Co.
LCS	Lone Star Inds.
LKS	Lucky Stores, Inc.
MB	Milton Bradley Co.
MHP	McGraw-Hill, Inc.
MKC	Marion Laboratories
ML	Martin-Marietta Corp.
MOT	Motorola, Inc.
MRP	Missouri Portland Cement Co.
MS	McCrory Corp.
MUN	Munsingwear Inc.
MYG	Maytag Co.
NRT	Norton Co.
OMK	Omark Inds., Inc.
PBI	Pitney Bowes, Inc.
PCT	Papercraft Corp.
PG	Proctor and Gamble Co.
PII	Pueblo Intl. Inc.
PRD	Polaroid Corp.
PSM	Pennewalt Corp.
RAD	Rite Aid Corp.
RAH	Robins (AH) Co.
RCC	Royal Crown Cola Co.
RES	Reliable Stores Corp.
RLM	Reynolds Metal Co.
ROF	Robertshaw Controls
RVB	Revere Copper & Brass Inc.
RXM	Richardson-Merrell, Inc.
SA	Safeway Stores, Inc.
SBC	Stokely-Van Camp Inc.
SDP	Standard Pressed Steel Co.
SPA	Sparton Corp.
TET	Texas Eastern Transmission
TFD	Thrifty Drug Stores
TG	Texas Gulf, Inc.
TGT	Tenneco Inc.
TNB	Thomas & Betts Corp.
UFG	U.S. Freight
UMT	UMC Inds.
UNC	United Nuclear Corp.

APPENDIX B (continued)

Firm Ticker Symbol	Firm Name
UPK	United Park City Mines Co.
USG	U.S. Gypsom Co.
W	Westvaco Corp.
WHR	Whirlpool Corp.
WKT	Wayne-Gossard Corp.
WU	Western Union Corp.
Z	Woolworth (FW) Co.
ZE	Zenith Radio Corp.

APPENDIX C

DATA COLLECTED FOR FIRMS REPORTING EXTRAORDINARY ITEMS

Firm Ticker	SIC Code	EPS for Years Prior to Year EI Reported 3 years	2 years	1 year	Per Share Data for Year Exc Item(s) Reported Income before Ext Item	Ext Item(s) (Net)	Codes of Reported Ext.Item(s)	Year 19__
AA	33	$4.93	$4.75	$5.58	$5.20	$- 88	22,22,66	70
ABT	28	2.04	2 10	2 35	2 58	-.21	69	69
ACK	25	1 50	1 26	1 35	1 22	1.03	14,14	69
ACN	35	2 02	2 42	1 94	1.61	-4.03	10,11,14	71
ACY	28	1.59	1.03	2 02	1 93	.11	12	70
ALS	53	2 95	3.01	3 26	3.00	-.44	10	69
AME	38	1 10	1.19	1.33	.76	-.56	10,11	70
APX	36	1 09	.80	1.35	1 34	- 21	19	70
AVT	36	1.21	1.38	1.02	.67	-.21	11,19	70
BA	37	3 84	.47	1 02	1.04	.91	71	71
BAI	32	73	1.11	62	.86	.30	51	68
BDK	35	1.58	1 84	2.03	2 15	-.11	30	68
BEC	38	1 44	1 81	1 23	1 34	-.09	30	69
BFC	35	2.40	2 30	2.44	2 74	.16	30	70
BIG	28	1.42	1 49	1 60	1 74	-.09	18	70
BY	35	1.35	2.26	2 51	1.86	15	72	67
CAX	36	1.42	2 16	2.22	1 25	-.16	19	68
CNF	42	1.70	2 20	2 02	2.41	.11	14	68
CTS	36	.97	1 38	2 15	1.78	.09	14	67
CUM	37	2.87	3.05	3.27	.62	.11	50	67
CV	28	1.42	.46	68	.25	-2.18	11,14,20	70
CWD	28	3 17	3 17	3 36	3.22	.52	12	70
DCS	20	2.69	2.89	3 04	3 23	52	16,30	70
DIS	78	1.81	2 87	3 08	2 52	.22	74	67
DR	20	1.55	1 61	1 26	1 31	-.32	21	69
DSP	38	1.90	2.22	2 32	2.42	.48	14	67
DSN	26	2.22	2.17	2.12	1 43	.10	14	69
ENG	50	1.15	1 25	1.30	1.09	-.12	16	71
FAM	61	1.70	1.70	1.17	1.04	-.14	20	71
FJQ	34	1 47	1.59	.55	2.14	-.09	18	67
FLD	22	2.70	2 28	2 21	2.22	.77	14	71
FMO	37	2.44	2 50	2 10	2.32	-.18	10,11	71
GID	35	1.72	1.34	82	- 56	-.42	10,12	70
GLR	27	3.40	4 01	4.40	3.73	-.48	30	67
GNN	26	3 87	4 24	4 60	4.56	.05	10,60	69
GO	29	3.81	4 12	4.87	5 48	.10	12,30	67
GPO	32	1.17	.92	.93	.55	-1.28	10	69
GSX	38	3.05	3.35	3.51	3.63	-.95	11,14,18	68
GVL	22	3 66	3.91	3.38	.97	.43	13	68
HAY	37	2.18	2.20	2.01	1.47	-.32	17,21	70
HLR	61	1.22	1.28	1 41	1.60	.12	14,14	70
HMD	39	1.26	1.47	1 30	68	-.83	11,11	71
HNS	23	1.95	2.09	1 03	1.33	.31	13	70
HOB	35	1.88	2.23	2.11	2.09	.49	12	68
HPG	27	3.26	3.29	3.06	3 38	-.53	14	69
HIN	27	.96	.84	.92	1.08	-.28	14,65	70

APPENDIX C (continued)

Firm Ticker	SIC Code	EPS for Years Prior to Year EI Reported 3 years	2 years	1 year	Per Share Data for Year Exc Item(s) Reported Income before Ext Item	Ext Item(s) (Net)	Codes of Reported Ext.Item(s)	Year 19__
IK	33	3.69	3.15	2.80	3 43	1.13	12,14,21	69
IKN	28	1 66	1.78	1.12	- 52	-1.85	10,11,14,20	70
KMB	26	1 97	2 31	1.64	1 35	-1.81	14,14,21	71
KW	37	3 22	3 74	3.46	2.17	-.44	18	70
LCE	32	1.73	1 77	1 65	1.42	-2.02	10	67
LKS	54	73	1 09	1.29	1 68	.15	12	70
MB	39	1.58	1 14	1.32	1 47	-.05	14	70
MHP	27	93	1.29	1 30	1.23	.06	13,30	67
MKC	28	.74	1.03	1.30	1.55	-.22	14,70	71
ML	37	1 35	1.49	1 92	1.64	.26	14	67
MOT	36	1.54	2 30	2 74	1.93	-.11	11	70
MRP	32	2.34	1 72	2 61	2.27	-.19	23	69
MS	56	1.70	1 81	2 27	2.32	18	12,14	69
MUN	23	3.28	3.12	3.13	2 39	.17	13,14	67
MYG	36	1 14	1 20	1 27	1.57	02	11	68
NRT	32	3 30	3.32	2.14	2 72	.32	16	68
OMK	35	1 25	1.65	1.43	.97	-.07	11,20,64	71
PBI	35	1 25	1 28	.91	87	-.03	10,11	71
PCT	26	.69	.86	1.01	1 00	-.05	22	67
PG	28	3.06	3.47	4 08	4 30	.46	14	68
PII	54	95	1.43	1 63	1.30	-.30	12,63	71
PRD	38	1.51	1 81	1.86	1.90	.04	51	69
PSM	28	2 58	2 46	1 81	1.20	-.04	14	70
RAD	59	.55	74	.98	1 28	.04	16	71
RAH	28	1.08	1 19	1 24	1.55	-.05	14	71
RCC	20	95	.96	.93	.61	-.30	14,69	69
RES	57	1.25	1.22	1 01	.93	.09	13	71
RLM	33	1.96	2.93	3 61	2.61	.29	12	67
ROF	38	1.26	1 75	2.18	1 60	-.25	10,14	70
RVB	33	1.68	2.10	4 03	3,47	.17	14,18,62	67
RXM	28	2.13	2 41	2.71	2 77	-.23	14,19	71
SA	54	2.35	2 00	2.16	2 01	.13	12	69
SBC	20	2.58	2.12	1.46	1.26	-.20	69	70
SDP	34	1.60	1.70	73	-1.10	-1.02	10,14,22	70
SPA	36	-.10	1.87	2.00	1.59	-.46	22	70
TET	49	1.49	1 58	1 72	1.94	.11	16	67
TFD	59	1.36	1.39	1.47	1.60	.18	12	70
TG	14	2.36	2.02	1.51	.83	-.15	13	71
TGT	99	1.70	1.88	1.95	2.21	.18	12	68
TNB	36	1.98	2 13	1.88	2.11	-.13	11	71
UFG	47	1.62	2.04	2.10	2.01	.28	12	68
UMT	35	.90	1.12	1.35	1.31	.22	12	35
UNC	10	1.23	1.01	.31	73	-.17	21	67
UPK	10	.04	-.08	.01	.05	.03	50	71
USG	32	3.65	3.90	3 46	2.20	.31	12,30	70
W	26	1 99	2.08	1.62	.46	-.10	10,11,15,16	71
WHR	36	2.86	3.10	3.90	3.01	-1.18	68	70
WKT	23	1.61	2.38	1 60	1.04	-.11	13	70
WU	48	2.29	2.30	2.46	1.61	.79	12	67
Z	53	2.31	2.32	2.52	2.50	-.19	14	71
ZE	36	2.50	2.08	1.30	1.65	.32	19,40	71

APPENDIX D

EXTRAORDINARY ITEMS REPORTED BY TYPE AND YEAR

Code for Extraordinary Item	1967	1968	1969	1970	1971	Total
10	1		3	5	4	13
11		2		5	8	15
12	4	3	3	6	1	17
13	2	1		2	2	7
14	5	3	7	9	8	32
15					1	1
16	1	1		1	3	6
17				1		1
18	2	1		2		5
19		1		2	2	5
20				2	2	4
21	1		2	1	1	5
22	1			5		6
23		1				1
30	3	1	1	3		8
40					1	1
50	1	1			1	3
60			1			1
62	1					1
63					1	1
64					1	1
65				1		1
66				1		1
67					1	1
68				1		1
69			2	1		3
70					1	1
71						1
72	1					1
74	1					1
Total	24	14	21	48	39	146
No. of Firms	19	12	15	31	21	98

APPENDIX E

CODES USED FOR EXTRAORDINARY ITEMS

SALE, DISPOSAL, OR ABANDONMENT OF ASSETS

10 Cost of plant, mine, store, division, or joint venture closing
11 discontinued operations
12 securities, investments, or joint ventures
13 fixed assets
14 subsidiary, division, plant, or store
15 involuntary conversion from flood, fire, hurricane, or accident
16 land, mine, well, or timberland
17 sale of product line
18 relocation costs
19 consolidation of operations

ADJUSTMENTS IN VALUATION BASIS

20 investments
21 fixed assets
22 provision of reserve for loss on sale of segment of business
23 intangibles

CURRENCY REVALUATION

30 currency revaluation

RESULTS OF LITIGATION

40 gains or losses from litigation

TAX ITEMS

50 operating loss carry-forward
51 tax adjustment item previously capitalized that should have been expensed

MISCELLANEOUS

60 partial liquidation of LIFO inventory
61 the firm's share of jointly owned company's or subsidiary's extraordinary item
62 unexpected start-up costs
63 investments in and advances to affiliated firm
64 payment of a liability at less than face value
65 operating results prior to the sale or discontinuance of a segment of the business
66 estimated cost of completing a contract
67 provision for loss on the abandonment of leased property
69 costs involved with the cyclamate ban
70 costs involved with the withdrawal of a tender offer or acquisition
71 recovery of cost share resulting from SST cancellation
72 forward sale of foreign currency
73 write off interest paid on money borrowed and advanced to a firm (Boeing) in connection with the purchase of three 747's when order cancelled. Interest was to be capitalized.
74 life insurance proceeds in excess of cash surrender value

APPENDIX F

CONTROL FIRMS USED IN THIS STUDY

Firm Ticker Symbol	Firm Name
APD	Air Products & Chemicals, Inc.
ARO	Aro Corp.
ARV	Arvin Inds. Inc.
AVP	Avon Products, Inc.
AXO	Akzons Inc.
BBL	Blue Bell, Inc.
BCR	Bard (CR) Inc.
BDX	Becton Dickinson & Co.
BER	Bearings, Inc.
BOU	Bourns Inc.
BRF	Borman's Inc.
BUR	Burlington Inds. Inc.
CAT	Caterpillar Tractor Co.
CCF	Cook United Inc.
CCK	Crown Cork & Seal Co., Inc.
CDD	Cunningham Drug Stores, Inc.
CLU	Cluett, Peabody * Co., Inc.
CNK	Crompton & Knowles Corp.
CPS	Columbia Pictures Inds. Inc.
CKF	Copeland Corp.
CRI	Collins Radio Co.
CRS	Carpenter Technology
CSK	Chesapeake Corp. of Va.
DFC	Dial Financial Corp
DML	Dan River Inc.
DNY	R.R.Donnelley Sons Co.
EAF	Emery Air Freight Corp.
EK	Eastman Kodak Co.
EOS	Edison Brothers Stores, Inc.
FBG	Faberge Corp.
FBO	Federal Paper Board Co.
FCF	First Charter Financial
FLT	Filtrol Corp. Del.
FOX	Foxboro Co.
FT	Freeport Minerals Co.
GAT	Gateway Inds. Inc.
GDC	Gardner-Denver Co.
GE	General Electric Co.
GLW	Corning Glass Works
GOR	Gordon Jewelry Corp.
GPC	Genuine Parts Co.
GQ	Grumman Corp.

APPENDIX F (continued)

Firm Ticker Symbol	Firm Name
HAL	Halliburton Co.
HIS	Siegel (Henry I) Co. Inc.
HZ	Hazeltine Corp.
IBM	International Business Machines Corp.
IR	Ingersoll-Rand Co.
JNJ	Johnson & Johnson
KEL	Keller Inds. Inc.
KG	Kresge (SS) Co.
KMT	Kennametal Inc.
KRA	Kraftco Corp.
LDN	Leeds & Northrup Co.
LZ	Lubizol Corp.
MDC	Maryland Cup Corp.
MF	Marshall Field & Co.
MFS	Mountain Fuel Supply Co.
MMM	Minnesota Mining & Mfg. Co.
MRS	Morse Shoe Inc.
MRY	Mallory (PR) & Co.
N	International Nickel Co. of Canada
NS	National Steel Corp.
NSC	National Starch & Chemical
NSD	National Standard Co.
NSW	Northwestern Steel & Wire Co.
NWA	Northwest Airlines Inc.
OVT	Overnite Trans. Co.
PAC	Pacific Telephone & Telegraph Co.
PH	Parker-Hannifin Corp.
PDN	Perkin Elmer Corp.
PRN	Puerto Rican Cement Co., Inc.
PTC	Pacific Tin Consolidated Corp.
RG	Rheingold Corp.
RHR	Rohr Inds.
RTX	Riegel Textile Corp.
SBI	Sterchi Brothers Stores Inc.
SCO	Scovill Manufacturing Co.
SCX	Starrett (L.S.) Co.
SFN	Scott Foresman
SIM	Simmons Co.
SJM	Smucker (J.M.) Co.
SKC	Skill Corp.
SKL	Smith Kline & French Lab
SNK	Swank, Inc.
SRL	Searle (G.D.) * Co.
STO	Stone Container Corp.
SUO	Shell Oil Co.

APPENDIX F (continued)

Firm Ticker Symbol	Firm Name
SY	Sperry Rand Corp.
T	American Telephone & Telegraph Co.
TRW	TRW Inc.
TXW	Texas Instruments, Inc.
UCC	Union Camp Corp.
VFC	V.F. Corp.
WIN	Winn-Dixie Stores, Inc.
WJ	Watkins-Johnson Co.
WPM	West Point-Pepperell Mfg.
WSS	Washington Steel Corp.
X	U.S. Steel Corp.

APPENDIX G

DATA COLLECTED FOR FIRMS NOT REPORTING EXTRAORDINARY ITEMS

Firm Ticker	SIC Code	EPS for Years Prior to Year of Interest 3 years	2 years	1 year	EPS for Year of Interest	Year
APD	28	2.03	2.15	2.35	2.60	70
ARO	35	2.25	2.01	1.92	1.92	70
ARV	38	1.88	2.48	2.09	.98	71
AVP	28	1.24	1.46	1.72	1.89	71
AXO	28	2.91	3.60	2.01	3.67	68
BBL	23	2.25	2.50	3.13	3.81	70
BCR	28	.93	.91	1.20	1.35	71
BDX	28	.77	.86	1.01	1.08	70
BER	37	3.03	3.20	3.76	4.10	70
BOU	36	.91	1.12	1.02	1.24	68
BRF	54	1.67	1.20	1.52	1.55	70
BUR	22	3.12	3.01	2.73	1.52	71
CAT	35	2.80	2.64	1.87	2.14	68
CCF	54	1.86	2.26	2.62	1.91	71
CCK	32	3.55	4.02	4.53	5.03	68
CDD	59	.92	.93	1.10	-.70	70
CLU	23	1.37	1.66	1.61	1.70	67
CNK	35	1.13	1.46	1.69	1.48	70
CPS	78	1.48	.93	1.05	2.77	67
CRF	34	1.62	2.09	2.54	2.64	67
CRI	36	1.08	2.04	3.36	4.42	67
CRS	33	2.59	3.46	3.67	2.80	68
CSK	26	3.59	2.63	2.35	2.43	69
DFC	61	1.12	.89	1.07	1.38	71
DML	22	2.55	2.73	1.40	1.34	68
DNY	27	1.14	1.07	1.10	1.19	70
EAF	47	.74	.76	.88	1.13	68
EK	38	2.19	2.33	2.49	2.50	70
EOS	56	2.62	2.15	2.03	2.40	72
FBG	28	1.68	1.50	1.67	.41	70
FBO	26	2.45	2.26	2.11	2.47	72
FCF	61	1.22	1.63	2.54	2.50	70
FLT	28	.66	1.10	1.12	1.46	70
FOX	38	2.24	.58	1.05	1.31	70
FT	14	2.61	1.84	1.02	.85	71
GAT	37	1.60	1.06	.40	.80	71
GDC	35	2.43	2.85	2.86	2.54	71
GDC	35	2.43	2.85	2.86	2.54	71
GE	36	4.01	3.95	3.07	3.63	70
GLW	32	7.90	7.25	6.79	7.26	69
GOR	59	.99	1.10	.94	1.09	71
GPC	50	1.24	1.40	1.73	2.14	71

APPENDIX G (continued)

Firm Ticker	SIC Code	EPS for Years Prior to Year of Interest 3 years	2 years	1 year	EPS for Year of Interest	Year
GQ	.37	1.55	3.03	3.95	3.04	67
HAL	35	2.68	3.15	2.69	3.23	71
HIS	23	1.75	2.07	2.36	1.44	67
HZ	36	.29	.40	1.30	1.63	68
IBM	35	4.40	4.71	5.81	7.71	68
IR	35	2.51	3.31	3.84	3.82	67
JNJ	28	2.02	2.27	2.73	3.21	69
KEL	34	1.86	2.63	1.50	1.45	70
KG	53	1.39	1.57	1.86	2.56	72
KMT	33	2.64	3.36	2.10	2.00	69
KRA	20	2.55	2.65	2.67	2.69	69
LDN	36	1.80	1.60	1.47	1.62	70
LZ	28	1.26	1.67	1.79	2.17	70
MDC	26	1.58	1.89	2.17	2.21	67
MF	53	3.66	3.88	4.10	3.98	69
MFS	49	2.48	2.40	2.08	2.06	67
MMM	38	1.92	2.18	2.59	2.74	67
MRS	56	1.60	1.95	2.14	2.51	68
MRY	36	3.90	4.21	3.91	2.62	70
N	10	1.93	1.56	2.80	1.26	71
NS	33	5.41	5.55	4.55	4.40	67
NSC	20	1.35	1.54	1.37	1.54	70
NSD	33	1.50	1.61	1.69	1.84	69
NSW	33	1.95	3.02	4.24	5.88	67
NWA	45	4.99	5.81	6.42	5.47	68
OVT	42	2.26	2.06	2.73	2.52	68
PAC	48	1.38	1.30	1.30	1.26	67
PH	35	3.00	3.51	3.15	2.13	71
PKN	38	.66	.73	.84	.94	68
PRN	32	1.98	2.20	2.34	2.24	67
PTC	10	1.25	1.51	1.51	1.10	67
RG	20	1.69	-.07	1.42	1.72	69
RHR	37	.87	1.61	1.97	.90	67
RTX	22	2.93	3.02	1.77	.47	69
SBI	57	.93	.97	.91	.75	71
SCO	36	1.79	1.96	1.54	1.77	71
SCX	39	2.05	2.09	1.86	1.94	70
SFN	27	1.35	1.55	1.10	1.17	69
SIM	25	2.75	2.49	3.02	3.27	69
SJM	20	1.58	1.61	1.65	1.39	70
SKC	35	1.53	1.81	2.12	1.42	67
SKL	28	2.92	2.81	3.01	3.09	71
SNK	39	1.92	1.68	1.42	1.51	70

APPENDIX G (continued)

Firm Ticker	SIC Code	EPS for Years Prior to Year of Interest 3 years	2 years	1 year	EPS for Year of Interest	Year
SRL	28	1.93	1.96	2.08	2.32	70
STO	26	1.20	1.08	.72	.45	71
SUO	29	3.27	3.85	4.19	4.66	67
SY	36	1.94	2.26	2.37	2.11	71
T	48	3.24	3.41	3.69	3.79	67
TRW	37	2.13	2.36	2.40	1.92	71
TXN	36	2.11	2.41	3.06	2.71	70
UCC	26	1.91	1.62	1.76	2.03	69
VFC	23	1.97	2.08	2.22	2.47	71
WIN	54	1.95	2.11	2.18	2.60	71
WJ	36	1.01	.66	.97	1.09	71
WPM	22	4.57	4.15	3.11	2.55	69
WSS	33	1.67	1.49	1.43	2.01	70
X	33	3.19	4.69	4.01	2.72	70

APPENDIX H

INDUSTRY ASSOCIATED WITH TWO-DIGIT STANDARD INDUSTRIAL CODE (1972)

Code	Industry
Mining	
10	Metal Mining
14	Mining and quarrying of nonmetallic metals, except fuels
Manufacturing	
20	Food and kindred products
22	Textile manufacturers
23	Apparel and other finished products made from fabrics and similar materials
25	Furniture and fixtures
26	Paper and allied products
27	Printing, publishing, and allied industries
28	Chemicals and allied products
29	Petroleum refining and related industries
32	Stone, clay, glass, and concrete products
33	Primary metal industries
34	Fabricated metal products, except machinery and transportation equipment
35	Machinery, except electrical
36	Electrical and electronic machinery, equipment, and supplies
37	Transportation equipment
38	Measuring, analyzing, and controlling instruments; photographic, medical and optical goods; watches and clocks
39	Miscellaneous manufacturing industries
Transportation, communications, electric, gas and sanitary services	
42	Local and suburban transit and interurban highway passenger transportation
46	Water transportation
47	Transportation services
48	Communication
49	Electric, gas, and sanitary services
Wholesale trade	
53	General merchandise stores
54	Food stores
56	Apparel and accessory stores
57	Furniture, home furnishings, and equipment stores
59	Miscellaneous retail
Finance, insurance, and real estate	
61	Banking
Services	
78	Motion pictures
Nonclassifiable establishments	
99	Nonclassifiable establishments

APPENDIX I

REJECTED INCOME EXPECTATION MODELS

Three earnings expectation models that have been used in previous studies are:

Model 5: $E(X_t) = a_1 + b_1 Y$,

Model 6: $E(X_t) = a_o + b_o X_{mt}$,

Model 7: $E(X_t) = (1/N) \left(\sum_{j=1}^{N} X_{t-j} \right)$,

where

X_{mt} = a market-wide index of earnings in period t (defined as Standard and Poor's Industrial Average Earnings per Share),

Y = earnings for the three years prior to year t,

a_o, b_o = intercept and slope reflecting the linear relationship between X_t and X_{mt},

a_1, b_1 = intercept and slope reflecting the linear relationship between X_t and Y.

Model 5 was used by Cummings (1973) as one of his models. It calculates earnings as a linear trend based on the earnings for the three years prior to year t. It was not used as an expectation model in this research for two reasons. (1) It uses only three data points in calculating the regression; this is not nearly enough to establish a meaningful serial relationship for the firm's earnings; (2) Intuitively, one would question the necessity for the model; if there is a linear

trend in a firm's earnings it will be captured in Model 1; if there is no linear trend it is not an appropriate model. In fact, 92 of the EI group firms and 93 of the control group firms would have been classified into the same portfolios using Model 5 as they were using Model 1.

Model 6 calculates earnings based on the linear regression with Standard and Poors (S&P) Industrial Average Earnings per Share. The values for a_o and b_o would be calculated for each firm by regressing the firm's earnings for each of the three years prior to the year of interest against the corresponding S&P Industrial Average Earnings per Share for each year. This model was used by Ball and Brown (1968) and a form of the model was used by Beaver and Dukes (1972).

The model was not used in this study because, like Model 5, there are only three data points for construction of the coefficients in the regression (Ball and Brown used at least twenty points in their 1968 study). Further, one is led to question whether this expectation model is valid to use in comparison with the other models being used since the model predicts earnings based on the index for the year earnings are being forecasted, hence, it is not forecasting based on comparable data with the other models.

Model 7 predicts earnings as the simple average of the earnings from the past three years. This was one of the models used by Beaver and Dukes (1972) although they did not use it in their follow-up research (Beaver and Dukes, 1973). The model was not used in this research because of its lack of intuitive appeal and because of the similarity between the model and model 2, which forecasts earnings based on a pure mean reverting process.

APPENDIX J

EARNINGS FORECASTS AND PORTFOLIO CLASSIFICATION BY MODEL FOR FIRMS REPORTING EXTRAORDINARY ITEMS

Firm Ticker	Model 1	2	3	4
AA	5.90 / 4	5.25 / 4	5.97 / 4	5.72 / 4
ABT	2.50 / 5	2.19 / 1	2.52 / 5	2.46 / 5
ACK	1.27 / 2	1.42 / 2	1.29 / 2	1.23 / 2
ACN	1.90 / 4	1.98 / 4	1.94 / 4	2.04 / 4
ACY	2.23 / 4	1.80 / 1	2.28 / 4	2.26 / 4
ALS	3.41 / 4	3.10 / 4	3.43 / 4	3.37 / 4
AME	1.44 / 4	1.21 / 4	1.46 / 4	1.42 / 4
APX	1.48 / 4	1.22 / 5	1.63 / 4	1.34 / 8
AVT	0.92 / 4	1.11 / 4	0.96 / 4	1.02 / 4
BA	-0.39 / 1	2.43 / 4	1.17 / 2	-1.05 / 1
BAI	0.56 / 1	0.67 / 1	0.64 / 1	0.72 / 1
BDK	2.25 / 4	1.80 / 1	2.30 / 4	2.25 / 4
BEC	1.12 / 1	1.33 / 5	1.19 / 1	1.29 / 5
BFC	2.46 / 1	2.42 / 1	2.46 / 1	2.42 / 1
BIG	1.69 / 5	1.51 / 1	1.70 / 5	1.68 / 5
BY	3.09 / 4	1.93 / 2	3.49 / 4	3.20 / 4
CAX	2.62 / 4	1.82 / 4	2.83 / 4	2.73 / 4
CNF	2.18 / 1	1.86 / 1	2.23 / 1	2.29 / 1
CTS	2.74 / 4	1.56 / 1	3.70 / 4	2.68 / 4
CUM	3.47 / 4	3.07 / 4	3.49 / 4	3.46 / 4
CV	0.31 / 4	1.05 / 4	0.61 / 4	0.11 / 5
CWD	3.45 / 2	3.26 / 2	3.46 / 2	3.41 / 2
DCS	3.21 / 1	2.86 / 1	3.23 / 8	3.21 / 1
DIS	3.71 / 4	2.44 / 1	4.09 / 4	3.34 / 4
DR	1.11 / 5	1.40 / 4	1.15 / 5	1.19 / 5
DSP	2.53 / 2	2.11 / 1	2.57 / 2	2.56 / 2
DSN	2.07 / 4	2.17 / 4	2.07 / 4	2.07 / 4
ENG	1.37 / 4	1.22 / 4	1.38 / 4	1.37 / 4
FAM	0.90 / 7	1.43 / 4	0.99 / 5	1.00 / 5
FJQ	0.09 / 1	1.01 / 1	0.39 / 1	0.28 / 1
FLD	1.96 / 1	2.45 / 2	2.80 / 1	1.91 / 1
FMD	1.93 / 5	2.27 / 5	1.96 / 5	2.00 / 5
GID	0.37 / 4	1.27 / 4	0.97 / 4	0.39 / 4
GLR	4.90 / 4	3.90 / 4	5.01 / 4	4.93 / 4
GNN	4.96 / 4	4.23 / 1	5.02 / 4	4.95 / 4
GO	5.40 / 1	4.34 / 1	5.51 / 2	5.32 / 1
GPO	0.81 / 4	1.05 / 4	0.84 / 4	0.76 / 4
GSX	3.74 / 4	3.28 / 5	3.77 / 4	3.76 / 4

APPENDIX J (continued)

Firm Ticker	Model 1	2	3	4
GVL	3.24 / 4	3.52 / 4	3.23 / 4	3.37 / 4
HAY	1.92 / 4	2.09 / 4	1.93 / 4	1.97 / 4
HGH	1.29 / 4	1.27 / 4	1.30 / 4	1.35 / 4
HLR	1.50 / 1	1.31 / 1	1.52 / 1	1.48 / 1
HMD	1.32 / 4	1.28 / 4	1.33 / 4	1.38 / 4
HNS	0.57 / 1	1.49 / 2	0.81 / 2	0.77 / 1
HOB	2.22 / 2	1.99 / 1	2.25 / 2	2.29 / 2
HPG	2.96 / 5	3.16 / 5	2.97 / 5	3.00 / 5
HTN	0.90 / 5	0.94 / 5	0.91 / 5	0.86 / 5
IK	2.36 / 1	3.24 / 1	2.44 / 1	2.33 / 1
IKN	0.85 / 4	1.39 / 4	0.95 / 4	0.98 / 4
KMR	1.47 / 4	1.80 / 4	1.54 / 4	1.65 / 4
KW	3.58 / 4	3.34 / 4	3.61 / 4	3.71 / 4
LCE	1.61 / 4	1.69 / 4	1.61 / 4	1.63 / 4
LKS	1.57 / 1	1.01 / 1	1.23 / 2	1.59 / 1
MB	1.19 / 1	1.45 / 5	1.24 / 1	1.08 / 1
MHP	1.48 / 4	1.11 / 1	1.36 / 4	1.53 / 4
MKC	1.59 / 4	1.02 / 1	1.73 / 4	1.58 / 4
ML	2.20 / 4	1.63 / 1	2.30 / 4	2.14 / 4
MOT	3.34 / 4	2.14 / 4	3.68 / 4	3.39 / 4
MRP	2.74 / 4	2.47 / 4	2.94 / 4	2.48 / 4
MS	2.55 / 4	1.98 / 1	2.63 / 4	2.48 / 2
MUN	3.05 / 4	3.20 / 4	3.06 / 4	3.03 / 4
MYG	1.33 / 1	1.20 / 1	1.34 / 1	1.32 / 1
NRT	1.56 / 1	2.72 / 8	1.77 / 1	1.76 / 1
OMK	1.52 / 4	1.34 / 4	1.56 / 4	1.62 / 4
PBI	0.74 / 1	1.08 / 4	0.79 / 1	0.80 / 1
PCT	1.17 / 4	0.85 / 1	1.22 / 4	1.17 / 4
PG	4.59 / 2	3.57 / 1	4.78 / 2	4.55 / 2
PII	1.97 / 4	1.29 / 5	2.16 / 4	2.01 / 4
PRD	2.03 / 4	1.68 / 1	2.07 / 4	2.06 / 4
PSM	1.42 / 4	2.19 / 4	1.53 / 4	1.52 / 4
RAD	1.19 / 1	0.76 / 1	1.31 / 2	1.17 / 1
RAH	1.32 / 1	1.16 / 1	1.33 / 1	1.33 / 1
RCC	0.92 / 4	0.94 / 4	0.92 / 4	0.89 / 4
RES	0.89 / 1	1.13 / 4	0.91 / 4	0.92 / 1
RLM	4.43 / 4	2.78 / 2	4.92 / 4	4.47 / 4
ROF	2.64 / 4	1.72 / 4	2.82 / 4	2.65 / 4
RVB	5.20 / 4	2.85 / 1	6.39 / 4	4.94 / 4
RXM	3.00 / 4	2.42 / 1	3.00 / 4	2.99 / 4
SA	2.06 / 2	2.25 / 4	2.09 / 2	1.99 / 1
SBC	0.90 / 1	2.02 / 4	1.10 / 5	0.93 / 1

APPENDIX J (continued)

Firm Ticker	Model 1	2	3	4
SDP	0.29 / 4	1.16 / 4	0.44 / 4	0.48 / 4
SPA	3.05 / 4	0.95 / 1	-17.63 / 1	3.36 / 4
TET	1.83 / 1	1.60 / 1	1.85 / 1	1.81 / 1
TFD	1.52 / 1	1.41 / 1	1.53 / 1	1.50 / 1
TG	1.08 / 4	1.93 / 4	1.21 / 4	1.12 / 4
TGT	2.07 / 1	1.82 / 1	2.09 / 1	2.08 / 1
TNB	1.83 / 1	1.93 / 1	1.84 / 1	1.89 / 1
UFG	2.34 / 4	1.86 / 1	2.40 / 4	2.40 / 4
UMT	1.57 / 4	1.12 / 1	1.65 / 4	1.56 / 4
UNC	-0.15 / 1	0.77 / 4	0.17 / 1	-0.07 / 1
UPK	0.00 / 1	0.02 / 1	-0.01 / 1	-0.03 / 1
USG	3.36 / 4	3.55 / 4	3.38 / 4	3.49 / 4
W	1.43 / 4	1.80 / 4	1.48 / 4	1.53 / 4
WHR	4.42 / 4	3.38 / 4	4.57 / 4	4.32 / 4
WKT	1.59 / 4	1.60 / 4	1.73 / 4	1.86 / 4
WU	2.54 / 4	2.37 / 2	2.55 / 4	2.51 / 4
Z	2.62 / 4	2.41 / 5	2.63 / 4	2.58 / 4
ZE	0.70 / 1	1.90 / 2	4.95 / 1	0.76 / 1

APPENDIX K

EARNINGS FORECASTS AND PORTFOLIO CLASSIFICATION BY MODEL FOR FIRMS NOT REPORTING EXTRAORDINARY ITEMS

Firm Ticker	Model 1	2	3	4
APD	2.51 / 3	2.19 / 3	2.33 / 3	2.49 / 3
ARO	1.75 / 6	2.08 / 6	1.77 / 6	1.74 / 6
ARV	2.19 / 6	1.98 / 6	2.26 / 6	2.35 / 6
AVP	1.96 / 6	1.48 / 3	2.43 / 6	1.95 / 6
AXO	1.56 / 3	2.46 / 3	1.80 / 3	1.94 / 3
BBB	3.57 / 3	2.69 / 3	3.70 / 3	3.50 / 3
CR	1.33 / 3	1.06 / 3	1.38 / 6	1.27 / 3
BDX	1.13 / 6	0.89 / 3	1.16 / 6	1.12 / 6
BEF	4.12 / 6	3.39 / 3	4.17 / 6	4.05 / 3
BOU	1.07 / 3	0.96 / 3	1.00 / 3	1.11 / 3
BRF	1.44 / 3	1.59 / 6	1.52 / 3	1.32 / 3
BUR	2.53 / 6	2.92 / 6	2.55 / 6	2.57 / 6
CAT	1.40 / 3	2.33 / 6	1.54 / 3	1.51 / 3
CCF	3.00 / 6	2.24 / 6	3.11 / 6	3.00 / 6
CCK	5.02 / 3	4.04 / 3	5.12 / 6	5.01 / 3
CDD	1.19 / 6	1.01 / 6	1.21 / 6	1.16 / 6
CLU	1.73 / 6	1.49 / 3	1.76 / 6	1.78 / 6
CNK	1.97 / 6	1.41 / 3	2.07 / 6	1.98 / 6
CPS	0.83 / 3	1.26 / 3	0.92 / 3	0.73 / 3
CRF	3.00 / 6	2.08 / 3	3.18 / 6	3.00 / 6
CRI	4.50 / 6	2.22 / 3	5.94 / 6	4.44 / 6
CRF	4.21 / 6	3.13 / 6	4.40 / 6	4.32 / 6
CSK	1.73 / 3	2.97 / 6	2.91 / 3	1.61 / 3
DFC	1.04 / 3	1.09 / 3	1.07 / 3	0.98 / 3
DML	0.82 / 3	1.97 / 6	1.11 / 3	1.08 / 3
DNY	1.08 / 3	1.12 / 3	1.48 / 3	1.06 / 3
EAF	0.95 / 3	0.81 / 3	0.96 / 3	0.93 / 3
EK	2.64 / 6	2.34 / 3	2.66 / 3	2.63 / 6
EDS	1.73 / 3	2.32 / 3	1.79 / 3	1.68 / 3
FBG	1.66 / 6	1.67 / 6	1.68 / 6	1.61 / 6
FBO	1.94 / 3	2.28 / 3	1.96 / 3	1.93 / 3
FCF	3.20 / 6	1.88 / 3	3.68 / 6	3.11 / 6
FLT	1.35 / 3	0.89 / 3	1.50 / 6	1.42 / 3
FOX	0.45 / 3	1.64 / 6	1.08 / 3	0.11 / 3
FT	0.22 / 3	1.81 / 6	0.64 / 3	0.24 / 3
GAT	-0.20 / 3	1.00 / 6	0.21 / 3	-0.18 / 3
GDC	3.07 / 6	2.64 / 6	3.11 / 6	3.13 / 6
GE	2.60 / 3	3.54 / 3	2.71 / 3	2.73 / 3
GLW	6.23 / 3	7.34 / 6	6.30 / 3	6.21 / 3

APPENDIX K (continued)

Firm Ticker	Model 1	2	3	4
GOR	0.91 / 3	0.96 / 3	0.92 / 3	0.97 / 3
GPC	1.97 / 3	1.48 / 3	2.05 / 3	1.93 / 3
GO	5.15 / 6	2.75 / 3	6.44 / 6	5.24 / 6
HAL	2.69 / 3	2.68 / 3	2.72 / 3	2.84 / 3
HIS	2.66 / 6	2.05 / 6	2.74 / 6	2.66 / 6
HZ	1.80 / 6	0.79 / 3	3.01 / 6	1.67 / 6
IBM	6.51 / 3	5.10 / 3	6.69 / 6	6.37 / 3
IR	4.50 / 6	3.17 / 3	4.76 / 6	4.54 / 6
JNJ	3.08 / 3	2.37 / 3	3.18 / 3	3.04 / 3
KEL	1.32 / 3	1.68 / 6	1.49 / 6	1.63 / 6
KG	2.09 / 3	1.62 / 3	2.16 / 3	2.06 / 3
KMT	1.83 / 3	2.37 / 6	1.99 / 3	2.16 / 6
KRA	2.73 / 6	2.61 / 3	2.73 / 6	2.74 / 6
LDN	1.30 / 3	1.63 / 6	1.33 / 3	1.30 / 3
LZ	2.05 / 3	1.52 / 3	2.75 / 3	2.09 / 3
MDC	2.46 / 6	1.87 / 3	2.54 / 6	2.46 / 6
MF	4.32 / 6	3.88 / 3	4.34 / 6	4.32 / 6
MFS	1.88 / 3	2.28 / 6	1.91 / 3	1.92 / 3
MMM	2.92 / 6	2.25 / 3	3.61 / 6	2.89 / 6
MRS	2.41 / 3	1.87 / 3	2.48 / 3	2.43 / 3
MRY	3.91 / 6	3.90 / 6	3.93 / 6	4.00 / 6
N	3.23 / 6	2.36 / 6	3.64 / 6	2.95 / 6
NS	4.12 / 3	4.98 / 6	4.20 / 3	4.31 / 3
NSC	1.39 / 3	1.36 / 3	1.39 / 3	1.44 / 3
NSD	1.78 / 3	1.59 / 3	1.79 / 3	1.78 / 3
NSW	5.38 / 3	3.09 / 3	6.62 / 6	5.35 / 3
NWA	7.13 / 6	5.70 / 6	7.28 / 6	7.16 / 6
OVT	2.96 / 6	2.49 / 3	3.05 / 6	2.81 / 6
PAC	1.26 / 9	1.34 / 6	1.26 / 6	1.24 / 3
PH	3.22 / 6	3.07 / 6	3.76 / 6	3.36 / 6
PKN	0.93 / 3	0.75 / 3	0.95 / 6	0.92 / 3
PRN	2.52 / 6	2.16 / 3	2.54 / 6	2.53 / 6
PTC	1.64 / 6	1.38 / 6	1.67 / 6	1.68 / 6
RG	1.28 / 3	1.55 / 3	15.79 / 6	0.75 / 3
RHR	2.52 / 6	1.42 / 6	3.03 / 6	2.58 / 6
RTX	1.19 / 6	2.35 / 6	1.43 / 6	1.41 / 6
SBI	0.90 / 6	0.92 / 6	0.90 / 6	0.91 / 6
SCO	1.41 / 3	1.66 / 3	1.45 / 3	1.52 / 3
SCX	1.76 / 3	1.95 / 6	1.78 / 3	1.82 / 3
SFN	0.97 / 3	1.22 / 6	1.02 / 3	1.09 / 3
SIM	3.15 / 3	2.88 / 3	3.20 / 3	3.01 / 3
SJM	1.68 / 6	1.61 / 6	1.69 / 6	1.67 / 6

APPENDIX K (continued)

Firm Ticker	Model 1	2	3	4
SKC	2.41 / 6	1.82 / 6	2.50 / 6	2.40 / 6
SKL	3.05 / 3	2.96 / 3	3.06 / 3	2.99 / 3
SNK	1.17 / 3	1.67 / 6	1.22 / 3	1.17 / 3
SRL	2.15 / 3	2.00 / 3	2.16 / 3	2.13 / 3
STO	0.48 / 6	0.96 / 6	0.56 / 6	0.52 / 6
SUO	4.65 / 3	3.73 / 3	4.75 / 6	4.69 / 6
SY	2.58 / 6	2.15 / 6	2.62 / 6	2.61 / 6
T	3.91 / 6	3.46 / 3	3.99 / 6	3.88 / 6
TRW	2.53 / 6	2.26 / 6	2.55 / 6	2.55 / 6
TXN	3.53 / 6	2.58 / 3	3.69 / 6	3.46 / 6
UCC	1.69 / 3	1.83 / 3	1.70 / 3	1.62 / 3
VFC	2.34 / 3	2.09 / 3	2.36 / 3	2.33 / 3
WIN	2.29 / 3	2.06 / 3	2.31 / 3	2.30 / 3
WJ	0.95 / 3	0.99 / 3	1.03 / 3	0.84 / 3
WPM	2.38 / 3	3.84 / 6	2.58 / 6	2.48 / 3
WSS	1.31 / 3	1.55 / 3	1.32 / 3	1.29 / 3
X	4.42 / 6	3.60 / 6	4.66 / 6	4.78 / 6

APPENDIX L

REGRESSION COEFFICIENTS FOR FIRMS REPORTING EXTRAORDINARY ITEMS

Firm Ticker	Alpha	Beta
AA	-.0026807	1.2113260
ABT	.0008153	.8783728
ACK	.0006386	1.1281030
ACN	-.0027180	.7833112
ACY	-.0010542	1.1185920
ALS	.0011978	1.1739830
AME	-.0020899	1.1044080
APX	-.0083929	1.6050060
AVT	-.0067480	2.2274530
BA	-.0075408	1.5596580
BAI	-.0023278	.9698041
BDK	.0035344	.8868708
BFC	-.0037451	1.4876740
BFC	.0000944	.9762404
BIG	.0021562	.9376492
BY	.0014706	1.2805840
CAX	-.0035731	1.8949480
CNF	.0016515	1.0262660
CTS	-.0001597	1.4068650
CUM	.0001243	.7960745
CV	-.0014712	1.4264160
CWD	-.0010317	.0472007
DCS	.0037615	.5016780
DIS	.0073076	1.4356160
DR	.0002140	.8315743
DSP	.0006561	1.1013960
DSN	-.0016594	1.4763920
ENG	.0003104	1.2176610
FAM	-.0015689	.6590509
FJQ	.0041529	1.4949670
FLD	.0008147	.5777802
FMO	-.0013427	.5493086
GID	-.0064117	1.4231970
GLR	.0012422	1.1338540
GNN	.0005221	.9474167
GO	-.0004555	.8509314
GPO	.0030038	.8575301
GSX	.0006743	.9047017
GVL	-.0002841	.9967119
HAY	-.0018660	.9416763
HGH	-.0039790	.8180011
HLR	.0036840	1.3104110
HMD	-.0001568	1.1368860

APPENDIX L (continued)

Firm Ticker	Alpha	Beta
HNS	-.0044017	.9100486
HOB	.0012006	.7770122
HPG	.0002042	.4075552
HTN	-.0008096	.9294887
IK	.0009605	.5888325
IKN	-.0036268	.4627985
KMB	.0022335	.8043241
KW	-.0016528	.9577743
LCE	.0021208	1.0474830
LKS	.0005401	1.2398160
MB	.0008500	1.5289610
MHP	-.0015573	1.4245210
MKC	.0004811	1.3217090
ML	.0008807	1.2857810
MOT	.0026997	1.2632770
MRP	.0023811	.6782717
MS	.0011341	.8890191
MUN	-.0019470	.9679950
MYG	.0020320	.9573806
NRT	-.0008217	.9545236
OMK	-.0049867	1.1317340
PBI	-.0025139	.9268739
PCT	.0028164	1.1285990
PG	.0026325	.7686567
PII	-.0040371	1.2573220
PRD	-.0006129	1.5139580
PSM	-.0039062	.3419320
RAD	.0062480	1.3069050
RAH	.0008905	.8729377
RCC	.0024017	1.1136700
RES	-.0032872	.3700045
RLM	.0001589	1.7050650
ROF	.0028368	1.4232270
RVB	-.0001733	.9885205
RXM	.0011939	.8468181
SA	.0020331	.5292828
SBC	-.0050902	1.2633400
SDP	-.0057413	1.3219100
SPA	.0007746	.5469681
TFT	.0024760	.4722004
TFD	-.0019296	1.3662600
TG	-.0047498	1.2386370
TGT	.0012133	.6627291
TNB	.0021039	.6801658
UFG	.0006860	.9749523
UMT	-.0010938	1.2913590

APPENDIX L (continued)

Firm Ticker	Alpha	Beta
UNC	-.0038605	1.6427100
UPK	-.0079720	.5270986
USG	-.0014528	.6464223
W	.0020774	1.0154360
WHP	.0012072	.8916132
WKT	.0000087	.8472645
WU	.0013471	1.2731550
Z	.0011026	1.0968070
ZE	-.0014368	1.3220120
MEAN	-.0003981	1.0459042

APPENDIX M

REGRESSION COEFFICIENTS FOR FIRMS NOT REPORTING EXTRAORDINARY ITEMS

Firm Ticker	Alpha	Beta
APD	-.0000739	.8900245
APO	-.0020956	1.1381020
ARV	-.0000109	.9937284
AVP	.0013634	1.1226170
AXO	.0006328	.9220325
BBL	.0025425	1.0229910
BCR	.0000163	.9837729
BDX	.0003243	1.2587070
BER	.0044901	.8784233
BOU	-.0047501	1.5044960
BRF	-.0028312	.9470622
BUR	.0005732	.9463475
CAT	.0004842	1.1647420
CCF	-.0022139	.9724433
CCK	.0004348	.8854850
CDO	.0017102	1.2519140
CLU	-.0026692	1.0021230
CNK	-.0007631	.9346911
CPS	.0024058	1.3185400
CPF	.0009927	1.3689230
CRI	-.0004185	1.3232760
CRS	-.0001106	.7178446
CSK	.0017870	.2353268
DFC	-.0015246	1.0772000
DML	-.0063973	1.1805380
DNY	-.0027943	.7518810
EAF	-.0001768	1.0483810
EK	.0031179	1.0187370
EOS	-.0001371	.4198174
FBG	-.0028939	1.4913320
FBO	-.0011330	.9387565
FCF	.0026142	1.6247480
FLT	-.0005207	.7623344
FOX	-.0053441	1.2687290
FT	-.0052643	1.1307020
GAT	-.0114436	1.7706180
GDC	.0032955	.9488891
GE	-.0007310	1.0539910
GLW	-.0027241	1.2084590
GOR	-.0021473	1.2598940
GPC	.0030528	.5593424
GQ	-.0005045	1.1804950
HAL	.0048250	1.2028750

APPENDIX M (continued)

Firm Ticker	Alpha	Beta
HIS	-.0055171	1.2543690
HZ	-.0004754	1.6620800
IBM	.0018002	1.2141900
IR	-.0005705	.8434013
JNJ	.0041115	.8821948
KEL	-.0006476	1.4372190
KG	.0043892	1.3571910
KMT	-.0022504	.9646030
KRA	.0002806	.5294257
LDN	-.0031542	1.2233630
LZ	.0025976	.7005910
MDC	-.0006460	.6283929
MF	.0020254	.8294701
MFS	-.0003710	.4780741
MMM	.0023288	1.0692350
MRS	.0006294	.8471614
MRY	-.0005338	1.0564870
N	-.0006415	.9093702
NS	-.0011337	.8971716
NSC	.0028579	.4519910
NSD	.0039078	.8923780
NSW	.0036089	.7793437
NWA	-.0036450	1.8103280
OVT	.0076213	1.4048320
PAC	-.0008792	.5232070
PH	-.0017504	.4425816
PKN	.0009086	1.6444010
PRN	-.0011906	.4447754
PTC	-.0000913	.4421712
RG	-.0047727	1.0344700
RHR	-.0000261	1.1293490
RTX	.0023232	.7924597
SBI	.0013684	.9091255
SCO	-.0001362	1.0666130
SCX	-.0001280	.5842519
SFN	-.0029111	1.0940950
SIM	.0024152	.7528283
SJM	.0013855	.1849735
SKC	-.0009114	.9434320
SKL	-.0000115	1.0131880
SNK	-.0069210	.7234568
SRL	.0000025	.9328889
STO	-.0014022	.5470497
SUO	-.0013744	.7813396
SY	-.0027930	1.9052910
T	-.0006103	.6531915

APPENDIX M (continued)

Firm Ticker	Alpha	Beta
TRW	-.0020200	.9110317
TXN	.0030576	1.3480030
UCC	.0014520	.9522365
VFC	.0006803	.9207374
WIN	.0026028	.5464313
WJ	-.0068350	1.6586450
WPM	-.0006140	.9140566
WSS	-.0004712	.9500578
X	-.0013145	.9304552
MEAN	-.0002990	.9998591

APPENDIX N

REGRESSION BETAS BEFORE AND AFTER EARNINGS ANNOUNCEMENT

The purpose of this appendix was to investigate changes in risk (as measured by the securities' Betas).

Firms Reporting	Beta Before Earnings Announcement	Beta After Earnings Announcement	Z	Probability
Positive Extraordinary Items:				
Mean	1.0521	1.0328	-.7047	.241
Standard Deviation	0.4001	0.3191		
Negative Extraordinary Items:				
Mean	1.0790	1.0969	-.5555	.289
Standard Deviation	0.3719	0.3496		
No Extraordinary Items:				
Mean	0.9902	1.0011	-.2569	.397
Standard Deviation	0.3568	0.3439		

From the probability column it appears that none of the changes in betas are significant using the Wilcoxon matched-pairs signed-rank test (Weiner, p. 75-83).

APPENDIX O

NUMBER OF FIRMS IN EACH TWO-DIGIT SIC CODE

SIC Code	EI Firms	Control Firms
10	2	2
14	1	1
20	4	4
22	2	4
23	3	4
25	1	1
26	5	5
27	4	2
28	11	11
29	1	1
32	6	3
33	4	7
34	2	2
35	9	9
36	10	10
37	6	6
38	6	4
39	2	2
42	1	1
45	0	1
47	1	1
48	1	2
49	1	1
50	1	1
53	2	2
54	3	3
56	2	2
57	1	1
59	2	2
61	2	2
78	1	1
99	1	0
Total	98	98

APPENDIX P

DAY OF THE WEEK EARNINGS WERE ANNOUNCED

Day	Number of Firms Reporting Extraordinary Item	Number of Control Firms
Monday	11	16
Tuesday	20	17
Wednesday	27	19
Thursday	14	22
Friday	26	24
Total	98	98

APPENDIX Q
WEEKLY API BY PORTFOLIO
PANEL A

WEEKLY API FOR MODEL 1

Week	1	2	3	4	5	6
-52	.006331	-.007028	.011056	-.004825	-.012166	.005413
-51	.000552	-.017546	.018229	-.004527	-.004500	.017914
-50	.006278	-.031635	.019884	-.010293	-.022525	.016219
-49	.013107	-.040416	.014965	-.014417	-.004951	.018231
-48	.012950	-.044047	.023236	-.013597	-.008883	.013665
-47	.007543	-.051009	.022482	-.018817	-.002604	-.001560
-46	.011447	-.039440	.023370	-.022753	-.002355	.003790
-45	.023946	-.020131	.030223	-.021041	-.023489	-.000117
-44	.037733	-.029443	.033315	-.021724	-.031485	.012048
-43	.055028	-.016927	.047843	-.031545	-.022726	.002136
-42	.053078	-.002933	.051875	-.037696	-.050080	.008250
-41	.059122	-.012789	.053499	-.040607	-.073074	-.011146
-40	.068709	-.027934	.047563	-.043667	-.067778	-.006886
-39	.069799	-.034182	.047707	-.042727	-.086838	.003686
-38	.070907	-.047048	.043935	-.035930	-.053551	-.001295
-37	.060428	-.021719	.045422	-.025230	-.058475	-.012576
-36	.076502	-.001733	.053124	-.038291	-.071491	-.017380
-35	.072413	-.006177	.053755	-.032077	-.070711	-.024714
-34	.052142	-.004557	.052235	-.032425	-.071221	-.026380
-33	.037815	-.016954	.047175	-.036056	-.061829	-.021819
-32	.034944	.014541	.046148	-.037887	-.060955	-.024000
-31	.015682	-.006325	.045685	-.043989	-.054826	-.031859
-30	.038605	-.007745	.064556	-.055970	-.053933	-.028027
-29	.033346	.007724	.062384	-.050502	-.053384	-.041362
-28	.037843	.020995	.066048	-.057875	-.039177	-.045476
-27	.050032	.020011	.065417	-.073703	-.040634	-.050243
-26	.048370	.009484	.073097	-.067546	-.025025	-.053164
-25	.052132	.027133	.073666	-.060502	-.004170	-.049334
-24	.044613	.044878	.079838	-.052877	.016283	-.034341
-23	.037079	.032572	.081487	-.051874	.004328	-.037826
-22	.037801	.051271	.092586	-.055791	.002201	-.048417
-21	.048795	.052789	.103779	-.066569	.002829	-.053009
-20	.061231	.054412	.122389	-.070574	.009551	-.051501
-19	.048680	.083500	.112262	-.079183	-.007882	-.059003
-18	.041769	.080584	.119895	-.087553	.007498	-.059586
-17	.056563	.054927	.123970	-.089993	-.016594	-.056300
-16	.072543	.083824	.124524	-.087050	-.020954	-.043333
-15	.076758	.073981	.110670	-.086348	-.056368	-.060252
-14	.088883	.059703	.109313	-.102207	-.039727	-.065241
-13	.104085	.064260	.102644	-.098324	-.042784	-.069407
-12	.096940	.082097	.115342	-.097319	-.038347	-.074663
-11	.119102	.062400	.115016	-.097032	-.056047	-.071493
-10	.151790	.049679	.113839	-.096773	-.053270	-.057107
-9	.167159	.057753	.111794	-.094027	-.037725	-.062803
-8	.168638	.048434	.131090	-.093294	-.031552	-.072548

APPENDIX Q (continued)

Week	1	2	3	4	5	6
-7	.176600	.038593	.143593	-.096539	-.052301	-.064628
-6	.198400	.071986	.151263	-.089327	-.061762	-.064525
-5	.199344	.061826	.152461	-.094712	-.073034	-.062486
-4	.177320	.057392	.161126	-.088708	-.067255	-.081908
-3	.183162	.049460	.174198	-.085665	-.073383	-.079767
-2	.199530	.044006	.166165	-.089362	-.065752	-.080650
-1	.214082	.035092	.165773	-.083572	-.074334	-.081362
0	.229506	.035348	.187077	-.094185	-.062879	-.081518
1	.243509	.032865	.185026	-.086275	-.056710	-.082289
2	.246323	.037746	.179132	-.077083	-.055268	-.076902
3	.242692	.040224	.181164	-.084925	-.058030	-.078471
4	.254136	.033060	.181228	-.088759	-.062457	-.079365
5	.251387	-.001254	.184758	-.095490	-.077514	-.083313
6	.255522	.001375	.186600	-.098313	-.086255	-.079101
7	.254043	-.026860	.178596	-.106037	-.093763	-.068791
8	.257820	-.017007	.182938	-.104195	-.086749	-.080174
9	.250297	-.022470	.186214	-.101477	-.088948	-.082671
10	.250435	-.032309	.197362	-.105917	-.098690	-.081399
11	.258346	-.049833	.206405	-.106333	-.087817	-.089557
12	.240021	-.049773	.209072	-.110545	-.096903	-.075830
13	.254450	-.052970	.201452	-.095971	-.097703	-.080309
14	.254655	-.054289	.205426	-.086606	-.093610	-.071498
15	.263052	-.040101	.208665	-.090517	-.080525	-.072738
16	.258373	-.042655	.206648	-.084710	-.064542	-.084364
17	.252474	-.031769	.202814	-.087055	-.047761	-.084519
18	.272251	-.054351	.208843	-.091137	-.056543	-.092497
19	.280614	-.055867	.210911	-.095883	-.062474	-.081709
20	.294369	-.040745	.212865	-.093260	-.079133	-.082188
21	.317818	-.043846	.213238	-.104471	-.093141	-.078505
22	.304174	-.034481	.199240	-.095656	-.103708	-.075078
23	.291971	-.009322	.198797	-.090365	-.094205	-.088209
24	.300295	-.012574	.194467	-.098194	-.077022	-.069509
25	.348993	-.005669	.200059	-.099964	-.105627	-.068835
26	.338701	-.009573	.216153	-.095583	-.093319	-.064138

APPENDIX Q (continued)

WEEKLY API FOR MODEL 2

Panel B

Week	1	2	3	4	5	6
-52	-.001274	-.008985	.011719	-.001456	.012840	.004610
-51	.002517	-.009381	.019839	-.007460	.003816	.016323
-50	-.002695	-.000203	.024490	-.009569	-.008262	.009931
-49	-.010398	-.011153	.023017	-.003587	-.002263	.008754
-48	-.015604	-.019814	.016266	-.001413	.011442	.023667
-47	-.013433	-.056552	.015754	-.005570	.007724	.005742
-46	-.015544	-.024710	.017746	-.009578	-.002343	.010247
-45	-.005521	-.016078	.014585	-.007757	-.010213	.021031
-44	.003514	-.019051	.024928	-.016168	.007848	.022992
-43	.015075	-.035432	.033324	-.024348	.015883	.019419
-42	.007285	-.044173	.039172	-.022925	.006853	.023330
-41	.005372	-.036153	.035071	-.026078	-.009394	.010514
-40	.012535	-.047665	.032237	-.031959	.011039	.011635
-39	.014126	-.056516	.041602	-.032535	.012718	.009992
-38	.021839	-.047001	.042192	-.037037	.040951	-.001219
-37	.022573	-.041841	.036048	-.026057	.051003	-.002617
-36	.041099	-.043503	.040720	-.040233	.032745	-.004465
-35	.033834	-.039038	.042324	-.031327	.041597	-.013090
-34	.029895	-.044261	.047195	-.043859	.054513	-.023502
-33	.023093	-.073701	.050349	-.048174	.058512	-.029930
-32	.023743	-.064266	.049918	-.049988	.066531	-.038236
-31	.014160	-.093247	.044129	-.056716	.048012	-.035391
-30	.024263	-.074444	.064200	-.065823	.031143	-.034112
-29	.030036	-.043903	.053544	-.069223	.026821	-.036104
-28	.027936	-.017491	.055734	-.072857	.010579	-.039957
-27	.024906	-.020123	.058262	-.086479	.019908	-.047574
-26	.025742	-.011629	.061191	-.083754	.035173	-.044423
-25	.032202	-.000069	.066056	-.079090	.048852	-.046018
-24	.031722	.002311	.072100	-.069803	.059330	-.030793
-23	.020949	.012980	.072082	-.064625	.052516	-.032663
-22	.021909	.024079	.073396	-.067467	.042139	-.030661
-21	.021034	-.006115	.076140	-.051324	.022915	-.025028
-20	.028806	.004295	.095051	-.057916	.014308	-.025672
-19	.020592	-.021228	.088492	-.078299	.026879	-.030130
-18	.017168	-.036777	.084323	-.090560	.035570	-.023042
-17	.017323	-.059424	.037739	-.031968	.023775	-.010964
-16	.035007	-.069921	.090988	-.078271	.019023	-.008644
-15	.036398	-.063089	.074393	-.074245	-.021523	-.021695
-14	.043655	-.075661	.075976	-.086196	-.013724	-.031349
-13	.049076	-.094450	.072864	-.080663	-.012910	-.040001
-12	.042659	-.096706	.074923	-.077062	-.004213	-.032045
-11	.053385	-.093451	.076870	-.076883	-.021470	-.032059
-10	.070927	-.064583	.085249	-.076257	-.029960	-.031233
-9	.089869	-.055779	.094474	-.071369	-.055565	-.039123
-8	.083046	-.011202	.091394	-.071354	-.065830	-.033304

APPENDIX Q (continued)

Week	1	2	3	4	5	6
-7	.079749	-.013252	.095564	-.071637	-.061584	-.014370
-6	.092577	.012414	.100885	-.056958	-.080175	-.008819
-5	.086911	.001675	.100767	-.059385	-.079127	-.005130
-4	.083072	-.007792	.097513	-.056340	-.092729	-.009727
-3	.086015	-.025783	.107932	-.050679	-.084185	-.005367
-2	.035236	-.009892	.107033	-.047864	-.075095	-.014333
-1	.089733	-.002830	.100190	-.040398	-.050526	-.006215
0	.089095	.030244	.105390	-.054409	-.059450	.014305
1	.095831	.035953	.100260	-.043089	-.048355	.017801
2	.096787	.031865	.098706	-.033307	-.044503	.017985
3	.093521	.022634	.094203	-.038202	-.044536	.024842
4	.093847	.016096	.099224	-.036372	-.051113	.015859
5	.085538	.011856	.100939	-.042185	-.054277	.014957
6	.087952	-.011698	.098555	-.038398	-.070636	.024933
7	.079314	-.043793	.096999	-.041331	-.070752	.029876
8	.080471	-.054534	.095154	-.040445	-.073115	.024259
9	.083965	-.053558	.101623	-.037104	-.070578	.015972
10	.086197	-.083499	.107737	-.043601	-.060775	.023417
11	.087045	-.048930	.106804	-.045123	-.065294	.028233
12	.072005	-.053888	.115873	-.048474	-.068320	.033578
13	.082489	-.050578	.105716	-.031109	-.063090	.032579
14	.087816	-.043005	.111801	-.023426	-.066200	.038331
15	.082893	-.045937	.116497	-.009777	-.081543	.034697
16	.084246	-.063052	.118177	-.006347	-.060187	.017953
17	.081565	-.087410	.106117	-.009398	-.039532	.029185
18	.081273	-.102245	.102301	.004510	-.067186	.035591
19	.076555	-.072391	.113440	.003935	-.082978	.034794
20	.088817	-.055794	.116906	.002544	-.078205	.031515
21	.095571	-.058160	.117299	-.007833	-.069335	.035274
22	.108333	-.073346	.117804	-.014984	-.066138	.019602
23	.107477	-.106075	.108574	-.004078	-.067967	.018381
24	.108760	-.135855	.107083	-.005197	-.059371	.034613
25	.141373	-.140323	.107938	-.005234	-.062170	.041004
26	.132244	-.132341	.123063	.005356	-.063284	.045703

APPENDIX Q (continued)

WEEKLY API FOR MODEL 3

Panel C

Week	1	2	3	4	5	6
-52	.004124	.008029	.014533	-.004825	.002350	.003831
-51	-.001639	.004787	.014292	-.004527	-.000967	.021829
-50	.010194	-.016459	.014896	-.010293	-.003934	.021373
-49	.017908	-.025726	.011143	-.014417	.002594	.022065
-48	.015043	-.033517	.016353	-.013597	.006235	.021917
-47	.011517	-.038539	.019565	-.018817	.001577	.004772
-46	.016157	-.022682	.022576	-.022753	-.016008	.007341
-45	.022236	-.003452	.028251	-.021041	-.015653	.008076
-44	.035595	-.003436	.033698	-.021724	-.020468	.015876
-43	.053088	.013072	.044482	-.031545	-.013069	.013631
-42	.043110	.036500	.043588	-.037596	-.020071	.019730
-41	.047815	.027501	.045599	-.040507	-.031071	.006286
-40	.058030	.016089	.045056	-.043667	-.008967	.005415
-39	.062774	.009804	.047506	-.042727	-.019214	.012136
-38	.063840	.001121	.042856	-.035930	-.007617	.008046
-37	.052491	.019953	.045202	-.025230	.003445	-.001635
-36	.065753	.029380	.055806	-.039291	.031447	-.007063
-35	.063523	.026603	.051143	-.032077	.022494	-.008030
-34	.052373	.011048	.051875	-.032425	.005096	-.011479
-33	.030293	.008506	.046517	-.036056	.014941	-.008585
-32	.030515	.025984	.042357	-.037887	.013240	-.011895
-31	.011521	.007640	.038441	-.043989	.005636	-.012557
-30	.035558	.015699	.056238	-.055970	.015012	-.005094
-29	.025514	.034555	.054032	-.050502	.019072	-.016114
-28	.035297	.032808	.055935	-.057875	.022797	-.017394
-27	.052153	.033566	.056392	-.073703	.011031	-.022723
-26	.045611	.033373	.066665	-.067545	.027192	-.025163
-25	.046404	.050666	.067621	-.060502	.037650	-.021961
-24	.039151	.065533	.074003	-.052877	.054265	-.009113
-23	.031927	.052529	.074289	-.051874	.050375	-.010821
-22	.035259	.063290	.087765	-.055791	.046306	-.019301
-21	.037447	.082338	.104837	-.066569	.070468	-.026498
-20	.046422	.093202	.126063	-.070574	.077156	-.024669
-19	.040021	.097071	.121768	-.079183	.049403	-.031134
-18	.024523	.107511	.127314	-.087553	.062462	-.035227
-17	.038835	.095535	.136474	-.089993	.051130	-.030006
-16	.060807	.114624	.128810	-.087050	.039788	-.018199
-15	.065764	.109313	.116791	-.086348	.010862	-.035949
-14	.080181	.102178	.116763	-.102207	.015778	-.041679
-13	.092747	.118624	.112890	-.098324	.019024	-.048431
-12	.082439	.132725	.129056	-.097319	.015563	-.053783
-11	.114950	.116034	.129064	-.097032	-.008723	-.051711
-10	.155995	.106695	.124547	-.096773	-.003938	-.038226
-9	.170176	.125381	.120198	-.094027	.004312	-.041470
-8	.163320	.144640	.142807	-.093294	.001471	-.048722

APPENDIX Q (continued)

Week	1	2	3	4	5	6
-7	.169423	.156173	.156254	-.096539	-.020802	-.040901
-6	.189915	.183984	.164533	-.099327	-.023053	-.038020
-5	.190393	.184861	.163787	-.094713	-.034323	-.034661
-4	.164275	.171393	.175737	-.093708	-.021099	-.051862
-3	.179938	.150202	.184926	-.085665	-.024050	-.045086
-2	.185539	.179838	.177722	-.089352	-.013017	-.046872
-1	.200391	.181124	.172462	-.083572	-.020324	-.043486
0	.225241	.169863	.196516	-.094185	-.030566	-.042443
1	.242115	.167473	.196052	-.086275	-.024465	-.044852
2	.250358	.160149	.192690	-.077183	-.024523	-.043536
3	.243121	.167347	.196619	-.084925	-.031572	-.046411
4	.248597	.192598	.197095	-.088759	-.046049	-.047590
5	.243530	.173744	.203613	-.095490	-.032804	-.052752
6	.254944	.173478	.205899	-.099313	-.050116	-.049499
7	.247911	.162738	.198775	-.106037	-.055978	-.043081
8	.258220	.159198	.206075	-.104195	-.063102	-.053863
9	.247895	.155432	.209237	-.101477	-.057219	-.056006
10	.239867	.159652	.225209	-.105917	-.067725	-.057237
11	.247152	.165155	.232091	-.106333	-.049566	-.060352
12	.236365	.137105	.238454	-.110545	-.049949	-.051967
13	.251337	.140815	.230222	-.095971	-.048743	-.056575
14	.248799	.144352	.226034	-.086609	-.041503	-.042024
15	.255970	.161045	.229524	-.090517	-.026017	-.042759
16	.259814	.134980	.226109	-.084710	-.024750	-.050996
17	.248984	.147370	.222078	-.087055	-.026962	-.051855
18	.267059	.148859	.220671	-.091137	-.024436	-.049807
19	.280404	.144909	.224415	-.095883	-.027520	-.041523
20	.292351	.162213	.226677	-.093260	-.035506	-.042353
21	.313730	.174766	.231509	-.104471	-.043455	-.043126
22	.290951	.195862	.214229	-.095656	-.058397	-.040025
23	.271716	.212938	.211122	-.090365	-.046955	-.048267
24	.277807	.227840	.207844	-.098194	-.037178	-.034530
25	.322973	.261252	.215914	-.098964	-.050647	-.035465
26	.314367	.252852	.235706	-.095583	-.022695	-.032421

APPENDIX Q (continued)

WEEKLY API FOR MODEL 4

Panel D

Week	1	2	3	4	5	6
-52	.002691	-.014037	.013116	-.000893	-.005112	.002133
-51	.000065	-.013324	.022498	-.001710	-.016544	.012120
-50	.001109	-.015979	.024303	-.006430	-.027846	.009468
-49	.003218	-.040471	.022224	-.008751	-.001852	.009222
-48	-.001619	-.029037	.020932	-.007621	-.005676	.016988
-47	-.004852	-.029504	.020013	-.015133	-.002318	-.001214
-46	-.000392	-.013133	.021742	-.022203	-.005926	.003817
-45	.006437	.015798	.017663	-.020842	-.013708	.016851
-44	.019682	.008408	.028830	-.025566	-.003321	.016844
-43	.036953	.022266	.039057	-.040500	.011229	.010764
-42	.030147	.029453	.045799	-.040380	-.026891	.012346
-41	.030234	.006118	.044009	-.039362	-.048249	-.004268
-40	.034025	.003942	.039357	-.042743	-.021561	-.000192
-39	.036840	.003265	.041772	-.042804	-.036379	.009114
-38	.041403	.012461	.040936	-.043129	.016441	-.001576
-37	.034623	.026452	.036387	-.030998	.023727	-.005112
-36	.043587	.032235	.045296	-.037231	-.000690	-.013703
-35	.043549	.035433	.041783	-.033400	-.003938	-.015113
-34	.029510	.029136	.043320	-.034511	-.007659	-.021278
-33	.018397	.036274	.042717	-.042989	.009109	-.022501
-32	.015034	.055892	.043626	-.043342	.014714	-.033290
-31	.004160	.041491	.039406	-.052004	-.000334	-.032323
-30	.021893	.047599	.058034	-.062529	-.012482	-.029827
-29	.017844	.108847	.051355	-.063096	-.016190	-.037259
-28	.029006	.097071	.055666	-.069432	-.040007	-.043310
-27	.041919	.093990	.058029	-.090394	-.030741	-.052648
-26	.041181	.103507	.063105	-.086710	-.012758	-.060306
-25	.045237	.104718	.070987	-.078305	.001440	-.059210
-24	.042845	.138066	.078371	-.073294	.017923	-.045558
-23	.035820	.123517	.081229	-.069623	-.001960	-.051873
-22	.040293	.138462	.085438	-.076196	-.006782	-.054214
-21	.047090	.105734	.096017	-.078807	-.008148	-.060287
-20	.056530	.096142	.119376	-.079658	-.030562	-.068659
-19	.049105	.090208	.113622	-.090149	-.029241	-.074274
-18	.041857	.082155	.115411	-.099462	-.012561	-.075579
-17	.043997	.093324	.120460	-.097961	-.041113	-.065543
-16	.067503	.099117	.120041	-.098672	-.043225	-.057705
-15	.070289	.083078	.102798	-.095399	-.089565	-.069609
-14	.078534	.063677	.107374	-.113334	-.061068	-.084352
-13	.095285	.079919	.104131	-.111848	-.074137	-.093000
-12	.091630	.087887	.112966	-.113771	-.059744	-.095076
-11	.104772	.087393	.115104	-.111804	-.082021	-.095485
-10	.122950	.091706	.118387	-.106645	-.087298	-.087338
-9	.137680	.101231	.115521	-.106872	-.061828	-.092429
-8	.141793	.088983	.131762	-.106300	-.062283	-.100767

APPENDIX Q (continued)

Week	1	2	3	4	5	6
-7	.144106	.104284	.141151	-.111319	-.071838	-.088826
-6	.158988	.130866	.145637	-.102520	-.078566	-.082145
-5	.164781	.107914	.146647	-.109519	-.086118	-.079969
-4	.150394	.110063	.146699	-.104322	-.096583	-.089636
-3	.149483	.136791	.150800	-.104687	-.078120	-.076028
-2	.160463	.143458	.148609	-.108244	-.069458	-.083452
-1	.168318	.146915	.145467	-.102456	-.058101	-.080167
0	.182004	.132461	.159608	-.113049	-.068812	-.072389
1	.188155	.135012	.155550	-.102402	-.052263	-.070072
2	.191695	.138720	.150749	-.092818	-.054480	-.064885
3	.190793	.126056	.151879	-.100832	-.061463	-.065969
4	.198364	.103621	.157747	-.101960	-.063440	-.075899
5	.189777	.086562	.161257	-.103614	-.075436	-.080704
6	.197022	.083349	.161723	-.108915	-.083007	-.074350
7	.188720	.057321	.159823	-.114534	-.090457	-.070974
8	.197024	.061983	.159677	-.114394	-.089435	-.076981
9	.192268	.060750	.162891	-.111946	-.090307	-.081108
10	.191233	.057942	.173591	-.116061	-.109506	-.080533
11	.199958	.034000	.177584	-.114176	-.105424	-.082873
12	.177954	.045042	.185293	-.116124	-.110121	-.075661
13	.190430	.068068	.173260	-.107067	-.086913	-.073354
14	.190427	.069643	.178604	-.095606	-.091005	-.066498
15	.192307	.079639	.179063	-.094115	-.091774	-.064162
16	.193191	.068194	.179298	-.090166	-.083158	-.079653
17	.192681	.073378	.179243	-.097803	-.062062	-.085387
18	.198634	.074244	.178183	-.095284	-.084030	-.082625
19	.200892	.057317	.182941	-.094005	-.097529	-.074391
20	.216864	.071696	.183762	-.094111	-.112681	-.074005
21	.232228	.057993	.183376	-.104243	-.108493	-.068896
22	.229607	.061615	.177890	-.098853	-.123735	-.076332
23	.219292	.075078	.171714	-.094222	-.107567	-.081763
24	.222088	.099032	.170615	-.105271	-.082558	-.065216
25	.263174	.095007	.174886	-.103879	-.102404	-.063636
26	.249871	.094261	.190979	-.095698	-.090680	-.061008

APPENDIX R

COMPOSITE WEEKLY API

Model 1, Panel A

Week	Portfolio Combinations 1 and 4	2 and 5	3 and 6
-52	.005321	.002569	.003755
-51	.003217	-.006523	.002207
-50	.008971	-.004555	.003880
-49	.013985	-.017732	.000250
-48	.013384	-.017582	.006877
-47	.015103	-.024203	.013207
-46	.019029	-.018543	.011330
-45	.021998	.001679	.016877
-44	.026997	.001021	.013206
-43	.039281	.002899	.025688
-42	.042763	.023573	.025222
-41	.046706	.030143	.034724
-40	.051916	.019922	.029531
-39	.051645	.026328	.024924
-38	.047452	.003252	.025033
-37	.036825	.018378	.030861
-36	.050879	.034879	.037278
-35	.045364	.032267	.040881
-34	.038920	.033332	.040773
-33	.036636	.022438	.035934
-32	.036917	.037748	.038103
-31	.034665	.024251	.039556
-30	.050250	.023093	.048363
-29	.044850	.030554	.053065
-28	.051277	.030086	.056928
-27	.065906	.030323	.058691
-26	.061229	.017255	.064261
-25	.057745	.015651	.062880
-24	.050155	.014298	.059670
-23	.047001	.014122	.062132
-22	.049864	.024535	.073006
-21	.060714	.029980	.081273
-20	.067496	.022431	.090964
-19	.069135	.045691	.091993
-18	.072471	.036543	.093169
-17	.078981	.035760	.097312
-16	.082271	.052391	.088532
-15	.083189	.065174	.088320
-14	.097818	.049715	.089776
-13	.100222	.053522	.087910
-12	.097194	.060222	.097309
-11	.104302	.059224	.095722
-10	.114896	.051475	.088690
-9	.118117	.047739	.090076
-8	.118113	.039993	.105138

APPENDIX R (continued)

Week	Portfolio Combinations 1 and 4	2 and 5	3 and 6
-7	.122912	.045447	.108588
-6	.125257	.066874	.112812
-5	.129179	.067430	.112575
-4	.117898	.062324	.126009
-3	.117782	.061421	.132337
-2	.125653	.054879	.128256
-1	.126563	.054713	.128356
0	.138761	.049114	.140283
1	.138070	.044788	.139483
2	.132832	.046507	.133814
3	.136895	.049129	.135641
4	.143236	.047758	.136072
5	.146845	.038130	.139787
6	.150099	.043815	.138946
7	.154792	.033452	.129919
8	.154801	.034871	.137383
9	.150500	.033239	.140313
10	.153523	.033191	.145955
11	.156408	.018992	.154606
12	.153196	.023565	.150006
13	.148176	.022367	.147749
14	.141963	.019661	.146056
15	.147352	.020212	.148409
16	.141917	.010944	.152440
17	.141546	.007996	.150374
18	.150798	.001096	.157267
19	.156736	.003303	.153636
20	.159507	.019194	.154936
21	.174750	.019647	.153511
22	.164344	.034613	.144199
23	.156776	.042442	.149773
24	.164769	.032224	.139073
25	.181326	.049979	.141887
26	.175669	.041873	.148765

APPENDIX R (continued)

Model 2, Panel B

Portfolio Combinations

Week	1 and 4	2 and 5	3 and 6
-52	.000159	-.010979	.004888
-51	.005112	-.006435	.004710
-50	.003744	.004279	.010090
-49	-.003056	-.004048	.009725
-48	-.006670	-.015382	-.000441
-47	-.003459	-.030702	.006761
-46	-.002355	-.010384	.006035
-45	.001450	-.002156	-.000258
-44	.010157	-.012649	.004822
-43	.019943	-.025082	.011549
-42	.015496	-.024371	.012965
-41	.016243	-.012043	.016000
-40	.022733	-.028275	.013882
-39	.023791	-.033329	.020017
-38	.029844	-.043798	.025050
-37	.024407	-.046694	.022061
-36	.040670	-.037808	.025552
-35	.032518	-.040393	.030094
-34	.037226	-.049691	.037277
-33	.036261	-.065660	.041806
-32	.037522	-.065465	.045052
-31	.036502	-.069299	.040473
-30	.046082	-.051520	.051612
-29	.050611	-.034860	.046306
-28	.051519	-.013884	.049719
-27	.057232	-.020010	.053790
-26	.056199	-.024096	.054178
-25	.056818	-.025895	.057679
-24	.051717	-.035616	.054819
-23	.043879	-.022118	.055590
-22	.045442	-.010978	.055517
-21	.042186	-.014957	.054756
-20	.049339	-.005558	.066025
-19	.050888	-.024220	.064099
-18	.055699	-.036134	.058685
-17	.051209	-.040551	.055613
-16	.057721	-.042507	.056538
-15	.056267	-.018294	.052340
-14	.061239	-.028339	.057305
-13	.065659	-.037665	.059115
-12	.060720	-.043278	.056987
-11	.065722	-.030964	.058123
-10	.073726	-.014531	.062650
-9	.080419	.003168	.065501
-8	.076908	.029540	.067091

APPENDIX R (continued)

Week	Portfolio Combinations 1 and 4	2 and 5	3 and 6
-7	.075490	.026367	.043813
-6	.073877	.048287	.045198
-5	.071935	.042680	.052425
-4	.069037	.045425	.052867
-3	.067463	.032435	.050309
-2	.065616	.035101	.053348
-1	.063357	.030711	.047858
0	.070875	.045706	.048990
1	.068142	.042519	.053237
2	.063507	.047968	.061225
3	.064479	.034282	.049511
4	.063935	.034638	.044611
5	.062825	.034315	.051424
6	.061941	.031895	.054811
7	.059611	.016848	.053467
8	.063733	.013045	.060318
9	.059363	.012156	.055460
10	.063834	-.007119	.047802
11	.065036	.011542	.045654
12	.059651	.010848	.052457
13	.055514	.009599	.061653
14	.054012	.014809	.062368
15	.044509	.021058	.060755
16	.043349	-.000631	.060786
17	.043677	-.020206	.065022
18	.036237	-.012547	.068250
19	.034298	.009863	.060874
20	.040853	.015146	.055313
21	.049508	.009338	.050867
22	.059348	.000498	.049886
23	.053430	-.013935	.044398
24	.054389	-.032500	.050658
25	.069902	-.033121	.052452
26	.060006	-.029010	.046871

APPENDIX R (continued)

Model 3, Panel C

Week	Portfolio Combinations 1 and 4	2 and 5	3 and 6
-52	.004632	.003415	.004602
-51	.002810	.002689	-.005243
-50	.010266	-.007398	-.004719
-49	.015389	-.015445	-.006817
-48	.014000	-.021392	-.004344
-47	.016784	-.022167	.006404
-46	.020916	-.005486	.006125
-45	.021374	.005039	.008605
-44	.025587	.007160	.006888
-43	.037545	.013070	.013054
-42	.039204	.029254	.012227
-41	.042615	.029088	.017998
-40	.047667	.012924	.017761
-39	.048310	.013986	.015251
-38	.045373	.004008	.015327
-37	.032821	.009554	.021640
-36	.045942	.002624	.029434
-35	.040834	.004782	.027827
-34	.037982	.003873	.030028
-33	.034449	-.001859	.026049
-32	.035831	.008551	.025883
-31	.034947	.001740	.024443
-30	.050289	.002050	.028578
-29	.043543	.010721	.033525
-28	.051588	.008095	.035091
-27	.067703	.013745	.037805
-26	.061437	.006455	.044220
-25	.056576	.011415	.042927
-24	.049055	.012290	.038909
-23	.046319	.006794	.039965
-22	.050073	.014580	.050738
-21	.058459	.014424	.062465
-20	.063848	.017537	.071228
-19	.068277	.031971	.072522
-18	.070046	.031968	.077507
-17	.075763	.030351	.078895
-16	.079741	.045997	.068990
-15	.080616	.055902	.073070
-14	.096073	.049753	.076157
-13	.096771	.057447	.078029
-12	.093175	.066819	.088347
-11	.102022	.068340	.087230
-10	.113265	.061025	.077863
-9	.115233	.067739	.077620
-8	.112795	.079702	.091924

APPENDIX R (continued)

Week	Portfolio Combinations 1 and 4	2 and 5	3 and 6
-7	.116836	.096008	.093869
-6	.117339	.112461	.096113
-5	.121496	.117955	.093953
-4	.109752	.104598	.108743
-3	.111640	.094134	.109298
-2	.116143	.108362	.106956
-1	.116104	.109657	.102710
0	.130681	.107953	.113191
1	.129674	.103914	.114286
2	.125339	.099871	.112025
3	.128979	.107280	.115384
4	.133271	.127465	.116241
5	.136717	.111104	.122025
6	.141681	.118651	.121315
7	.145295	.115273	.114573
8	.147088	.116529	.123756
9	.142252	.111781	.126367
10	.143219	.124351	.134364
11	.145549	.113782	.139212
12	.145722	.097924	.137544
13	.139391	.099894	.136311
14	.131774	.098643	.126518
15	.136565	.101033	.128519
16	.133473	.085989	.131405
17	.132149	.093855	.130019
18	.140125	.093560	.128265
19	.147269	.092731	.125558
20	.148703	.105939	.126992
21	.162746	.116406	.129628
22	.150045	.134766	.120013
23	.140868	.139168	.123048
24	.148213	.143101	.114113
25	.161348	.167650	.118324
26	.156510	.150556	.125766

APPENDIX R (continued)

Model 4, Panel D

Week	Portfolio Combinations 1 and 4	2 and 5	3 and 6
-52	.001599	-.005830	.007047
-51	.001063	-.000523	.008721
-50	.004340	.002804	.010864
-49	.006578	-.022332	.009710
-48	.003991	-.014160	.005841
-47	.007282	-.015866	.012532
-46	.013362	-.004965	.011570
-45	.015202	.017473	.003928
-44	.023862	.006228	.010653
-43	.039107	.007911	.019230
-42	.036360	.028355	.022659
-41	.035776	.024175	.028194
-40	.039318	.011493	.023771
-39	.040461	.017457	.021920
-38	.042451	.000074	.025261
-37	.032422	.004946	.023941
-36	.039728	.018716	.032723
-35	.037387	.022507	.031170
-34	-.032546	.019931	.034548
-33	.033328	.016824	.034672
-32	.032221	.025633	.039513
-31	.033208	.023852	.036587
-30	.046565	.032544	.046809
-29	.045318	.069137	.045751
-28	.053551	.072615	.050749
-27	.071350	.066369	.055888
-26	.068823	.064615	.065002
-25	.065315	.059222	.066300
-24	.061332	.071214	.065313
-23	.056343	.071421	.069546
-22	.062092	.082028	.073012
-21	.066347	.063911	.081798
-20	.070572	.068037	.099192
-19	.074024	.064079	.097963
-18	.076224	.052329	.099560
-17	.076761	.071233	.098605
-16	.086429	.075164	.095234
-15	.085535	.085858	.089590
-14	.099663	.062558	.098212
-13	.105341	.077443	.099737
-12	.105073	.075397	.105846
-11	.109042	.085477	.107297
-10	.113012	.089817	.106031
-9	.118975	.084344	.106331
-8	.120298	.077540	.119427

APPENDIX R (continued)

Portfolio Combinations

Week	1 and 4	2 and 5	3 and 6
-7	.124199	.090378	.120328
-6	.124704	.108452	.120370
-5	.131229	.098573	.120112
-4	.122422	.104286	.123990
-3	.122286	.111646	.121044
-2	.128761	.111744	.122679
-1	.128330	.108852	.119480
0	.140139	.105183	.124898
1	.136091	.099548	.121533
2	.131663	.102617	.116579
3	.136176	.098373	.117690
4	.139772	.086401	.125175
5	.137463	.081794	.129200
6	.143529	.083202	.126952
7	.143678	.077237	.124464
8	.146856	.073748	.126767
9	.143501	.073417	.130344
10	.145593	.080041	.136558
11	.147876	.064610	.139893
12	.140414	.072933	.141664
13	.139817	.076145	.133501
14	.132857	.078798	.133991
15	.132690	.084869	.133337
16	.130640	.074607	.139643
17	.135076	.068529	.141892
18	.135905	.078438	.140155
19	.135996	.074551	.139739
20	.142336	.089261	.140083
21	.154523	.079636	.137817
22	.149828	.088238	.137474
23	.143357	.089002	.135917
24	.151164	.091972	.128671
25	.166459	.092463	.130613
26	.156266	.092726	.139256

APPENDIX S

AVERAGE WEEKLY API FOR FIRMS ANNOUNCING AND NOT ANNOUNCING EXTRAORDINARY ITEMS BEFORE WEEK ZERO

WEEK	FIRMS ANNOUNCING (n=39)	FIRMS NOT ANNOUNCING (n=59)
-52	-.005515	.001956
-51	-.010131	.001765
-50	-.022070	.004652
-49	-.017524	.000143
-48	-.022128	.002619
-47	-.019142	-.007378
-46	-.022444	-.006909
-45	-.012811	-.005781
-44	-.009497	-.004875
-43	-.025408	.006616
-42	-.030447	.003343
-41	-.028769	-.002162
-40	-.029951	.000224
-39	-.032261	.001673
-38	-.034188	.011837
-37	-.023932	.014390
-36	-.026775	.014196
-35	-.027428	.018157
-34	-.038398	.015227
-33	-.046862	.009951
-32	-.044586	.009491
-31	-.052276	-.002479
-30	-.057043	.001085
-29	-.053439	.003877
-28	-.064271	.007784
-27	-.070615	.001484
-26	-.071043	.007779
-25	-.059906	.011558
-24	-.053154	.016288
-23	-.053974	.012079
-22	-.049092	.007206
-21	-.040717	-.001360
-20	-.054716	.008858
-19	-.050355	-.007917
-18	-.060228	-.012026
-17	-.058949	-.012562
-16	-.059883	.001093
-15	-.060487	-.001010
-14	-.058823	-.012734
-13	-.053316	-.004847
-12	-.052502	-.006446
-11	-.053245	.000570
-10	-.044483	.009489
-9	-.030400	.012160
-8	-.029056	.012282

APPENDIX S (continued)

WEEK	FIRMS ANNOUNCING (n=39)	FIRMS NOT ANNOUNCING (n=59)
-7	-.038969	.016971
-6	-.020893	.023872
-5	-.021168	.017364
-4	-.022647	.014014
-3	-.016531	.014647
-2	-.025021	.025114
-1	-.018063	.031532
0	-.026234	.032383
1	-.019662	.042712
2	-.008772	.046055
3	-.020407	.043890
4	-.019518	.043401
5	-.029717	.040292
6	-.028436	.037709
7	-.039559	.032629
8	-.033399	.032703
9	-.037194	.034413
10	-.027625	.021618
11	-.033380	.029100
12	-.043170	.022599
13	-.029464	.033830
14	-.016635	.035052
15	-.010442	.034583
16	-.001381	.031818
17	-.010784	.033996
18	-.006151	.034352
19	-.008260	.034418
20	-.005798	.042041
21	-.004637	.039677
22	-.001588	.039237
23	.008243	.035001
24	-.000799	.038782
25	.018815	.046081
26	.020513	.047036

APPENDIX T

AVERAGE WEEKLY API FOR FIRMS REPORTING NET EXTRAORDINARY LOSSES CLASSIFIED BY WHETHER THEY ANNOUNCED THE EXTRAORDINARY ITEMS PRIOR TO WEEK ZERO OR NOT

WEEK	ANNOUNCED (n=23)	DIDN'T ANNOUNCE (n=30)
-52	-.007524	-.000816
-51	-.012646	-.000876
-50	-.018853	-.006697
-49	-.004139	-.005808
-48	-.000971	.001046
-47	-.005408	-.000255
-46	-.009792	-.005465
-45	-.005780	-.014760
-44	.000873	-.020815
-43	-.016158	-.018364
-42	-.031333	-.018971
-41	-.021955	-.025616
-40	-.020412	-.025256
-39	-.020046	-.028573
-38	-.013342	-.022177
-37	-.002685	-.009460
-36	-.010478	-.025922
-35	-.011079	-.013068
-34	-.027419	-.012925
-33	-.035303	-.016638
-32	-.038340	-.009933
-31	-.046103	-.018049
-30	-.055900	-.026376
-29	-.062109	-.021219
-28	-.074733	-.013422
-27	-.080625	-.022848
-26	-.079833	-.011310
-25	-.067154	-.009088
-24	-.058332	-.004193
-23	-.053232	-.012836
-22	-.052995	-.021929
-21	-.050273	-.030117
-20	-.061107	-.029777
-19	-.048875	-.047304
-18	-.056713	-.052280
-17	-.057204	-.042599
-16	-.054613	-.030924
-15	-.054717	-.032758
-14	-.048108	-.046733
-13	-.044352	-.036354
-12	-.050960	-.036855
-11	-.042684	-.032939
-10	-.038258	-.032461
-9	-.031690	-.032739
-8	-.026298	-.035741

APPENDIX T (continued)

WEEK	ANNOUNCED (n=23)	DIDN'T ANNOUNCE (n=30)
-7	-.050387	-.025575
-6	-.040294	-.028390
-5	-.030935	-.032648
-4	-.040076	-.026294
-3	-.026440	-.021672
-2	-.032934	-.017379
-1	-.026789	-.012954
0	-.022280	-.018107
1	-.015035	-.009403
2	.001493	-.005382
3	-.017507	.003127
4	-.012304	.003101
5	-.021816	.005239
6	-.007593	.010754
7	-.012563	.010084
8	.000860	.017887
9	.004342	.028214
10	.011532	.007379
11	.005497	.021517
12	-.020335	.020173
13	-.006654	.037602
14	.015786	.039176
15	.025577	.040449
16	.032824	.046181
17	.018913	.050563
18	.028400	.044463
19	.031755	.036945
20	.022061	.053816
21	.023882	.044665
22	.027973	.035370
23	.038842	.032369
24	.045637	.035354
25	.088765	.030533
26	.095051	.029432

APPENDIX U

CLASSIFICATION OF FIRMS BY SIGN OF NET EXTRAORDINARY ITEMS AND WHETHER THEY ANNOUNCED OR DID NOT ANNOUNCE THAT THEY WOULD HAVE EXTRAORDINARY ITEM(S)

Tickers of Firms That Reported Net Extraordinary Gains and Announced That They Had or Would Have an Item Reported as Extraordinary

ACK
ACY
BA
CWD
DCS
DIS
DSP
FLD
IK
MUN
PG
TET
TGT
UFG
USG
WU

Tickers of Firms That Reported Extraordinary Gains and Did not Announce That They Had or Would Have an Item Reported as Extraordinary

BAI	GVL	NRT	UPK
BFC	HLR	PRD	ZE
BY	HNS	RAD	
CNF	HOB	RES	
CTS	LKS	RLM	
CUM	MHP	RVB	
DSN	ML	SA	
GNN	MS	TFD	
GO	MYG	UMT	

APPENDIX U (continued)

Tickers of Firms That Reported Net Extraordinary Losses and Announced That They Had or Would Have an Item Reported as Extraordinary

AA	MOT
AME	PBI
CV	PSM
DR	RAH
FJQ	ROF
FMO	RXM
GPO	SBC
GSX	SDP
HMD	W
HPG	WHR
IKN	Z
KMB	

Tickers of Firms That Reported Net Extraordinary Losses and Did Not Announce That They Had or Would Have an Item Reported as Extraordinary

ABT	ENG	MB	TNB
ACN	FAM	MKC	UNC
ALS	GID	MRP	WKT
APX	GLR	OMK	
AVT	HAY	PCT	
BDK	HGH	PII	
BEC	HTN	RCC	
BIG	KW	SPA	
CAX	LCE	TG	

APPENDIX V

AVERAGE WEEKLY API FOR FIRMS REPORTING NET EXTRAORDINARY GAINS CLASSIFIED BY WHETHER THEY ANNOUNCED THE EXTRAORDINARY ITEMS PRIOR TO WEEK ZERO OR NOT

WEEK	ANNOUNCED (n=16)	DIDN'T ANNOUNCE (n=29)
-52	-.002628	.004823
-51	-.006514	.004498
-50	-.026695	.016394
-49	-.036764	.006299
-48	-.052540	.004245
-47	-.038885	-.014746
-46	-.040632	-.008403
-45	-.022919	.003507
-44	-.024405	.011615
-43	-.038705	.032458
-42	-.029175	.026426
-41	-.038612	.022101
-40	-.043664	.026582
-39	-.049821	.032963
-38	-.064153	.047025
-37	-.054474	.039062
-36	-.050203	.055697
-35	-.050930	.050458
-34	-.054180	.044349
-33	-.063477	.037457
-32	-.053565	.029586
-31	-.061150	.013629
-30	-.058687	.029493
-29	-.040976	.029838
-28	-.049232	.029722
-27	-.056227	.026654
-26	-.058407	.027526
-25	-.049488	.032916
-24	-.045710	.037475
-23	-.055042	.037854
-22	-.043483	.037349
-21	-.026981	.028389
-20	-.045529	.048826
-19	-.052482	.032829
-18	-.065280	.029616
-17	-.061458	.018511
-16	-.067459	.034215
-15	-.068782	.031833
-14	-.074226	.022438
-13	-.066202	.027746
-12	-.054719	.025013
-11	-.068426	.035234
-10	-.053432	.052886
-9	-.028545	.058607
-8	-.033020	.061961

APPENDIX V (continued)

WEEK	ANNOUNCED (n=16)	DIDN'T ANNOUNCE (n=29)
-7	-.022556	.060984
-6	.006996	.077935
-5	-.007128	.069100
-4	.002408	.055711
-3	-.002286	.052218
-2	-.013645	.069072
-1	-.005518	.077553
0	-.031919	.084613
1	-.026314	.096623
2	-.023529	.099265
3	-.024577	.086058
4	-.029888	.085091
5	-.041076	.076553
6	-.058397	.065594
7	-.078366	.055952
8	-.082645	.048030
9	-.096903	.040825
10	-.083913	.036347
11	-.089266	.036946
12	-.075994	.025109
13	-.062254	.029928
14	-.063240	.030785
15	-.062220	.028515
16	-.050551	.016961
17	-.053472	.016858
18	-.055819	.023892
19	-.065781	.031803
20	-.045846	.029860
21	-.045634	.034517
22	-.044082	.043236
23	-.035742	.037724
24	-.067551	.042329
25	-.081738	.062165
26	-.086635	.065247

APPENDIX W

AVERAGE WEEKLY API FOR FIRMS REPORTING EXTRAORDINARY ITEMS CLASSIFIED BY MATERIALITY OF THE EXTRAORDINARY GAIN OR LOSS (NET)

Week	Extraordinary Gain Large (n=22)	Extraordinary Gain Small (n=23)	Extraordinary Loss Large (n=25)	Extraordinary Loss Small (n=25)
-52	-.002618	.006757	-.003975	.000543
-51	-.013851	.014388	.002632	-.008714
-50	-.005081	.006960	-.003154	-.017675
-49	-.012143	-.006018	.007454	-.019831
-48	-.024511	-.007752	.011850	-.014554
-47	-.033307	-.013785	.013897	-.021791
-46	-.012555	-.026851	.013649	-.032339
-45	.001262	-.012729	.009770	-.035361
-44	.007831	-.009822	.014653	-.041659
-43	.024046	-.009001	.010477	-.044558
-42	.016568	-.002824	-.000821	-.050371
-41	.014913	-.013258	-.007977	-.037513
-40	.013043	-.009334	-.008571	-.035813
-39	.021873	-.014018	-.007176	-.035284
-38	.023708	-.008013	.006525	-.033421
-37	.024136	-.011730	.016898	-.016645
-36	.042508	-.005357	-.005360	-.018755
-35	.034114	-.004439	.003032	-.006218
-34	.029321	-.009817	-.011750	-.005799
-33	.015783	-.012027	-.018363	-.013169
-32	.012031	-.011467	-.015451	-.010467
-31	-.004651	-.020906	-.024057	-.018643
-30	.008812	-.012068	-.040515	-.018255
-29	.017892	-.007996	-.050784	-.007042
-28	.021003	-.016863	-.055019	-.007130
-27	.025348	-.029753	-.054239	-.023849
-26	.021518	-.026507	-.044125	-.017854
-25	.032159	-.023685	-.042023	-.011556
-24	.025106	-.008563	-.036946	-.009107
-23	.029967	-.019225	-.040020	-.008625
-22	.041334	-.022694	-.033159	-.023960
-21	.034170	-.015658	-.040621	-.024503
-20	.033063	-.001735	-.053568	-.016055
-19	.011658	-.006268	-.050335	-.034118
-18	.002295	-.010266	-.051648	-.042668
-17	-.006646	-.013058	-.053386	-.027570
-16	-.006073	.002021	-.061017	-.002638
-15	-.010818	.002636	-.076855	.010825
-14	-.018295	-.005845	-.079681	.003669
-13	-.023373	.011287	-.077800	.021021
-12	-.016473	.009229	-.078579	.013359
-11	-.018419	.014444	-.076061	.017611
-10	.003632	.026039	-.071348	.012077

APPENDIX W (continued)

Week	Extraordinary Gain Large (n=22)	Extraordinary Gain Small (n=23)	Extraordinary Loss Large (n=25)	Extraordinary Loss Small (n=25)
-9	.011780	.042770	-.085410	.034302
-8	.011302	.044343	-.076672	.023982
-7	.020801	.041305	-.090384	.030071
-6	.044876	.060208	-.072116	.011439
-5	.040499	.043430	-.082810	.023992
-4	.046645	.027302	-.080892	.016636
-3	.037470	.028410	-.074557	.030060
-2	.037418	.041808	-.076656	.029838
-1	.038430	.057186	-.073408	.034698
0	.038007	.048127	-.066754	.029194
1	.033686	.071302	-.056740	.031948
2	.031618	.078549	-.053178	.042424
3	.022240	.070137	-.059595	.046919
4	.023674	.063852	-.058866	.049965
5	.017298	.051404	-.058019	.046234
6	.009007	.033466	-.055701	.065178
7	-.013324	.028777	-.055783	.064390
8	-.021873	.023990	-.049030	.075421
9	-.027921	.010771	-.056656	.092341
10	-.035219	.021142	-.063622	.084678
11	-.032408	.015485	-.048679	.081555
12	-.032920	.010282	-.054242	.060924
13	-.022290	.015749	-.032538	.074667
14	-.021836	.015709	-.016525	.078665
15	-.024566	.016168	.000597	.075259
16	-.031283	.016142	.011861	.076537
17	-.040945	.023223	.006619	.078102
18	-.035414	.025168	.009159	.078638
19	-.032834	.025745	.000418	.079317
20	-.022500	.027279	.002257	.089077
21	-.023945	.034680	-.002500	.083109
22	-.025567	.048306	-.019772	.092539
23	-.027484	.048991	-.001306	.076743
24	-.037971	.042699	.004914	.080015
25	-.032971	.053058	-.009636	.119876
26	-.031885	.052499	-.009687	.124703

APPENDIX X

CLASSIFICATION OF FIRMS BY SIGN AND MAGNITUDE OF NET EXTRAORDINARY ITEMS

Tickers of Firms that Reported Large Net Extraordinary Gains

ACK	HNS	TFD
BA	HOB	UFG
BAI	IK	UMT
CUM	ML	UPK
CWD	NRT	USG
DSP	PG	WU
FLD	RLM	ZE
GVL		

Tickers of Firms that Reported Small Net Extraordinary Gains

ACY	GNN	PRD
BFC	GO	RAD
BY	HLR	RES
CNF	LKS	RVB
CTS	MHP	SA
DCS	MS	TET
DIS	MUN	TGT
DSN	MYG	

Tickers of Firms that Reported Large Net Extraordinary Losses

AA	GSX	PII
ACN	HAY	RCC
AME	HMD	SBC
APX	HPG	SPA
AVT	HTN	TG
CV	KMB	UNC
DR	KW	W
FMO	LCE	WHR
GPO		

APPENDIX X (continued)

Tickers of Firms that Reported Small Net Extraordinary Losses

ABT	GLR	PCT
ALS	HGH	PSM
BDK	MB	RAH
BEC	MKC	ROF
BIG	MOT	RXM
CAX	MRP	TNB
ENG	OMK	WKT
FAM	PBI	Z
FJQ		

APPENDIX Y

WEEK ZERO API BY FIRM

Firms Reporting Extraordinary Items		Firms Not Reporting Extraordinary Items	
Ticker	API_0	Ticker	API_0
AA	.030113	ADD	.415376
ABT	.092723	ADO	.129813
ACK	-.037734	ADV	.430094
ACN	.001570	AVP	-.050[illegible]
ACY	.302628	AXO	.324226
ALS	-.326755	BBL	.212670
AMF	-.058594	BCP	.304759
ABX	.009417	BDX	-.220045
AVT	.123034	BFR	-.079740
BA	.301532	BOU	.3254[illegible]
BAI	.119690	BRF	-.124714
BDK	-.130753	BUP	-.369936
BFC	.357922	CAT	-.110130
BFC	-.229906	CCF	-.190010
BIG	-.100015	CCK	.175113
BY	.163372	CDD	-.641[illegible]
CAX	-.020857	CLU	.407904
CNF	-.019361	CNK	.231345
CTS	-.258293	CPS	.333312
CUM	-.171974	CPF	.404555
CV	-.302159	CRI	.057465
CWD	.240532	CRS	-.189459
DCS	-.153424	CSK	-.343787
DIS	-.563010	DFC	.159755
DR	-.129838	DAL	.330830
DSR	.264637	DNY	-.031375
DSN	-.237846	EAF	.233624
ENG	-.321908	EK	-.443217
EAM	-.005011	EOS	.318525
EJO	1.531237	EBG	-.462494
ELD	-.250157	ERJ	.174869
EMO	.104717	ECF	.072759
GID	.129631	FLT	-.329394
GLK	-.263303	FOX	.170951
GNH	-.148000	FT	.219955
GO	.142124	GAT	1.658544
GPO	-.445993	GDC	-.233284
GSX	-.022970	GF	.436254
GVI	-.074873	GLM	.125547
HAY	-.056595	GOR	.348348
HGH	-.097736	GPC	.667294

APPENDIX Y (continued)

Firms Reporting Extraordinary Items		Firms Not Reporting Extraordinary Items	
Ticker	API_0	Ticker	API_0
HLP	-.089115	GO	-.178404
HMO	-.134043	HAL	-.071523
HNS	.021553	HIS	.207843
HOP	.138333	HZ	-.130080
HPG	-.033330	IBM	-.196314
HTN	-.311464	IR	.093067
IK	-.198257	JJJ	.292071
IKN	-.039262	KFL	.029888
KMP	-.340629	KG	.134309
KW	-.113175	KIT	-.044461
LCF	-.181757	KRA	.001215
LKS	.536282	LOU	.014703
MA	-.137162	LZ	-.022774
MHP	.004343	MDC	.117412
MKC	.117500	MF	-.275522
ML	-.233305	MES	.185211
MOT	-.335822	MMM	-.344622
MRP	-.262249	MRS	.106296
MS	.139148	MSY	-.100577
MUN	.252134	NI	-.331357
MYG	.227744	NS	.035271
NPT	.080111	NSC	-.261973
OMK	.266353	NSD	-.194782
PBI	-.134255	NSW	.677588
PCT	.309419	NTA	.180358
PG	-.224327	OVT	-.637561
PTI	-.203386	PAC	-.003196
PPD	-.002559	PH	.349053
PSM	.309530	PKN	.200882
PAD	.466548	PAN	.152245
PAH	.400351	PTC	.326389
PCC	-.349131	PG	.583947
PES	.572865	RHR	.203523
RLM	-.454679	RTX	-.511803
ROF	-.375326	SBI	-.151457
RVE	.013775	SCO	.222323
RXM	-.029953	SCX	.639840
SA	-.109215	SFN	-.192938
SBC	.137759	STM	-.111312
SDP	-.207044	SUM	-.417360
SPA	-.116157	SKC	-.049453
TET	.012315	SKL	.024692
TFD	.258563	SMK	.035202

APPENDIX Y (continued)

Firms Reporting Extraordinary Items		Firms Not Reporting Extraordinary Items	
Ticker	API_0	Ticker	API_0
TG	.114135	SPL	.459834
TGT	-.055143	STO	-.059346
TNP	.225034	SUD	-.024317
UFG	-.142961	SY	-.120409
UMT	.194017	T	-.092361
UNC	.726753	TXN	-.051633
UPK	.293735	TXT	-.644337
USG	.142547	UCC	.157574
W	-.463624	VFC	.234611
WHR	.266534	WTN	.130137
WKT	-.118279	WU	.724653
WU	-.342054	WPM	-.365123
Z	-.333834	WSS	.070443
ZF	.051165	X	.036430

VITA

Name: Thomas Arthur Buchman
Date of Birth: July 21, 1942

Education

1948-1960	Various public elementary, junior high and senior high schools
1960-1965	University of Illinois at Urbana-Champaign
1965-1966	Southern Illinois University at Carbondale
1969-1976	University of Illinois at Urbana-Champaign

Degrees

B.S. - 1965	University of Illinois at Urbana-Champaign Major: Industrial Administration
M.A.S. -1970	University of Illinois at Urbana-Champaign Major: Accounting

Experience

Jan-April 1967	Staff Accountant, Touche, Ross & Co., Chicago, Ill.
1969-1973	Teaching Assistant, Department of Accountancy, University of Illinois at Urbana-Champaign
1974-1976	Assistant Professor, Department of Accountancy, University of Colorado at Boulder

Professional Certification

1971	Certified Public Accountant (Illinois)

Publications

"Use of the Box-Jenkins Approach to Forecast Tourist Arrivals" (joint author), Journal of Travel Research 14 (1976): 5-8.

Professional Societies

American Accounting Association
American Institute of Certified Public Accountants
American Institute of Decision Science
Colorado Society of Certified Public Accountants
EDP Auditors Association
Institute of Internal Auditors
National Association of Accountants