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1 Nature and Sources of Data

This study involves a number of interrelated topics concerned with the formation of expectations and with the pricing of capital assets. Our objective is to develop and test realistic models of common stock prices and returns based on expectations held by participants in the market. In order to provide tests of security-price models that are more satisfactory than those previously published, we have collected a unique body of expectations data over the decade of the 1960s.¹ These data are also of interest in their own right and worthy of detailed study. After a brief outline of the plan of the book and an indication of the study's major findings, this chapter describes these data.

1.1 Outline of the Study

Our first major area of research interest is the expectations data themselves, which are discussed in the present chapter.

Among the issues we will be considering in chapter 2, the following sorts of questions are indicative of our focus:

1. What is the extent of consensus among forecasters? Do the data suggest that models of capital-asset pricing based on homogeneous expectations are likely to provide a valid description of reality?
2. How accurate are the forecasts? A variety of tests will be used comparing the accuracy of the forecasts with a number of predictions derived from historical data.

1. Some partial results using a portion of the data from the first two years of the sample were published in Cragg and Malkiel (1968) and Malkiel and Cragg (1970). Most of the tests reported in this study are new, however.

3. Are the forecasts consistent with the rational-expectations hypothesis?
4. Is there information in the forecasts that is not reflected in market prices and that might be profitably exploited?
5. To what extent do the forecasts seem to arise from the forecasters' first predicting a few key variables (such as national income) and then estimating the effect of these variables on each company?

To summarize some of the major findings of chapter 2, we found that a common-factor model seemed consistent with the data. For most years, at least two factors are indicated, and we interpret this finding as suggesting that the forecasts do rest on certain economic variables such as real growth, inflation, etc. Despite the apparent applicability of the common-factor model, however, we did find considerable lack of consensus in the forecasts. Forecast accuracy can be described as poor. While the forecasts were superior to extrapolations from past observations (which were of essentially no use at all), we found no information in the forecasts that was not already impounded in market prices. Finally, our investigation of the rationality of the forecasts produced mixed results. While certain narrow implications of the rational-expectations hypothesis could be rejected, we could not reject the broader implications of the hypothesis; i.e., there was no evidence of readily available information that was not contained in the forecasts and no information in the forecasts that was not contained in market prices.

The next major focus of the study is on developing a restatement of capital-asset pricing theory so that we can use the expectations data we have collected to test the model. Chapter 3 is devoted to the development of that model and to problems of its empirical implementation using our data.

Following the seminal contributions of Markowitz (1959) and Tobin (1958) in formulating a model for portfolio selection, a considerable body of theory has developed concerning the pricing of capital assets in organized securities markets. Some of the most important early contributions were made by Sharpe (1964), Lintner (1965), and Mossin (1966). The main feature of the theory is that the values of all securities are determined simultaneously. In this general-equilibrium framework, using a mean-variance approach, a very simple structure of capital-asset prices is derived in which the expected returns of individual securities are a simple linear function of the security's systematic or nondiversifiable risk (usually called the security's beta).

The original capital-asset pricing model has now been widely questioned on the basis of empirical evidence and a large number of modified theories has been proposed. While the evidence points to a reasonably linear long-run relationship between risk and return, where risk is taken

to be a security's nondiversifiable risk, actual and theoretical relationships do not correspond, with the measured relationship being much flatter than the theoretical relationship. Moreover, the risk-return relationships over different time periods have been erratic and the estimates of the so-called riskless market rate of return seem unrealistic. Finally, estimated betas are quite sensitive to the index against which they are measured and some researchers have doubted whether the tests supporting the theory are statistically valid. Thus serious questions have been raised about the actual relationship between risk and return as well as about the underlying theory generating the relationship.

Since the theory does not appear fully supported by the data, it is legitimate to look closely at the assumptions of the underlying model. The critical assumptions upon which the capital-asset pricing model rests include the absence of transaction costs, identical beliefs among investors about the distribution of future returns, the ability to borrow or sell short at going market rates, and the existence of a risk-free security. Not only are these assumptions unrealistic, but some of them are in fact contradicted by expectations data we have collected from security analysts that imply considerable differences of opinion regarding future returns. Thus, in order to arrive at a theoretical structure suitable for empirical testing, it is necessary to alter the capital-asset pricing model to account for a variety of market imperfections.

Our approach is to develop a diversification model of security valuation using the return generation process suggested by Ross (1976, 1977). We need not rely on all the assumptions of the traditional capital-asset pricing model but rather on the common observation that many portfolios containing the securities of major corporations can be considered to be widely diversified. Within the assumed return generation process, this observation yields the same kind of valuation formula as the Ross arbitrage pricing model, though on somewhat different grounds. Specifically, investors can be assumed to regard the covariances of the various returns as stemming from their linear dependence on a limited number of random factors. These "factors" might represent the stock market as a whole, the level of economic activity as represented by national income, interest rates, inflation, and so on. In addition to considering models of security returns, we examine some valuation models that are explicitly formulated with respect to security prices.

Chapter 4 presents an empirical analysis of the various models of security prices and returns. To our knowledge, there has been only limited empirical testing of asset pricing models that has employed proper expectations measures. The availability of a continuous set of anticipations data permits the substitution of *ex ante* for *ex post* measures of rates of return. We are aware of one other major study, that by Friend,

Westerfield, and Granito (1978), that has used anticipations data in tests of asset pricing models, but this study was done only for four time periods and only for the simple capital-asset pricing model (CAPM).

In performing our tests, we use the expectations data we have collected to generate a series of expected returns during the 1960s for a large cross section of companies. We then test the simple CAPM as well as a variety of multifactor models. Not only the expected returns data but also the risk proxies represent expectational measures. A major strength of our empirical tests is that we are able to generate both *ex ante* risk and *ex ante* return measures directly from our data.

We conclude that the security returns implied by our expectations data are related to “systematic” risk elements appropriately defined. Particularly important are risk measures derived from the expectations data we have collected. We also find that security prices can be explained far better by our expectational measures than with historical data. Moreover, a multifactor model of security returns seems more satisfactory than the simple CAPM. It seems clear that risk should not be considered a one-dimensional variable as became popular after the initial development of the CAPM. We find moreover that valuation relationships are not stable over time and that different systematic risk influences vary in importance over time. For example, early in the 1960s inflation and interest-rate risk played little role in security valuations, yet later in the decade they played a far more important role than the traditional risk measure based on the simple CAPM. Finally, we find that the expectations data together with the estimated valuation relationships cannot be used to isolate “undervalued” or “overvalued” securities. There is evidence that our expectations data are fully impounded in current prices, leaving no opportunity for earning excess returns. In the final analysis, then, our study confirms the existence of efficient markets.

One of the most intriguing of our findings concerns a new risk proxy that appears to be particularly useful in explaining both expected returns for securities and actual stock prices. We found that the best single risk measure available for each company was the extent to which different forecasters were not in agreement about that company’s future growth. It is possible to interpret this measure as representing specific risk, in which case the finding might be taken to be inconsistent with recent models of security valuation including our own. On the other hand, our risk variable may indirectly measure the sensitivity of different securities to underlying common factors and thus serve as a most effective proxy for a variety of *systematic* risks. At the very least, our results suggest that risk undoubtedly has dimensions not fully captured by the covariances with market indexes or by other variables that have dominated recent work on valuation. They also suggest that the variance of analysts’ forecasts may represent the most effective risk proxy available.

1.2 The Participating Security Analysts and the Company Sample

The major task of professional security analysts is to forecast the future earnings and dividends of the companies they study. These forecasts are of particular interest because in them it is possible to observe divergence of opinion among different individuals dealing with the same quantities. But expectations regarding earnings (and dividend) growth are not the only important variables that they must calculate. Current accounting conventions are so far from uniform that estimates of precisely what a firm may have earned in a prior accounting period may also be considered to be an expectational variable.

The data used in this study were collected from nineteen investment firms. The participants were recruited through requests to three organizations. The first was a group of firms which used computers for financial analysis and met periodically to discuss mutual problems. The second was the New York Society of Financial Analysts. The third was the Institute for Quantitative Research in Finance, an organization of investment firms formed to encourage the development of quantitative techniques in finance.² From these groups, twenty-five firms agreed initially to participate in the study.

Unfortunately, not all volunteers were able to supply data useful to this study, either because the actual supplying of data would have been too burdensome (the data being kept for internal records in a form that made their extraction difficult) or because the data supplied were not comparable to other data being used by us (usually because the expectations were formulated at different dates). Because one of our main objectives was to examine differences and similarities in predictions of the same quantities, such data were not used in the present study. As a result the expectations data from only nineteen of these firms were finally used. Even among these nineteen firms there was far from complete overlap either in the corporations for which the predictions were available or in the particular type of expectations data that they were able to provide.³ Moreover, only one firm supplied both long- and short-term growth rates for the same years.⁴ Typically, the firms published (or made available) for their clients either long- or short-term growth rates but not both. Thus we can consider that, in effect, we have two samples, one of long-term, the other of short-term forecasts.

Of the nineteen participating firms, five were large money-center banks heavily involved in trust management, five were mutual-fund

2. This same organization provided financial support to the authors during the data-gathering phase.

3. We are deeply grateful to the participating firms, which wish to remain anonymous.

4. Two additional firms supplied both long- and short-term growth rates but not in the same years.

management companies responsible for the portfolio selections of several mutual funds, five were brokerage houses involved in servicing institutional clients as well as the general public, two were investment advisory firms, and two were pension-fund managers.

We would not argue that these estimates necessarily give an accurate picture of general market expectations. It would, however, seem reasonable to suggest that they are representative of opinions of some of the largest professional investment institutions and that they may not be wholly unrepresentative of more general expectations. Since investors consult professional investment institutions in forming their own expectations, individuals' expectations may be strongly influenced—and so reflect—those of their advisers. That several of our participating firms find it worthwhile to publish these projections and provide them to their customers provides prima facie evidence that a certain segment of the market places some reliance on such information in forming its own expectations. Also, insofar as other security analysts and investors follow the same sorts of procedures as those used by our sample analysts in forming expectations, general investors' expectations would resemble those of the analysts. Consequently, these predictions may well serve as acceptable proxies for general expectations and surely seem worthy of detailed analysis.

It should be noted that security analysts are not limited to published data in forming their expectations. They frequently visit the companies they study and discuss the corporations' prospects with their executives. These discussions cover such matters as the accounting conventions of the firms, their current and planned capital expenditures, their marketing programs, their projections, etc. As a result these analysts are usually able to form opinions about the quality of corporate management and these opinions often strongly influence their forecasts.

The basic company sample consisted of the 175 companies listed in the Appendix. Data were collected from 1961 through 1969, though the data were very sparse in the last years, especially 1969. As noted above, data were not always available for each company for each of the years covered. As we shall see below, this hindered us in doing some of the empirical tests we would have liked to have done.

The sample of 175 companies was not selected at random but rather on the basis of data availability. The companies covered by the data we have collected represent only a small fraction of those whose shares are traded on organized securities markets. Furthermore, it was not the case that all forecasters supplied data for the same set of companies; instead, there was considerable variation in which companies any particular forecaster covered. This varied coverage reflected the practices of the financial firms involved. Our procedure was to obtain the forecasts that the firms had already made rather than to solicit forecasts for a specific list of com-

panies. We then selected our sample to cover only those companies for which there was overlap in the predictions made. For a company to be included in the sample at least three securities firms had to furnish expectations estimates in each of two years. We lost a few companies from our original sample through subsequent merger, which made it impossible to track the accuracy of the predictions made.

These aspects of the data gathering raise questions about the possibility of sample-selection biases arising from our use of an availability sample. There is no doubt a bias toward large companies. Most firms did tend to make forecasts for the large-capitalization companies in which investment interest is centered. This is especially so since the clients of the advisers and brokers in the sample were typically institutional investors, which tend to specialize in larger firms. Our sample does therefore represent most of the trading volume on organized exchanges and most of the total capitalization of listed shares even though it contains only a small fraction of the total listed companies.

Whether there are other biases is less clear, or what their nature might be. It is not the case that the predictions were formed to support "buy" recommendations or that they represent only those predictions which give rise to such recommendations. We understand that all companies for which detailed forecasts were made were included in our data. But just what criteria were used for selecting the companies to be investigated by a particular firm is not entirely obvious. Primarily, we suspect that it represents past interest especially as expressed in prior inclusion in institutional and individual portfolios, and it is not apparent how this would bias the sample except for the size bias already noted.

One might worry that our forecasts do not really represent the expectations on which the values of securities actually depend. Instead, they may only reflect a paper trail created to give the illusion of responsible action which in fact has quite other bases. This possibility cannot be ruled out a priori, but two points should be made. First, much of the empirical work is designed to investigate whether our data do represent the expectations on which valuation depends. Second, it would be strange if firms expended considerable resources to lay a paper trail without also trying to obtain the most useful and relevant information to be had for the cost.

It is possibly worth noting that the pattern of data availability should be considered a substantive finding of our studies. Even among professional security managers, equally precise and well-formed expectations are not made for every company. Different investment firms often had clearly formed opinions about different companies. This is an aspect of expectations in securities markets that has as yet received virtually no theoretical attention.

As noted above, the sample of the short-term forecasters was essentially a different sample from the long-term one, with only one overlap-

ping predictor. We were, however, able to use the same 175 companies included in the long-term sample. Thus we again find the same large-company bias in the short-term sample. But we did have some additional short-term forecasts available for a maximum of 85 companies. These forecasts were used in our study of the accuracy of the short-term predictions (where we used a 260-company sample) but not in the later valuation work.

1.3 The Data Collected

1.3.1 Normalized Earnings

It is well known that the market does not necessarily capitalize the reported earnings for a firm during the preceding year. Instead, it is likely that investors employ some concept of normal earnings for each firm. Consider, for example, the hypothetical case of a firm that has been earning \$5 per share for a number of years. Suppose that during one year, as a result of damage caused by a severe hurricane, earnings decline to \$3 per share, the \$2 difference being a nonrecurring loss. Will the market capitalize the \$3 per share earnings? It is more likely that investors will recognize that this is a temporary dip in earnings. In evaluating the stock, they will tend to apply an appropriate price-earnings multiple to the amount they consider represents the normal earning power of the company and not to the actual earnings figure. This belief about the appropriate figure receives support from the fact that one of the first jobs of a security analyst is to adjust the firm's accounting earnings to arrive at an indication of true earning power (see Graham et al. 1962, chapter 34).

The problem of evaluating earnings is particularly acute for cyclical companies. The market does not apply a constant multiplier to cyclically varying earnings. Earnings multiples tend to fall as earnings rise, and rise as earnings fall, because of the cyclical path of the earnings. Thus the price-earnings ratios that are relevant for valuation may be the ratios of prices to normalized rather than reported earnings. These normalized earnings are estimated to be the earnings that would occur at a normal level of economic activity if the company were experiencing normal operations—that is, operations not affected by such nonrecurring items as strikes, natural disasters, and so forth.

There is an additional problem in using published accounting earnings figures as the basis of a valuation study. Reported earnings depend on a number of variable accounting procedures and management decisions in such areas as depreciation and inventory policy. Consequently, the use of reported earnings figures would not be likely to put companies on a comparable basis. Thus one of the most important reasons for using normalized earnings figures is to ensure that the same accounting conven-

tions are applied to all companies. Particular care was taken to ensure that those which furnished normalized earnings adopted uniform conventions with respect to consolidation of subsidiaries and accounting for depreciation and investment tax credits. For example, the convention applied to the normalized utility earnings figures used in the current study is that all earnings were adjusted (by the analysts) to a "flow through" basis. Thus, for example, all tax savings resulting from the investment tax credit were allowed to "flow through" directly to corporate earnings. Similar conventions had to be adopted with respect to such factors as the earnings of nonconsolidated subsidiaries—particularly foreign ones—the treatment of some nonrecurring items, and so forth. We then took the average of the normalized earnings figure (\overline{NE}) to be the relevant earnings variable for valuation.

1.3.2 Expected Growth Rates

Two types of expected growth rates were furnished, short-term (for the following year) and long-term. The long-term growth rates were estimated by nine securities firms.⁵ Each long-term growth-rate figure was reported as an average annual rate of growth expected to occur in the next five years. At first thought, such a rate of growth depends on what earnings are expected to be in five years' time and on the base-year earnings figures. However, this dependence need not be very great if the growth rate is regarded more as a parameter of the process determining earnings than as an arithmetic quantity linking the current level of earnings to the expected future level. Discussion with the suppliers of the data indicated that all firms were attempting to predict the same future figure, the long-run average ("normalized") earnings level, abstracting from cyclical or special circumstances. The bases used were less clear. Some firms explicitly used their estimates of "normalized" earnings during the year in which the prediction was made. Others provided different figures as bases: in one case the firm estimated actual earnings; in another a prediction of earnings for the future two and trailing two quarters was used as a base. These differences in bases did not seem to be reflected in the growth rates, however, since attempts to adjust the rates for differences in base figures introduced rather than removed disparities among the predictions. In dealing with long-term growth, therefore, we use the growth rates as supplied by each participant and not some adjusted figures.

These growth rates were used individually in the study of forecast accuracy reported in chapter 2. They were averaged across predictors each year for use in the valuation studies reported in chapter 4. The

5. Not all nine firms provided growth-rate estimates for each of the companies in the sample during each of the years covered.

figures reported in the appendix of this chapter are averages of the available forecasts supplied by those of the nine predictors which did supply data for a particular company in a particular year. When we need to refer to individual long-term predictors, we use the numerals 1–9.

In addition to these expectations of long-term growth rates, we also collected estimates of the following year's earnings from eleven securities firms.⁶ These earnings projections were converted into growth rates by dividing the estimates by present-year average "normalized" earnings estimates and subtracting unity.⁷ As we discuss at more length in chapter 2, we found, somewhat to our surprise, that the implicit forecasts of short-term (one-year) growth were not highly correlated with the long-term anticipations and we were able to use both sets of data in some of the empirical valuation work presented in chapter 4. As in the case of the long-term expectations, the individual predictions were used in the study of forecast accuracy presented in chapter 3. Averages were used in the valuation work and are reported in the appendix to this chapter. We refer to predictors of short-term earnings growth by the letters A–K to distinguish readily these forecasts from the long-term ones.

1.3.3 Estimates of Past Growth Rates

Two of the participating firms provided estimates of past growth rates as well as future predictions. The figures represented perceived growth over the past eight to ten years, the past four to five years, the past six years, and the last year. It may seem unnecessary to rely on security analysts for estimates of historic growth rates. However, the past growth of a company's earnings is not, in any meaningful sense, a well-defined concept. Earnings—being basically a small difference between two large quantities—can exhibit large year-to-year fluctuations. They also can be negative, which creates problems for most mechanical calculations. Indeed, no mechanical method for calculating past growth rates can be fully satisfactory.

To illustrate the difficulty which underlies such an approach, suppose we simply take as the expected growth rate the (compounded) per share earnings growth rate over the past five years. The base year may represent a cyclical trough or may have been a particularly poor year for other reasons. The resulting large growth rate could be completely misleading—cyclical companies could appear to be "rapid-growth" stocks at certain times. While this difficulty can be lessened by calculating the growth rate from a least-squares trend line fitted to the earnings or by increasing the number of years included in the calculations, these tech-

6. Three of these eleven firms also supplied long-term forecasts. However, in only one case did we have the same firm supplying *both* long- and short-term predictions in the same years.

7. The result of this calculation is the short-term growth forecast.

niques cannot eliminate the problem. Moreover, several technical difficulties could be enumerated which make the use of calculations of growth rates from historical data an inherently treacherous affair.

In addition, the accounting definition of earnings is not in exact conformity with the economically relevant concept of profits or return on investors' capital. For these reasons, calculated growth rates are sensitive to the particular method employed and the period chosen for the calculation. Consequently, such calculations may be a poor reflection of what growth is generally considered to have been, and may not be useful in assessing the past performance of corporations. Furthermore, it may be supposed that in assessing security analysts' predictions of growth, their own estimates of past growth are more likely to be relevant than objectively calculated rates. The extent of agreement among the two types of measures is among the subjects considered in the next chapter. The past growth rates we collected were used in our analysis, but we do not present the individual figures here since they are less important than the future growth forecasts.

1.3.4 Extent of Consensus among the Forecasters

While we are unable to publish the individual data, researchers may well find that the extent of consensus among our forecasters represents a promising expectational measure in valuation studies. As we shall show below, this variable was extremely useful in our own empirical work. Consequently, in the appendix we list the variance of the (long-term) forecasted growth rates. In calculating the variances of the predicted long-term growth rates, we divided by $N - 1$ observations (using the usual formula giving an unbiased estimate for independent quantities). As a consequence, in the last years of our survey when we very often had only two forecasters, there is a tendency to observe some very large numbers for the variances of the growth rates since the sampling error of the variance estimates can be expected to be large. While there would indeed seem to be a greater dispersion in the growth estimates later in the 1960s compared with the earlier part of the decade, a substantial part of the increase in the dispersion of the estimates of the variances of the predictors is the result of the smaller number of the predictions. The difficulties associated with having different numbers of predictions for separate companies and the small numbers of predictors made it seem unprofitable to use statistics such as the range or interquartile range to measure dispersion. No variances were reported for 1969 since in a very large number of instances we had only one predictor per company. Whenever only one predictor (or none) furnished a growth estimate, the variance was not calculated and a line of asterisks is given in the appendix. A zero variance represents perfect agreement among those which did supply a forecast.

1.3.5 Industrial Classification

All our participating firms also supplied an industrial classification. While other classifications are available, the concept of industry is not really precise enough to get a fixed, unquestionable assignment of corporations to industries. Particular problems are presented by conglomerate companies. Perceived industry may be more relevant than any other grouping in an investigation of anticipations. The classification we use represents a consensus about industry among our participants. Where disagreements occurred (as was often the case with conglomerates), the corporation was simply classified as "miscellaneous." The classification represented considerable aggregation by us over finer classifications, and only eight industries were distinguished. These were

1. electricals and electronics,
2. electric utilities,
3. metals,
4. oils,
5. drugs and specialty chemicals,
6. foods and stores,
7. "cyclical"—including companies such as automobile and steel manufacturers, and meat packers,
8. "miscellaneous."

The first column of the appendix tables gives the company's industrial classification.

1.4 Concluding Comments

This study utilizes a body of expectations data in order to shed light on the nature of expectations formation in the securities markets and to test theoretical propositions concerning the nature of capital-asset pricing. This chapter has described the expectations data that will be utilized and has indicated the method by which these data have been collected.

In view of the unique⁸ nature of these data, the considerable effort involved in their collection, and the relevance of such data in many aspects of securities research, we have endeavored to gain permission from our survey participants to publish these data for use by other researchers. Unfortunately, we do not have permission to release the individual predictions. As we shall indicate in the next chapter, the over-all quality of these estimates as useful forecasters is generally rather poor and individual firms feared that their identity might be ascertained if

8. We know of no comparable data available during the 1960s. Some short-term forecasts were published and analyzed during the 1970s, however. In 1980, one firm began publishing long-term growth forecasts of a number of securities firms. The publication, called the *Institutional Brokerage Evaluation Service*, if continued, should begin to provide a wide variety of both short- and long-term forecasts.

the individual forecasts were made public. We do, however, have permission to publish the average predictions of our survey participants as well as the standard deviation of the forecasts, and these data are presented in the appendix below.

Appendix

This appendix contains data on the expectational variables used in the studies of valuation and forecast accuracy. Five variables are presented. The first is the ratio of price to normalized earnings (P/\overline{NE}) (table 1.A.1). The ratio for each firm was calculated by dividing end-of-year market price from the Standard & Poor's compustat tape by the average of the normalized-earnings estimates of two securities firms. The second variable is the average predicted future long-term growth rate (\bar{g}_p) (table 1.A.2). This variable represents the anticipated long-term (five-year) growth rate of earnings per share. The figures presented in the table are averages of up to nine predictors. Not all of the nine predictors, however, made forecasts for each company in each of the surveyed years.

The third variable, presented in table 1.A.3, is the analysts' predictions of short-term growth. The numbers in the table represent the ratios of the anticipated earnings per share for the next year divided by average normalized earnings less unity, $[(\bar{E}_{t+1}/\overline{NE}) - 1]$. Thus the predictions are, in effect, the expected short-term growth rate. Estimates are based on the forecasts of eleven predictors, although—as in the case of the long-term growth rates—not all eleven predictors made forecasts for each of the companies in each of the years covered. None was available in 1969.

The fourth variable represented the dividend-payout ratio (D/\overline{NE}) (table 1.A.4). The ratio was calculated by dividing the indicated dividend rate per share as of the end of the year (as estimated by the predictor which furnished data in all years) by the average normalized earnings estimate (σ_p^2). The final variable shown is the variance of the long-term growth forecasts (table 1.A.5). In the calculation, division was made by $N - 1$, with N being the number of predictors. These figures are not calculated for 1969.

In the first column of each table, the sample companies are categorized by industry group. The classifications used represented a consensus about industrial affiliation among the survey participants. Where disagreements occurred among our respondents about the appropriate industrial classification, the corporation was classified as miscellaneous.

The sample of 175 companies was selected on the basis of data availability. Nine years of data are included, covering the years 1961 through 1969. Where data were not available for a particular company in a specific year, the cell has been filled with several asterisks.

Table 1.A.1 **Ratio of Price to Normalized Earnings (P/\overline{NE})**

Industry Code		1961	1962	1963
7	A.C.F. Industries, Inc.	*****	16.3230	22.9630
1	Addressograph-Multigraph (AM Corp.)	45.6170	22.9550	25.8150
8	Air Reduction Co. (B.O.C. Fin. Corp.)	17.7740	14.7620	15.4140
2	Allegheny Power System Inc.	*****	19.1180	18.8430
8	Allied Chemical Corp.	22.2500	17.7000	21.6830
3	Alcan Aluminum Ltd.	23.1250	14.6360	20.0000
3	Aluminum Company of America	28.6810	21.2140	26.4420
4	Amerada Pet. (Amerada Hess)	22.1780	20.2000	21.7580
5	American Cyanamid Co.	18.9670	19.3630	21.3840
2	American Electric Power Co.	26.7310	25.0000	27.2800
5	American Home Products Corp.	36.7440	22.8800	25.0000
8	Amer. Mach. & Foundry Co. (AMF Ind.)	26.0160	13.6670	13.9290
8	Amer. Nat. Gas Co. (Amer. Nat. Res.)	20.5000	19.1380	18.3330
3	Amer. Smelt. & Refin. (UV Ind.)	*****	12.6670	12.7760
8	American Telephone & Telegraph Co.	24.4170	20.3040	23.3050
8	American Tobacco (Amer. Brands, Inc.)	*****	11.4080	11.1760
3	Anaconda Co.	*****	8.9011	9.7396
3	Armco Steel Corp. (ARMCO Inc.)	12.9590	11.6570	14.6390
7	Armour & Co. (Esmark)	*****	15.1740	15.7330
4	Atlantic Richfield Co.	10.9000	10.1840	11.6490
8	Atlas Chem. Ind. Inc. (Imperial Ch.)	18.3650	12.7660	18.4620
2	Baltimore Gas & Electric Co.	*****	20.3910	21.1540
1	Beckman Instruments, Inc.	46.6150	32.0080	24.3850
8	Beneficial Finance Co.	20.1960	19.2060	19.8700
3	Bethlehem Steel Corp.	14.6980	9.5417	11.1820
7	Boeing Co.	*****	9.0000	10.2500
6	Borden Inc.	24.6050	18.6290	19.9610
2	Boston Edison Co.	19.2240	20.1390	21.5380
5	Bristol-Myers Co.	37.3470	29.0160	30.0640
1	Burroughs Corp.	*****	16.5440	14.5380
8	C.I.T. Financial Corp. (RCA Corp.)	19.7920	17.6770	15.4950
6	Campbell Soup Co.	29.1300	22.1140	27.6190
7	Caterpillar Tractor Co.	17.7910	16.9890	20.8700
2	Central & Southwest Corp.	29.2660	25.4620	26.4290
2	Cincinnati Gas & Electric Co.	19.5740	18.8210	18.1820
4	Cities Service Co.	13.1850	12.3640	11.4220
2	Cleveland Electric Illuminating Co.	22.1490	18.9630	18.8730
6	Colgate Palmolive Co.	20.3770	14.6250	17.3680
2	Consolidated Edison Co.	20.0300	20.0600	18.7710
2	Consumers Power Co.	22.0200	20.4220	20.8620
4	Continental Oil Co. (CONOCO)	20.1820	16.6790	17.7940
6	Corn Products Co. (CPC Intl. Inc.)	31.4860	24.5180	26.8890
8	Crown Zellerback	18.8490	18.2000	20.4670
1	Cutler-Hammer Inc. (Eaton Corp.)	19.0620	14.1720	14.8050
2	Dayton Power & Light Co.	*****	20.8490	19.4920
2	Detroit Edison Co.	*****	21.8100	21.0480
8	Dow Chemical	28.6760	21.8140	25.7940
2	Duquesne Light Co.	19.6090	19.0150	18.6230

1964	1965	1966	1967	1968	1969
19.3900	16.8750	10.9000	11.3000	17.0000	10.7000
19.1750	22.2170	15.2000	31.6000	23.3000	16.9000
15.5040	17.8440	13.2000	12.5000	17.3000	*****
20.1790	17.8230	16.5000	12.2000	*****	*****
18.4370	16.5130	11.8000	13.3000	20.0000	11.4000
21.3890	18.6570	6.5000	5.2000	6.0000	11.3000
21.7700	25.5420	37.1000	35.2000	38.5000	14.8000
21.3140	16.3060	15.4000	16.2000	21.8000	10.9000
21.5620	21.6250	14.8000	14.7000	16.8000	13.3000
26.8940	24.3060	17.5000	16.4000	17.6000	12.5000
25.2400	27.7460	21.8000	26.4000	23.7000	27.2000
14.0380	15.7000	11.7000	*****	*****	*****
18.8270	18.2570	12.3000	10.9000	*****	*****
14.5960	14.8960	11.1000	10.9000	12.7000	*****
21.8400	18.0000	15.7000	13.2000	14.6000	11.3000
12.9900	13.0930	10.0000	*****	*****	*****
10.8850	13.6080	11.4000	7.8000	25.3000	8.2000
11.9440	14.6110	9.8000	9.8000	10.5000	10.5000
13.1870	*****	*****	*****	*****	*****
12.0790	13.3860	11.6000	10.8000	29.3000	18.5000
17.0000	14.2740	10.7000	*****	*****	*****
21.7860	20.4550	17.5000	13.1000	14.8000	10.7000
54.5280	27.1640	25.6000	32.6000	41.5000	33.6000
18.6940	16.5650	11.1000	9.4000	12.2000	10.2000
10.3310	14.2920	10.4000	9.4000	10.2000	9.3000
11.8750	14.9430	32.4000	18.2000	13.1000	28.0000
22.8420	19.1760	14.1000	15.9000	19.4000	11.0000
22.8490	18.8300	16.8000	13.9000	*****	*****
30.6670	33.9380	32.4000	37.0000	34.4000	28.8000
15.7810	26.6000	25.1000	35.6000	44.2000	36.9000
13.0290	11.8100	10.7000	11.0000	15.1000	10.4000
26.2710	21.5150	15.9000	17.5000	17.6000	18.5000
27.5000	21.8680	15.9000	18.7000	22.0000	16.9000
26.4940	23.1760	20.4000	18.8000	17.9000	14.5000
21.4040	18.5710	15.0000	13.5000	14.5000	10.4000
14.4550	12.5370	11.2000	10.4000	20.3000	9.3000
20.8550	19.5180	16.4000	12.9000	14.9000	10.7000
19.3630	15.4170	11.4000	17.6000	19.2000	16.1000
20.2090	16.9000	11.5000	11.9000	13.1000	10.2000
23.7910	21.2260	17.0000	14.3000	16.2000	10.6000
17.9410	14.8440	12.5000	12.3000	13.6000	8.3000
22.0200	20.9310	16.8000	15.8000	17.4000	12.8000
20.7340	16.0330	12.2000	13.9000	16.1000	13.2000
18.2020	20.2170	12.6000	18.5000	25.0000	16.8000
21.4520	18.9130	15.3000	12.9000	15.2000	10.9000
21.9700	19.6050	15.0000	11.8000	15.3000	10.2000
25.5000	22.5180	16.3000	19.3000	17.1000	15.5000
20.0000	17.2080	15.5000	13.6000	*****	*****

Table 1.A.1 (continued)

Industry Code		1961	1962	1963
8	Eastman Kodak Co.	34.5350	26.0780	29.6340
7	Ex-Cell-O Corp.	*****	12.9370	11.7320
6	Federated Dept Stores Inc.	25.0000	18.7500	23.1380
8	Firestone Tire & Rubber Co.	17.4270	14.7890	15.8420
2	Florida Power Corp.	32.5000	29.4170	27.3850
2	Florida Power & Light Co.	34.8850	28.3680	28.6270
6	Food Fair, Inc.	22.6430	12.7610	12.7690
7	Ford Motor Co.	14.5970	11.0740	11.8750
7	General Amer. Transp. Corp. (GATX)	26.1720	20.5840	20.5520
1	General Electric Co.	25.7260	21.6200	25.2540
6	General Foods Corp.	33.8160	25.1200	26.6300
6	General Mills Inc.	20.5300	17.3290	20.0640
7	General Motors Corp.	18.5370	15.6040	18.5000
7	General Portland Cement Co.	14.5620	10.5150	13.7310
2	General Public Utilities Corp.	20.8590	20.1410	18.8240
8	General Telephone & Electronics	28.2930	19.5650	24.8040
8	Goodrich (B.F.) Co.	18.9140	10.8540	13.6180
8	Goodyear Tire & Rubber Co.	18.9360	13.8830	17.6060
6	Grand Union Co. (Cavenham Ltd.)	20.6820	11.0710	13.4910
6	Great Atlantic & Pacific Tea Co.	22.2430	15.0480	14.8570
4	Gulf Oil Corp.	12.5760	11.9030	13.7230
2	Gulf States Utilities Co.	28.0360	22.0630	24.3080
6	Heinz (H. J.) Co.	23.4580	16.3840	17.0870
8	Hercules Inc.	35.0420	24.5590	22.5000
1	Hewlett Packard Co.	61.6670	37.9920	27.5180
1	Honeywell Inc.	33.6770	19.5660	35.2980
8	Household Finance Corp.	19.6080	16.7260	18.5200
2	Houston Ltg. & Pow. Co. (Hous. Inds.)	34.1110	29.6150	28.8330
2	Idaho Power Co.	25.3450	22.3730	21.5830
7	Ideal Cement (Ideal Basic Ind. Inc.)	*****	14.1800	15.9170
2	Illinois Power Co.	24.4140	22.5000	23.2860
7	Ingersoll-Rand Co.	19.5980	15.4650	18.7430
3	Inland Steel Co.	15.4440	11.9840	13.8280
1	International Business Machines	64.3330	36.2790	40.1580
7	International Harvester Co.	*****	12.8390	14.6340
3	Intl. Nickel Co. Canada (INCO)	28.9410	18.3820	20.3330
8	International Paper Co.	20.0680	14.1080	17.1330
1	Intl. Telephone & Telegraph Corp.	27.0350	18.3700	21.8810
7	Johns-Manville Corp.	18.2400	14.3330	16.2500
3	Jones & Laug. Steel Corp. (LTV Corp.)	*****	11.4070	13.4080
3	Kaiser Aluminum & Chemical Corp.	*****	20.5070	19.5890
6	Kellogg Co.	*****	21.2260	28.9830
3	Kennecott Copper Corp.	12.8460	10.8750	11.0960
8	Kimberly-Clark Corp.	22.3550	15.7300	19.6070
6	Kroger Co.	19.1940	15.4030	16.2860
8	Liggett & Myers (Liggett Group)	16.7690	9.3486	11.5230
5	Lilly Eli Co.	27.9030	25.1180	33.8190
1	Litton Industries, Inc.	51.9170	37.8170	33.3510

1964	1965	1966	1967	1968	1969
29.0050	36.1150	29.5000	33.1000	31.5000	28.8000
12.8120	16.0000	*****	*****	*****	*****
27.3810	21.6800	15.3000	18.8000	17.8000	16.8000
17.5490	16.3760	15.3000	13.3000	13.7000	12.7000
27.0710	24.4740	22.7000	19.2000	17.9000	16.7000
27.5910	26.3750	22.1000	20.8000	19.7000	16.6000
14.5000	13.2580	8.2000	10.7000	*****	*****
12.0830	11.0970	7.4000	9.8000	9.5000	9.6000
21.2500	22.2350	14.2000	15.0000	20.5000	12.6000
27.2260	30.2560	19.8000	21.3000	24.9000	20.5000
22.0890	21.1540	17.6000	16.3000	19.3000	10.7000
22.1260	21.1610	16.7000	16.2000	19.4000	16.7000
18.7320	16.5600	9.7000	13.7000	25.2000	13.3000
12.6470	10.4460	9.0000	13.0000	*****	*****
20.8900	18.6080	15.5000	13.3000	14.4000	10.4000
27.4550	25.5560	20.5000	17.5000	18.1000	12.8000
13.2760	12.4730	12.0000	12.6000	16.8000	11.0000
17.5730	17.4310	13.2000	14.2000	15.0000	13.2000
18.1360	13.5530	8.0000	11.1000	13.5000	10.6000
16.5840	14.9460	11.3000	12.7000	18.9000	12.0000
15.7050	14.1460	10.9000	12.7000	14.3000	9.8000
26.7140	26.5850	22.5000	20.0000	19.2000	14.2000
16.1470	14.1130	8.6000	12.0000	14.6000	12.8000
24.4000	19.3680	15.7000	15.5000	19.2000	14.8000
28.8220	38.6820	31.9000	45.0000	48.2000	43.8000
11.3380	26.8470	16.5000	35.2000	34.9000	28.4000
15.4580	17.0700	13.0000	11.1000	14.0000	11.9000
31.6670	26.0490	22.7000	20.9000	20.5000	16.0000
25.2380	19.6670	15.5000	13.6000	15.8000	12.4000
14.0980	13.0000	*****	*****	*****	*****
22.8850	20.4600	18.3000	14.8000	15.9000	12.1000
17.0000	18.6440	*****	*****	*****	*****
11.8920	12.5700	9.7000	9.7000	9.5000	8.3000
33.4290	33.6030	29.8000	45.5000	40.1000	36.5000
16.2630	15.0410	9.5000	10.9000	13.8000	11.6000
21.0000	20.5110	16.6000	19.5000	18.6000	18.7000
17.4670	15.3750	10.0000	13.5000	17.1000	15.4000
19.4260	19.1780	16.2000	21.1000	21.2000	17.9000
16.3360	14.1080	10.7000	13.8000	21.8000	13.6000
11.1520	12.5110	7.9000	8.6000	19.0000	*****
17.3190	19.5330	14.0000	14.0000	14.6000	14.1000
29.2420	21.2180	16.8000	17.9000	17.4000	15.2000
14.1540	16.2420	14.1000	10.0000	15.2000	8.2000
15.8620	14.3140	10.7000	13.3000	18.0000	16.3000
20.2000	14.6940	8.8000	16.0000	12.5000	*****
12.7910	11.2250	12.0000	*****	*****	*****
35.7970	35.6380	27.0000	28.1000	31.6000	36.1000
25.1640	38.2040	27.9000	36.2000	39.1000	16.4000

Table I.A.1 (continued)

Industry Code		1961	1962	1963
7	Lockheed Aircraft Corp.	*****	13.4160	9.8276
2	Long Island Lighting Co.	24.8890	21.7370	22.3640
4	Marathon Oil	*****	14.8330	18.2930
8	McGraw Hill Inc.	34.2500	18.3330	21.7310
8	Mead Corporation	*****	14.9510	17.4270
5	Merck & Company	34.5630	27.0000	33.4350
2	Middle South Utilities Inc.	24.3330	22.6560	22.4640
8	Minnesota Mining & Manufacturing Co.	44.0160	31.6420	35.9030
8	Moore Corp.	25.6330	19.8300	19.8920
1	Motorola, Inc.	*****	21.2070	25.2800
6	National Biscuit Co. (NABISCO)	22.1790	20.3530	24.6770
1	National Cash Register Co. (NCR)	38.1680	21.1840	22.7540
6	National Dairy Prods. (Kraft Inc.)	19.6580	17.2480	17.1050
8	National Distillers & Chemical Corp.	13.0360	12.1250	13.2640
8	National Lead Co. (NL Industries)	22.9590	14.9180	16.0530
3	National Steel Corp.	*****	13.5850	15.5200
2	New York State Electric & Gas Co.	19.7670	18.2020	17.8120
2	Niagara Mohawk Power Corp.	19.5110	18.8270	19.6300
7	No. Amer. Aviation (Rockwell Intl.)	*****	17.5330	10.7870
7	North Amer. Car Corp. (Flying Tiger)	26.8000	17.3680	17.1550
2	Northern States Power Co.	22.0780	21.8460	21.2500
5	Norwich Phar. Co. (Morton-Norwich)	36.4620	24.3060	19.9310
2	Oklahoma Gas & Electric Co.	27.8660	26.0000	26.9740
7	Otis Elevator Co. (United Tech.)	26.7570	18.6970	15.3390
8	Owens-Corning Fiberglass Corp.	36.8480	23.0810	26.6320
2	Pacific Gas & Electric Co.	22.7500	20.2380	18.3820
6	Penney (J.C.) Co., Inc.	23.6470	18.7500	21.1240
5	Pfizer (Chas & Co.) Inc.	28.5000	24.5450	23.7350
3	Phelps Dodge Corp.	15.2500	13.7420	14.5270
8	Philip Morris Inc.	19.5580	12.4360	12.1110
4	Phillips Petroleum Co.	17.7650	14.6240	14.2700
1	Pitney-Bowes, Inc.	42.4140	24.6920	27.1010
8	Pittsburg Plate Glass (PPG Ind.)	16.6670	12.9860	13.6310
8	Polaroid Corp.	95.6520	51.2500	48.1520
8	Prentice Hall Inc.	47.0830	32.0930	27.9070
6	Procter & Gamble Co.	35.9800	25.0000	26.6250
2	Public Service of Colorado	25.7890	22.4000	22.6000
2	Public Service Electric & Gas Co.	18.8240	19.5740	19.0970
1	Radio Corp. of America (RCA Corp.)	*****	24.2110	31.6800
3	Republic Steel Corp.	*****	8.6563	11.3210
3	Reynolds Metals Co.	22.9850	14.6150	19.1040
8	Reynolds (R.J.) Tob. Co. (Rey. Ind.)	26.5830	13.1750	13.3070
5	Richardson-Merrell Inc.	31.1570	19.1740	14.6180
8	Rohm/Haas Co.	30.1640	24.8640	25.4590
4	Royal Dutch Petroleum Co.	*****	10.6100	11.2930
6	Safeway Stores, Inc.	20.4740	15.5930	17.5000
8	Scott Paper Co.	36.2770	25.5880	27.5930
6	Sears, Roebuck & Co.	32.2070	22.1580	27.1870

1964	1965	1966	1967	1968	1969
8.6441	10.4460	13.2000	10.8000	11.7000	8.5000
23.7070	20.7140	10.0000	14.2000	*****	*****
16.8420	13.2650	12.6000	14.4000	20.0000	10.9000
26.9640	33.8570	25.2000	31.3000	30.8000	23.2000
16.5000	14.5740	9.8000	10.5000	15.3000	11.4000
38.1730	39.1670	28.9000	30.0000	32.5000	34.8000
26.1330	23.7640	19.2000	18.6000	17.7000	14.2000
29.1450	30.9090	26.0000	31.7000	35.6000	29.7000
22.3740	25.2500	20.8000	35.5000	*****	*****
22.6040	35.7610	14.3000	26.0000	26.7000	22.9000
21.8690	18.5040	16.6000	13.0000	15.6000	15.1000
21.4130	21.3690	17.4000	31.7000	31.4000	33.2000
21.3580	17.3470	13.1000	13.3000	15.8000	13.0000
14.5210	15.0000	13.3000	10.8000	*****	*****
16.2360	14.5600	11.0000	14.0000	17.9000	*****
10.9070	15.8920	9.5000	9.2000	10.9000	9.6000
17.9210	18.5350	15.0000	12.8000	*****	*****
18.5960	19.0180	13.1000	11.8000	14.2000	9.1000
9.4956	9.9160	8.7000	*****	*****	*****
20.0000	18.4170	10.0000	10.9000	*****	*****
22.1230	17.9490	16.5000	13.2000	*****	*****
21.3290	22.3680	19.7000	27.1000	24.8000	20.6000
28.6360	23.5290	19.3000	19.3000	*****	*****
13.5550	15.9790	10.9000	14.3000	17.8000	14.9000
22.2110	22.5210	17.4000	23.0000	28.9000	*****
19.2960	18.4810	15.7000	14.4000	14.0000	11.2000
28.8170	22.3080	16.4000	19.4000	22.4000	18.8000
22.0000	27.2480	22.1000	22.7000	24.3000	26.4000
15.2990	12.8020	10.0000	9.0000	17.0000	9.1000
11.7670	12.9670	13.1000	*****	*****	*****
15.2860	14.4230	11.1000	14.8000	17.5000	12.6000
20.7330	22.1840	22.9000	28.4000	28.1000	25.0000
15.5370	15.0780	10.8000	13.0000	15.9000	*****
31.2070	93.3000	*****	55.8000	63.0000	50.0000
28.8460	31.1760	23.6000	26.9000	30.7000	27.0000
25.0770	20.7090	19.2000	20.9000	20.2000	22.0000
22.7780	19.5610	16.0000	13.1000	14.7000	10.6000
19.7530	17.8410	15.0000	12.7000	13.2000	9.6000
25.0930	32.0340	15.9000	21.2000	19.6000	13.9000
9.6591	11.0970	4.2000	*****	*****	*****
18.3550	20.7890	15.2000	15.2000	26.7000	12.0000
11.9620	13.0370	9.7000	*****	*****	*****
17.1480	21.5100	17.6000	19.3000	21.7000	22.9000
25.6220	22.4770	14.4000	*****	19.1000	*****
11.6350	10.7590	7.5000	10.2000	11.7000	8.9000
20.7640	14.7060	11.4000	12.6000	11.8000	*****
23.3620	23.9060	15.0000	16.9000	20.0000	19.4000
30.7740	26.9390	17.3000	23.8000	23.0000	21.9000

Table 1.A.1 (continued)

Industry Code		1961	1962	1963
4	Shell Oil Co.	15.7500	15.3500	18.0290
8	Singer Co.	*****	21.0830	25.7140
5	Smith Kline & French (Smithkline)	39.1890	30.7140	28.5000
4	Socony (Mobil Oil Corp.)	10.4850	12.5000	14.6210
2	Southern Co.	26.4460	23.4660	23.3510
2	Southwestern Public Service Co.	27.2000	26.9230	26.5790
1	Sperry Rand Corp.	*****	14.7300	25.0000
4	Standard Oil Co. of California	12.3030	14.3020	12.6600
4	Standard Oil Co. of Indiana	12.5710	10.9770	13.4470
4	Standard Oil of N.J. (Exxon)	13.9040	14.8750	17.7780
5	Sterling Drug Inc.	30.0000	23.9680	23.6960
7	Swift & Co. (Esmark)	12.6840	14.6850	15.4420
8	Talcott Nat. (Assoc. Fst. Cap. Corp.)	27.1710	19.6340	14.0130
2	Tampa Electric Co.	34.1180	29.3970	31.7190
4	Texaco Inc.	17.2560	16.6110	17.5000
8	Texas Gulf Sulphur Co. Inc.	16.6350	10.0880	18.2690
1	Texas Instruments, Inc.	37.5380	24.6600	28.5640
2	Texas Utilities Co.	30.9230	28.1510	28.7340
8	Union Carbide Corp.	23.4540	19.2140	22.2120
4	Union Oil Co. of California	14.8890	14.0280	16.0000
7	United Aircraft Corp. (United Tech.)	*****	13.9260	11.1760
7	U. S. Gypsum Co.	20.9500	15.3140	16.8840
8	U. S. Rubber (Uniroyal, Inc.)	13.0000	9.8182	10.6800
3	U. S. Steel Corp.	16.5260	9.9714	14.1670
5	Upjohn Inc.	33.2580	19.6270	29.0410
2	Virginia Electric & Power Co.	29.5240	26.4840	26.3430
1	Westinghouse Electric Corp.	17.6140	14.8840	15.7560
2	Wisconsin Electric Power Co.	*****	19.0830	17.9370
1	Xerox Corp.	*****	43.9930	77.2730
1	Zenith Radio Corp.	38.4210	26.3860	32.7420

Table 1.A.2 Average Predicted Future Long-Term Growth Rate of Earnings Per Share (\bar{g}_p) (percent)

Industry Code		1961	1962	1963
7	A.C.F. Industries, Inc.	*****	5.6667	6.0000
1	Addressograph-Multigraph (AM Corp.)	10.0000	7.6000	7.8333
8	Air Reduction Co. (B.O.C. Fin. Corp.)	4.0000	4.6667	4.1667
2	Allegheny Power System Inc.	*****	4.3333	4.8750
8	Allied Chemical Corp.	3.0000	3.0000	4.0000
3	Alcan Aluminum Ltd.	10.0000	8.0000	7.7500
3	Aluminum Company of America	7.2500	8.2000	8.4000
4	Amerada Pet. (Amerada Hess)	4.5000	6.0000	5.0000
5	American Cyanamid Co.	4.0000	4.7500	4.0000
2	American Electric Power Co.	5.7500	6.0000	6.0000

1964	1965	1966	1967	1968	1969
19.5080	17.5170	13.0000	11.0000	14.5000	9.5000
19.2730	13.9230	9.8000	13.8000	17.4000	16.0000
28.5150	27.3250	17.6000	26.7000	17.9000	16.7000
16.3110	15.6050	11.8000	10.5000	14.1000	10.2000
26.2500	23.8390	13.2000	17.5000	16.3000	13.3000
27.1540	24.6970	18.9000	17.5000	16.7000	14.1000
13.5370	20.0000	18.8000	26.7000	21.4000	14.8000
15.6120	15.0000	10.7000	11.1000	11.9000	10.0000
16.3460	15.9240	12.3000	12.3000	13.4000	10.7000
19.0740	15.6830	11.3000	11.5000	13.2000	10.7000
23.7250	28.7720	22.8000	27.9000	27.2000	27.7000
19.2500	*****	*****	*****	*****	*****
11.6430	10.3620	8.8000	13.8000	*****	*****
32.3450	28.7990	24.2000	19.3000	24.1000	16.4000
19.8020	17.1010	13.1000	13.8000	13.2000	10.2000
18.5910	26.0360	10.6000	*****	*****	*****
29.1540	38.2320	28.6000	36.0000	40.8000	36.8000
28.0460	25.6770	21.9000	20.7000	20.0000	16.9000
21.5250	20.1470	13.1000	14.0000	17.0000	13.7000
17.8480	17.2880	11.3000	12.1000	12.8000	10.0000
11.9630	16.1030	18.8000	15.8000	12.7000	9.8000
15.6310	13.7820	14.7000	15.7000	14.3000	19.0000
13.1750	30.3680	13.0000	12.3000	21.1000	10.5000
10.2000	12.7440	10.0000	9.1000	12.9000	9.3000
25.6790	29.5100	23.4000	21.7000	24.3000	19.3000
27.3240	25.3850	22.9000	19.1000	17.6000	11.9000
20.2380	23.2710	13.4000	20.6000	19.4000	16.1000
17.7690	17.1230	13.8000	11.9000	*****	*****
51.2340	56.1110	33.0000	55.1000	49.5000	41.6000
21.7670	39.1130	14.5000	21.9000	20.8000	13.2000

1964	1965	1966	1967	1968	1969
5.6667	4.6667	7.0000	7.0000	7.1000	7.0000
7.4286	7.4286	8.3330	8.3330	10.1300	8.0000
2.2500	3.8000	4.0000	5.5000	8.6000	*****
4.4000	5.3000	5.0000	5.0000	5.0000	*****
4.4167	4.7143	4.0000	4.3330	4.8670	2.0000
4.8333	5.8333	4.3330	5.0000	8.9670	3.0000
6.0714	7.0000	4.3330	4.6670	8.2000	0.0000
7.6667	7.5000	5.5000	5.0000	9.6500	10.0000
5.5833	6.1667	6.3330	6.3330	5.7670	2.0000
6.5000	6.5625	7.1670	7.3330	7.3670	7.0000

Table 1.A.2 (continued)

Industry Code		1961	1962	1963
5	American Home Products Corp.	7.3333	6.2500	5.2000
8	Amer. Mach. & Foundry Co. (AMF Ind.)	9.5000	5.0000	4.2500
8	Amer. Nat. Gas Co. (Amer. Nat. Res.)	7.0000	6.0000	5.1250
3	Amer. Smelt. & Refin. (UV Ind.)	*****	3.3333	2.7500
8	American Telephone & Telegraph Co.	4.7500	4.9167	4.8333
8	American Tobacco (Amer. Brands, Inc.)	*****	4.0000	3.0000
3	Anaconda Co.	*****	1.6667	2.2500
3	Armco Steel Corp. (ARMCO Inc.)	2.5000	2.5000	3.6000
7	Armour & Co. (Esmark)	*****	4.0000	3.2500
4	Atlantic Richfield Co.	1.0000	2.0000	2.2500
8	Atlas Chem. Ind. Inc. (Imperial Ch.)	4.0000	4.6667	3.0000
2	Baltimore Gas & Electric Co.	*****	5.2500	4.9000
1	Beckman Instruments, Inc.	18.6670	14.1670	12.3330
8	Beneficial Finance Co.	5.5000	6.3333	6.0000
3	Bethlehem Steel Corp.	2.0000	3.0000	3.5000
7	Boeing Co.	*****	5.3333	5.0000
6	Borden Inc.	4.0000	4.6667	4.5000
2	Boston Edison Co.	3.0000	3.5000	4.6667
5	Bristol-Myers Co.	11.0000	10.6670	11.2860
1	Burroughs Corp.	*****	9.6667	4.6667
8	C.I.T. Financial Corp. (RCA Corp.)	4.0000	4.4000	3.8000
6	Campbell Soup Co.	7.6667	7.0000	6.5714
7	Caterpillar Tractor Co.	5.5000	7.0000	6.0000
2	Central & Southwest Corp.	6.5000	6.7000	6.6429
2	Cincinnati Gas & Electric Co.	5.0000	4.6667	5.0000
4	Cities Service Co.	3.0000	3.0000	3.0000
2	Cleveland Electric Illuminating Co.	4.6667	5.2500	3.7500
6	Colgate Palmolive Co.	7.0000	5.0000	6.0000
2	Consolidated Edison Co.	4.0000	4.1250	4.6000
2	Consumers Power Co.	4.5000	4.7500	5.1250
4	Continental Oil Co. (CONOCO)	4.6667	4.7500	4.6000
16	Corn Products Co. (CPC Intl. Inc.)	7.6667	7.6000	7.8000
8	Crown Zellerback	4.0000	3.3333	3.7500
1	Cutler-Hammer Inc. (Eaton Corp.)	7.0000	6.6667	4.6667
2	Dayton Power & Light Co.	*****	5.3333	5.5000
2	Detroit Edison Co.	7.0000	5.0000	4.3750
8	Dow Chemical	5.5000	5.3333	5.5000
2	Duquesne Light Co.	4.0000	3.6667	3.5000
8	Eastman Kodak Co.	7.2000	7.0000	6.8571
7	Ex-Cell-O Corp.	*****	5.0000	3.6667
6	Federated Dept Stores Inc.	6.0000	6.2000	5.6667
8	Firestone Tire & Rubber Co.	4.3333	3.7500	4.2000
2	Florida Power Corp.	8.2500	7.9000	7.6000
2	Florida Power & Light Co.	10.0000	8.9167	8.4286
6	Food Fair, Inc.	5.0000	3.0000	3.0000
7	Ford Motor Co.	5.0000	5.0000	4.2500
7	General Amer. Transp. Corp. (GATX)	5.5000	4.6667	4.5000
1	General Electric Co.	7.0000	8.0000	6.5000

1964	1965	1966	1967	1968	1969
6.0000	7.5000	7.0000	8.0000	9.5330	8.0000
3.4000	3.8000	3.5000	7.0000	9.0000	*****
5.2000	5.3333	6.5000	6.5000	6.7500	*****
2.4167	3.9167	4.3330	5.3330	13.3300	*****
4.9444	4.9375	5.0000	4.6670	5.3330	5.7500
2.5000	3.5000	4.0000	4.0000	4.0000	*****
1.2000	2.3333	4.5000	7.0000	14.4000	1.5000
2.5000	3.2857	4.5000	4.5000	7.4500	1.5000
3.2500	3.5000	5.0000	5.0000	5.0000	*****
4.5000	5.0714	5.6670	8.3330	11.1700	11.5000
3.3333	4.6667	7.0000	10.0000	10.0000	*****
4.8571	4.7143	4.8330	5.1670	5.8000	5.7500
11.0000	11.0000	11.0000	13.3300	12.2000	8.5000
6.5625	6.7500	6.0000	5.5000	6.8500	6.7500
1.8000	3.5833	4.5000	4.5000	7.5500	2.0000
4.2000	5.0000	11.3300	11.0000	13.5000	4.2500
5.1667	6.3750	6.3330	6.0000	6.4670	5.2500
5.1250	5.1000	5.5000	6.0000	6.0000	*****
11.7500	12.8750	14.0000	14.3300	15.0700	11.7500
3.6000	7.3333	7.7500	16.5000	24.7500	18.5000
2.8333	2.7857	2.5000	3.7500	3.9000	5.2500
6.3750	6.0000	6.5000	6.5000	5.3000	6.2500
7.2500	7.2500	9.0000	11.0000	12.0300	8.2500
6.7778	6.6667	7.0000	7.0000	6.9330	6.7500
5.1250	5.1000	5.5000	5.5000	7.2500	6.0000
3.7000	4.5833	4.1670	6.6670	7.9330	9.2500
4.4000	4.9167	5.6670	5.6670	7.0670	6.0000
4.9167	5.4167	5.8330	6.5000	8.6000	7.7500
5.2143	4.3571	4.6670	4.6670	4.4330	4.2500
5.5833	5.7500	6.0000	5.8330	7.2000	5.7500
6.5000	6.3125	5.0000	6.3330	7.0330	7.5000
7.2857	6.5000	6.3330	6.3330	5.2330	5.0000
4.4000	4.3333	5.3330	5.5000	5.5000	6.5000
6.4000	6.2500	6.0000	7.3330	6.9670	6.0000
5.1000	5.4167	5.2500	5.2500	7.3000	6.2500
4.8000	5.0000	5.3330	5.3330	6.1000	5.2500
6.1667	7.4286	6.3330	6.3330	9.7000	3.2500
3.8333	3.8750	4.5000	4.5000	4.0000	*****
7.1667	8.3333	9.3330	10.0000	14.6300	10.5000
3.6000	3.5000	5.0000	5.0000	8.0000	*****
6.8750	7.1111	7.6670	7.0000	9.3330	6.2500
4.5714	4.8571	5.0000	5.3330	7.6330	4.7500
8.2143	8.2143	8.5000	8.5000	8.0000	7.2500
7.6250	7.7500	8.5000	8.3330	8.1330	7.7500
2.7500	3.2000	3.5000	3.0000	4.0000	*****
4.6667	4.6000	3.5000	10.0000	5.5000	6.7500
5.2857	5.8333	6.0000	5.0000	*****	4.5000
5.5625	6.6875	6.5000	6.5000	6.6000	8.2500

Table 1.A.2 (continued)

Industry Code		1961	1962	1963
6	General Foods Corp.	8.2500	7.6667	7.5000
6	General Mills Inc.	2.0000	4.3333	4.2500
7	General Motors Corp.	3.0000	4.2000	3.8000
7	General Portland Cement Co.	4.0000	2.0000	2.8333
2	General Public Utilities Corp.	4.3333	4.5000	5.0000
8	General Telephone & Electronics	6.0000	6.3750	6.1000
8	Goodrich (B.F.) Co.	3.0000	2.6667	3.2500
8	Goodyear Tire & Rubber Co.	4.3333	4.0000	4.4000
6	Grand Union Co. (Cavenham Ltd.)	6.3333	3.1250	2.3333
6	Great Atlantic & Pacific Tea Co.	5.5000	4.3000	3.7500
4	Gulf Oil Corp.	3.6667	5.0000	4.4000
2	Gulf States Utilities Co.	6.6667	6.7500	6.6250
6	Heinz (H. J.) Co.	6.5000	6.3333	5.0000
8	Hercules Inc.	8.0000	7.5000	6.7500
1	Hewlett Packard Co.	17.5000	15.3330	14.5000
1	Honeywell Inc.	7.8000	6.3333	7.4286
8	Household Finance Corp.	5.0000	5.3333	4.7500
2	Houston Ltg. & Pow. Co. (Hous. Inds.)	7.2500	7.8000	8.4167
2	Idaho Power Co.	7.0000	6.0000	6.0000
7	Ideal Cement (Ideal Basic Ind. Inc.)	*****	4.6667	3.5000
2	Illinois Power Co.	6.0000	6.5000	6.2000
7	Ingersoll-Rand Co.	4.0000	3.3333	3.3333
3	Inland Steel Co.	2.3333	3.0000	2.8000
1	International Business Machines	17.0000	15.5000	15.0000
7	International Harvester Co.	*****	2.6667	2.8750
3	Intl. Nickel Co. Canada (INCO)	6.6667	7.2000	4.2000
8	International Paper Co.	2.5000	4.0000	4.2500
1	Intl. Telephone & Telegraph Corp.	10.0000	9.7500	8.8000
7	Johns-Manville Corp.	2.0000	2.7500	2.7500
3	Jones & Laug. Steel Corp. (LTV Corp.)	*****	4.0000	3.0000
3	Kaiser Aluminum & Chemical Corp.	*****	8.6667	9.0000
6	Kellogg Co.	8.0000	6.5000	7.2500
3	Kennecott Copper Corp.	2.0000	1.0000	1.2500
8	Kimberly-Clark Corp.	5.2500	4.3000	4.4000
6	Kroger Co.	3.5000	2.5000	3.6000
8	Liggett & Myers (Liggett Group)	5.0000	1.6667	0.7500
5	Lilly Eli Co.	8.0000	5.3333	6.6250
1	Litton Industries, Inc.	20.7500	17.8330	15.1430
7	Lockheed Aircraft Corp.	*****	7.0000	5.2500
2	Long Island Lighting Co.	7.0000	6.3333	6.8333
4	Marathon Oil	*****	4.6667	3.7500
8	McGraw Hill Inc.	8.5000	7.6667	7.7143
8	Mead Corporation	*****	3.6667	5.0000
5	Merck & Company	8.4000	7.0000	8.7143
2	Middle South Utilities Inc.	5.5000	5.3333	5.9000
8	Minnesota Mining & Manufacturing Co.	12.8000	11.0000	10.1430
8	Moore Corp.	8.0000	8.0000	7.7500
1	Motorola, Inc.	8.0000	7.5000	7.0000

1964	1965	1966	1967	1968	1969
7.3333	6.7778	6.6670	6.3330	6.2670	6.2500
4.8000	6.6667	9.0000	9.0000	11.6500	11.0000
4.4375	4.5000	3.1670	4.6670	4.7000	6.5000
3.5000	2.7500	5.0000	5.0000	16.0000	*****
5.1429	5.2857	4.7500	4.7500	4.8500	5.0000
6.9375	7.0000	8.6670	8.6670	10.7000	9.2500
3.6000	4.0000	4.5000	6.1670	5.1000	5.2500
4.8750	5.3750	5.1670	5.3330	7.2670	7.2500
2.6250	4.2000	5.5000	5.0000	11.0000	7.2500
3.0000	2.5714	2.0000	3.0000	1.1000	4.0000
6.0000	5.6875	5.7500	7.0000	7.0000	7.5000
6.7500	7.3571	7.5000	7.1670	8.1000	7.2500
4.2500	4.7500	5.8000	7.0000	10.6000	7.5000
7.1429	7.0000	6.3330	6.3330	8.0670	4.0000
12.0000	12.0000	13.5000	15.6700	18.9000	12.5000
6.7857	7.8750	7.6670	8.6670	9.7000	13.2500
5.5625	6.1111	5.0000	5.2500	11.1000	9.7500
8.5000	8.7500	8.5000	8.5000	8.8000	8.0000
6.5000	6.5833	6.5000	6.6670	8.0670	6.5000
3.8000	3.6000	*****	*****	9.0000	*****
5.6429	5.7857	6.1670	6.1670	6.8000	6.5000
3.2500	3.6000	4.5000	4.0000	8.0000	*****
2.5000	3.2857	4.0000	4.0000	2.2000	1.2500
15.1110	14.8890	15.0000	16.0000	15.3700	14.2500
3.1000	4.3333	5.3330	5.3330	8.6000	4.5000
5.3571	5.6429	7.3330	6.3330	5.9670	9.0000
4.1667	4.1667	4.3330	4.3330	5.6330	4.5000
9.0000	9.1429	11.0000	11.3300	11.7000	11.7500
3.2000	3.6667	4.0000	4.3330	8.3670	3.2500
1.5000	2.9167	2.6670	2.6670	5.2000	*****
4.1667	5.9167	5.5000	7.0000	12.5000	4.0000
8.3333	8.0000	7.0000	7.0000	8.9500	6.5000
2.5000	3.6667	3.6670	6.0000	7.6330	3.5000
4.4167	4.2857	4.5000	4.8330	4.8330	4.5000
3.4167	4.5714	4.0000	3.5000	4.8500	*****
1.0000	1.0000	3.0000	3.0000	4.0000	*****
6.7500	8.6429	9.7500	11.5000	15.0000	13.0000
13.1250	13.5000	17.0000	17.0000	14.9300	5.7500
3.2000	5.0000	9.0000	7.3330	7.1000	1.2500
6.8000	6.6000	6.5000	4.5000	6.5000	*****
5.5833	6.0833	5.1670	8.3330	9.5000	10.5000
8.0000	8.2500	8.6670	11.0000	12.0300	7.7500
3.8750	4.3000	5.2500	5.5000	6.3000	6.0000
9.0000	9.8889	10.3300	10.6700	14.7300	10.7500
6.5000	7.0714	7.8330	7.8330	8.0670	7.5000
9.1250	9.3750	10.2500	10.8300	10.5000	10.0000
7.4000	7.4000	8.0000	7.5000	7.0000	*****
7.7143	8.8750	10.6700	12.0000	14.7700	4.7500

Table 1.A.2 (continued)

Industry Code		1961	1962	1963
6	National Biscuit Co. (NABISCO)	4.0000	4.2500	5.4000
1	National Cash Register Co. (NCR)	9.0000	8.3333	7.0000
6	National Dairy Prods. (Kraft Inc.)	4.0000	3.8333	3.8750
8	National Distillers & Chemical Corp.	3.0000	3.3333	3.3333
8	National Lead Co. (NL Industries)	5.5000	4.2500	2.6250
3	National Steel Corp.	*****	3.6667	2.8750
2	New York State Electric & Gas Co.	6.0000	5.8333	5.3333
2	Niagara Mohawk Power Corp.	3.0000	4.0000	4.3750
7	No. Amer. Aviation (Rockwell Intl.)	*****	7.0000	5.0000
7	North Amer. Car Corp. (Flying Tiger)	9.0000	8.7500	5.2500
2	Northern States Power Co.	6.0000	5.0000	4.7500
5	Norwich Phar. Co. (Morton-Norwich)	10.7500	9.0000	8.0000
2	Oklahoma Gas & Electric Co.	6.0000	6.3333	6.5000
7	Otis Elevator Co. (United Tech.)	7.5000	6.7500	4.9000
8	Owens-Corning Fiberglass Corp.	9.0000	7.4000	6.8000
2	Pacific Gas & Electric Co.	5.6667	5.7500	5.4000
6	Penney (J.C.) Co., Inc.	3.5000	4.0000	3.7500
5	Pfizer (Chas & Co.) Inc.	8.6667	8.0000	8.2143
3	Phelps Dodge Corp.	2.0000	2.6667	2.2500
8	Philip Morris Inc.	5.0000	4.3333	4.0000
4	Phillips Petroleum Co.	4.0000	3.3333	3.2500
1	Pitney-Bowes, Inc.	9.0000	9.6000	9.4000
8	Pittsburg Plate Glass (PPG Ind.)	2.0000	2.6667	2.2500
8	Polaroid Corp.	17.2000	16.1670	17.3330
8	Prentice Hall Inc.	15.5000	13.6000	12.0000
6	Procter & Gamble Co.	9.0000	7.5000	6.2857
2	Public Service of Colorado	6.0000	7.4000	6.6000
2	Public Service Electric & Gas Co.	5.0000	5.6667	5.6667
1	Radio Corp. of America (RCA Corp.)	8.0000	8.2500	7.4000
3	Republic Steel Corp.	*****	3.0000	2.7500
3	Reynolds Metals Co.	7.5000	10.2500	9.5000
8	Reynolds (R.J.) Tob. Co. (Rey. Ind.)	12.0000	7.3333	4.7500
5	Richardson-Merrell Inc.	11.0000	8.0000	6.0000
8	Rohm/Haas Co.	7.7500	7.1667	7.2000
4	Royal Dutch Petroleum Co.	*****	4.7500	4.2500
6	Safeway Stores, Inc.	5.0000	2.8333	4.6000
8	Scott Paper Co.	6.7500	6.5000	6.3333
6	Sears, Roebuck & Co.	6.3333	6.5000	6.5000
4	Shell Oil Co.	3.3333	3.2500	3.2000
8	Singer Co.	*****	7.2500	6.3333
5	Smith Kline & French (Smithkline)	9.4000	9.3333	8.7143
4	Socony (Mobil Oil Corp.)	3.0000	4.3333	3.7500
2	Southern Co.	6.2500	6.5000	6.5000
2	Southwestern Public Service Co.	7.0000	6.6250	6.6250
1	Sperry Rand Corp.	*****	3.6667	4.2500
4	Standard Oil Co. of California	3.5000	4.5000	3.7500
4	Standard Oil Co. of Indiana	2.5000	1.6667	3.3333
4	Standard Oil of N.J. (Exxon)	4.3333	5.0000	4.8000

1964	1965	1966	1967	1968	1969
6.4286	6.4286	6.3330	6.0000	6.5670	6.5000
7.2222	7.1111	7.3330	8.0000	9.8670	10.0000
4.2857	4.7143	5.6670	5.6670	6.9670	8.0000
1.7500	2.2000	4.3330	5.3330	6.0000	*****
3.2857	3.5000	3.5000	5.0000	6.3000	*****
1.9000	3.2500	4.0000	4.6670	6.1670	1.2500
5.0000	5.0000	5.0000	5.0000	*****	*****
4.7500	4.6667	4.8330	4.8330	5.0330	4.2500
2.8000	1.9000	3.6670	4.0000	4.0000	*****
6.0000	7.0000	5.0000	5.0000	*****	*****
4.7000	4.7500	4.7500	4.7500	4.5000	*****
6.8000	7.8000	8.0000	8.5000	11.8500	6.0000
7.0000	7.3333	6.8330	6.8330	6.5000	*****
3.8000	4.6000	5.0000	5.0000	6.0000	6.0000
*****	6.5714	9.0000	7.5000	8.3500	*****
5.5000	5.4286	5.6670	5.6670	7.0000	5.5000
4.9286	6.0625	7.7500	8.0000	9.9330	8.7500
7.4444	7.8889	8.3330	9.0000	9.3330	9.0000
1.9167	2.5833	2.6670	4.6670	7.1000	6.5000
3.5000	4.3000	5.2500	7.0000	8.0000	*****
4.2143	5.2143	4.5000	7.3330	6.9670	8.2500
7.5833	7.5833	9.0000	8.6670	8.2000	10.0000
3.2000	4.0000	4.5000	4.5000	8.6500	*****
17.3330	18.5000	16.5000	19.3300	27.2300	16.7500
10.8000	10.4000	13.5000	15.0000	21.0500	12.0000
6.5000	6.3125	7.1670	7.5000	8.9500	7.0000
6.7857	6.5000	6.0000	6.0000	6.9000	5.7500
5.7500	5.7500	5.8330	5.8330	6.3330	6.0000
5.3333	6.8333	7.6670	8.0000	13.1000	7.5000
1.2000	2.6667	2.6670	3.0000	3.0000	*****
4.3000	5.7500	5.0000	5.6670	11.1000	3.7500
4.3333	4.1667	4.6670	4.5000	6.0000	*****
5.3333	6.1429	7.0000	7.5000	8.4000	9.2500
8.1429	8.5714	8.0000	11.0000	8.2500	*****
4.5000	4.6667	4.6670	6.3330	5.5330	6.5000
5.3333	5.0000	4.7500	4.5000	5.7000	*****
6.3333	6.3333	6.6670	5.8330	4.8000	4.5000
8.0000	8.5556	8.6670	7.0000	9.5330	8.0000
4.8125	5.5625	5.6670	7.6670	9.1330	6.0000
7.6000	6.4000	5.3330	8.0000	7.9000	8.7500
8.3333	8.6250	8.1670	7.1670	6.9670	4.0000
4.5000	5.2857	5.1670	6.5000	7.2670	6.2500
6.5000	6.8125	6.3330	6.8330	6.5670	6.5000
7.2000	7.4167	7.7500	7.7500	5.3500	7.0000
4.2000	4.5000	11.0000	11.0000	23.7000	8.0000
4.7143	5.3571	5.5000	5.1670	6.1330	7.2500
4.0714	4.3571	4.5000	7.0000	8.2330	4.5500
6.5625	5.9375	5.0000	5.1670	5.8670	5.0000

Table 1.A.2 (continued)

Industry Code		1961	1962	1963
5	Sterling Drug Inc.	7.0000	5.3333	6.6667
7	Swift & Co. (Esmark)	3.0000	2.5000	2.5000
8	Talcott Nat. (Assoc. Fst. Cap. Corp.)	10.5000	9.0000	6.8000
2	Tampa Electric Co.	9.5000	9.1250	8.8750
4	Texaco Inc.	5.6667	6.2000	5.4000
8	Texas Gulf Sulphur Co. Inc.	3.0000	2.0000	1.3333
1	Texas Instruments, Inc.	15.0000	9.0000	10.0000
2	Texas Utilities Co.	8.0000	7.9000	7.6000
8	Union Carbide Corp.	5.5000	4.8000	5.0000
4	Union Oil Co. of California	6.0000	3.3333	2.6667
7	United Aircraft Corp. (United Tech.)	*****	7.3333	5.0000
7	U. S. Gypsum Co.	5.0000	4.7500	4.3000
8	U. S. Rubber (Uniroyal, Inc.)	2.5000	2.5000	2.6667
3	U. S. Steel Corp.	1.6667	1.6667	3.0000
5	Upjohn Inc.	8.2000	6.1667	8.2857
2	Virginia Electric & Power Co.	7.5000	8.0000	7.5833
1	Westinghouse Electric Corp.	7.0000	6.2500	5.2000
2	Wisconsin Electric Power Co.	*****	4.0000	4.3333
1	Xerox Corp.	25.0000	22.6670	22.4290
1	Zenith Radio Corp.	12.0000	9.0000	9.2500

Table 1.A.3 Average Predicted Earnings per Share for the Next Year Divided by Average Normalized Earnings for Current Year $[(E_{t+1}/\overline{WE}) - 1]$

Industry Code		1961	1962	1963
7	A.C.F. Industries, Inc.	*****	0.1429	0.4506
1	Addressograph-Multigraph (AM Corp.)	0.0963	-0.0409	-0.0598
8	Air Reduction Co. (B.O.C. Fin. Corp.)	-0.0247	-0.0476	0.0069
2	Allegheny Power System Inc.	*****	*****	*****
8	Allied Chemical Corp.	0.1120	-0.0400	0.2178
3	Alcan Aluminum Ltd.	0.1083	-0.0969	0.1943
3	Aluminum Company of America	-0.0055	-0.0704	0.1218
4	Amerada Pet. (Amerada Hess)	-0.0895	-0.0027	0.1380
5	American Cyanamid Co.	0.0783	0.1129	0.1506
2	American Electric Power Co.	0.0577	0.0596	0.1374
5	American Home Products Corp.	0.0930	0.0565	0.0791
8	Amer. Mach. & Foundry Co. (AMF Ind.)	*****	*****	*****
8	Amer. Nat. Gas Co. (Amer. Nat. Res.)	-0.0296	0.0728	0.0581
3	Amer. Smelt. & Refin. (UV Ind.)	*****	-0.1111	-0.1445
8	American Telephone & Telegraph Co.	0.0365	0.0534	0.0408
8	American Tobacco (Amer. Brands, Inc.)	*****	-0.0291	-0.0118
3	Anaconda Co.	*****	-0.0110	-0.0556
3	Armco Steel Corp. (ARMCO Inc.)	-0.1219	-0.2570	0.0000
7	Armour & Co. (Esmark)	*****	*****	*****

1964	1965	1966	1967	1968	1969
7.1667	7.2500	7.1670	7.3330	9.3330	8.7500
2.2500	2.6667	5.0000	5.0000	5.0000	*****
4.6000	4.6667	5.0000	4.7500	5.0000	*****
9.2000	9.0833	9.5000	9.5000	11.1000	8.5000
7.0000	6.5625	7.1670	7.5000	8.3330	4.7500
18.7500	18.8000	11.5000	14.0000	8.0000	*****
8.8750	9.5000	12.0000	15.3300	18.1300	15.5000
7.9167	8.0833	8.1670	8.1670	7.8670	8.2500
5.5000	5.9444	5.5000	5.5000	5.2330	2.2500
5.6250	6.3333	5.6670	8.0000	12.3000	9.7500
4.2000	6.6000	12.0000	10.0000	12.1700	3.5000
3.6875	3.5714	3.6670	5.3330	11.6500	2.7500
3.8750	4.4000	5.7500	8.7500	4.9000	2.0000
1.8333	2.8333	2.3330	2.3330	3.5330	1.5000
7.6250	8.7143	8.3330	8.0000	7.8000	7.0000
7.3889	7.2222	7.3330	7.3330	7.4330	7.0000
4.6000	7.0000	6.6670	7.0000	11.5700	7.5000
4.6667	4.6250	4.0000	6.5000	*****	*****
23.8750	25.3330	22.6700	22.3300	27.7300	19.0000
8.1667	9.5000	10.6700	10.0000	12.8700	9.0000

1964	1965	1966	1967	1968
0.7073	0.4464	0.4290	0.0000	0.0960
-0.0309	0.0896	0.0150	0.4000	0.0760
0.1187	0.2395	-0.0100	0.0360	0.1350
*****	*****	-0.0294	0.0000	*****
0.2292	0.1261	0.0000	0.0000	0.2360
0.3651	0.2623	0.2330	-0.5800	0.0110
0.1221	0.3867	0.1430	0.9570	0.0000
0.2372	0.1130	-0.0200	-0.0200	0.0600
0.2396	0.1458	0.0000	0.1050	0.0390
0.0636	0.0463	0.0000	0.0000	0.0850
*****	0.1124	0.0000	0.0000	0.0930
*****	*****	0.0830	*****	*****
0.0612	0.0826	-0.0161	0.0000	*****
0.1691	0.1458	0.2080	-0.1791	0.0240
0.0660	0.0584	0.0430	0.0000	0.0810
0.0784	0.1186	-0.0161	*****	*****
0.2917	0.5823	0.7140	0.0000	0.1630
-0.0595	0.2228	0.0420	0.0000	-0.1364
*****	*****	*****	*****	*****

Table 1.A.3 (continued)

Industry Code		1961	1962	1963
4	Atlantic Richfield Co.	0.0100	0.0211	-0.0412
8	Atlas Chem. Ind. Inc. (Imperial Ch.)	*****	*****	*****
2	Baltimore Gas & Electric Co.	*****	*****	*****
1	Beckman Instruments, Inc.	-0.0102	0.1010	-0.2098
8	Beneficial Finance Co.	0.0588	0.0704	0.0377
3	Bethlehem Steel Corp.	-0.0063	-0.3033	-0.2286
7	Boeing Co.	*****	-0.2121	-0.0679
6	Borden Inc.	0.0457	0.0043	0.0581
2	Boston Edison Co.	*****	*****	*****
5	Bristol-Myers Co.	0.1020	0.1541	0.0812
1	Burroughs Corp.	*****	-0.0221	-0.2231
8	C.I.T. Financial Corp. (RCA Corp.)	0.0435	0.0332	0.0269
6	Campbell Soup Co.	0.0186	-0.0629	0.0089
7	Caterpillar Tractor Co.	0.0785	0.0471	0.2981
2	Central & Southwest Corp.	0.1035	0.0820	0.0939
2	Cincinnati Gas & Electric Co.	0.0780	0.0623	0.0145
4	Cities Service Co.	*****	*****	*****
2	Cleveland Electric Illuminating Co.	0.0942	0.0293	0.0610
6	Colgate Palmolive Co.	*****	*****	*****
2	Consolidated Edison Co.	*****	*****	*****
2	Consumers Power Co.	0.0331	0.0683	0.2126
4	Continental Oil Co. (CONOCO)	0.0935	0.0665	0.1930
6	Corn Products Co. (CPC Intl. Inc.)	0.0876	0.0795	0.1156
8	Crown Zellerback	-0.1349	0.0133	0.0494
1	Cutler-Hammer Inc. (Eaton Corp.)	-0.1125	-0.1043	-0.0260
2	Dayton Power & Light Co.	*****	*****	*****
2	Detroit Edison Co.	*****	*****	*****
8	Dow Chemical	0.0073	0.0756	0.1268
2	Duquesne Light Co.	*****	*****	*****
8	Eastman Kodak Co.	*****	*****	*****
7	Ex-Cell-O Corp.	*****	*****	*****
6	Federated Dept Stores Inc.	0.0227	-0.0087	0.1034
8	Firestone Tire & Rubber Co.	0.0180	-0.0496	0.0237
2	Florida Power Corp.	0.0357	0.0667	0.0666
2	Florida Power & Light Co.	0.0437	0.0400	0.0728
6	Food Fair, Inc.	*****	*****	*****
7	Ford Motor Co.	0.1371	-0.0447	0.0417
7	General Amer. Transp. Corp. (GATX)	0.0906	0.0190	0.0621
1	General Electric Co.	0.0149	-0.1356	-0.0370
6	General Foods Corp.	0.0852	0.0537	0.0315
6	General Mills Inc.	0.0227	0.0479	0.1282
7	General Motors Corp.	0.1789	0.1644	0.2235
7	General Portland Cement Co.	-0.0688	-0.1706	-0.0269
2	General Public Utilities Corp.	0.0938	0.1364	0.0686
8	General Telephone & Electronics	0.0927	0.0783	0.1725
8	Goodrich (B.F.) Co.	0.0895	-0.2025	-0.1447
8	Goodyear Tire & Rubber Co.	0.0426	-0.0691	0.0733
6	Grand Union Co. (Cavenham Ltd.)	*****	*****	*****

1964	1965	1966	1967	1968
-0.0099	0.1061	0.0870	-0.0206	0.3290
*****	*****	-0.0333	*****	*****
*****	*****	-0.0250	0.0000	0.0650
0.9811	-0.0149	-0.0278	0.1580	-0.0447
0.1351	0.0901	-0.0278	0.0000	0.0650
*****	0.0531	0.1070	-0.1429	-0.1429
0.0776	0.2476	0.0380	0.0000	-0.1379
0.1087	0.0235	0.0000	0.0450	0.1710
*****	*****	0.0000	0.0360	*****
0.1037	0.0826	-0.0294	0.0000	0.1030
-0.0833	0.4933	0.1710	-0.1923	0.2810
0.0285	0.0286	-0.0185	-0.1333	0.0660
0.0678	0.0303	-0.0588	0.0000	-0.0588
0.7259	0.3714	0.1820	0.0870	0.0850
0.0909	0.0482	-0.0217	0.0000	0.0640
0.0760	0.1154	0.0000	0.0000	0.0750
*****	*****	0.0120	-0.0217	0.1320
0.0965	0.1406	0.0000	0.0000	0.0730
*****	*****	-0.0227	0.0000	0.0820
*****	*****	0.0000	0.0000	0.0480
0.1648	0.1038	-0.0167	0.0000	0.1250
0.1294	*****	0.0180	0.0000	0.0580
-0.0270	0.0471	-0.0179	0.0770	0.1280
0.2324	0.1157	-0.0405	0.0300	0.0280
0.1910	0.3217	0.0000	0.2310	0.2660
*****	*****	-0.0263	0.0000	0.0430
*****	*****	-0.0227	0.0000	0.0660
0.1952	0.1178	-0.0132	0.0000	0.0940
*****	*****	0.0000	0.0000	*****
*****	*****	0.0000	0.0000	0.1280
*****	*****	*****	*****	*****
0.2435	0.1428	-0.0278	0.0000	0.1250
0.1471	0.1725	0.2330	-0.1429	0.0360
0.0953	0.0438	-0.0227	0.0000	0.0360
0.0987	0.0390	0.0000	0.0000	0.0510
*****	*****	-0.1471	0.0000	*****
0.1250	0.1589	-0.1038	-0.0909	-0.0909
0.2395	0.2329	0.1880	0.0830	0.1360
0.0689	0.1718	-0.1333	0.0000	0.1220
0.0137	0.0000	-0.0366	0.0000	0.0420
0.2011	0.1393	-0.0278	-0.0476	0.2290
0.2584	0.1060	-0.1912	-0.0500	-0.0948
-0.1838	-0.1161	-0.2000	-0.1000	*****
0.0411	0.0291	0.0000	0.0000	0.0470
0.2485	0.1349	0.0000	-0.0417	0.1160
-0.0996	0.0110	0.0780	0.0000	0.1110
0.1391	0.2073	0.1290	-0.0789	0.0660
*****	*****	0.0000	0.0560	0.0750

Table 1.A.3 (continued)

Industry Code		1961	1962	1963
6	Great Atlantic & Pacific Tea Co.	*****	*****	*****
4	Gulf Oil Corp.	0.0417	-0.0112	0.1062
2	Gulf States Utilities Co.	*****	*****	*****
6	Heinz (H. J.) Co.	*****	*****	*****
8	Hercules Inc.	0.1675	0.0834	0.0784
1	Hewlett Packard Co.	0.0417	0.1181	0.0551
1	Honeywell Inc.	-0.0193	-0.1237	0.2218
8	Household Finance Corp.	0.2549	0.0856	0.0872
2	Houston Ltg. & Pow. Co. (Hous. Inds.)	0.0933	0.0769	0.1400
2	Idaho Power Co.	0.0230	0.0169	0.0917
7	Ideal Cement (Ideal Basic Ind. Inc.)	*****	0.0098	0.0133
2	Illinois Power Co.	0.0250	0.0588	0.0953
7	Ingersoll-Rand Co:	*****	*****	*****
3	Inland Steel Co.	0.1532	-0.0476	0.0677
1	International Business Machines	*****	*****	*****
7	International Harvester Co.	*****	-0.0484	0.1057
3	Intl. Nickel Co. Canada (INCO)	0.3941	0.0018	0.0765
8	International Paper Co.	0.0270	-0.1316	-0.0434
1	Intl. Telephone & Telegraph Corp.	0.1209	0.1652	0.1802
7	Johns-Manville Corp.	0.0640	-0.0389	0.1048
3	Jones & Laug. Steel Corp. (LTV Corp.)	*****	-0.2515	0.0746
3	Kaiser Aluminum & Chemical Corp.	*****	-0.0821	0.0045
6	Kellogg Co.	*****	0.1368	0.1356
3	Kennecott Copper Corp.	0.0000	-0.0557	-0.1346
8	Kimberly-Clark Corp.	-0.0348	-0.0365	0.0309
6	Kroger Co.	-0.0323	0.0430	0.0762
8	Liggett & Myers (Liggett Group)	*****	*****	*****
5	Lilly Eli Co.	-0.0040	0.0354	0.0758
1	Litton Industries, Inc.	0.0333	0.2169	0.1402
7	Lockheed Aircraft Corp.	*****	0.3078	0.2023
2	Long Island Lighting Co.	*****	*****	*****
4	Marathon Oil	*****	0.0417	0.2618
8	McGraw Hill Inc.	0.1750	0.0294	*****
8	Mead Corporation	*****	-0.0162	0.1003
5	Merck & Company	0.0706	0.0580	0.1507
2	Middle South Utilities Inc.	0.1000	0.0737	0.0570
8	Minnesota Mining & Manufacturing Co.	0.1093	0.0547	0.0710
8	Moore Corp.	*****	*****	*****
1	Motorola, Inc.	*****	0.1330	0.1383
6	National Biscuit Co. (NABISCO)	0.0256	0.0745	0.1255
1	National Cash Register Co. (NCR)	0.0576	-0.1408	-0.1435
6	National Dairy Prods. (Kraft Inc.)	0.0214	0.0168	-0.0105
8	National Distillers & Chemical Corp.	*****	*****	*****
8	National Lead Co. (NL Industries)	0.0982	-0.0601	0.0146
3	National Steel Corp.	*****	-0.0503	0.3440
2	New York State Electric & Gas Co.	*****	*****	*****
2	Niagara Mohawk Power Corp.	*****	*****	*****
7	No. Amer. Aviation (Rockwell Intl.)	*****	0.2171	0.1208

1964	1965	1966	1967	1968
*****	*****	-0.0435	0.0000	0.0860
0.0992	0.0805	-0.0093	0.0000	0.0830
*****	*****	-0.0417	0.0000	0.1400
*****	*****	-0.0143	-0.0250	0.0750
0.1771	0.0246	-0.3750	0.0000	0.0380
0.1146	0.2520	0.0000	0.1250	0.1590
-0.4447	0.1959	-0.2375	0.2900	0.1340
0.0870	0.1740	0.1520	-0.1071	0.0880
0.1406	0.0568	-0.0227	0.0000	0.0850
0.1429	0.0667	-0.0227	0.0000	0.0700
-0.0902	0.0000	*****	*****	*****
0.0684	0.0575	0.0000	0.0000	0.0710
*****	*****	*****	*****	*****
0.0051	0.0814	-0.0156	-0.0571	-0.0976
*****	*****	-0.1840	0.0140	0.1060
0.5914	0.2230	-0.0135	0.0610	0.0320
0.1680	0.2197	-0.0094	-0.1667	0.0710
0.1166	0.0812	-0.1200	0.0870	0.0480
0.1148	0.1041	0.0000	0.0000	0.1180
0.2341	0.0340	-0.1333	0.0000	0.0880
0.0617	0.2115	0.1810	-0.0769	0.0380
0.0725	0.3067	0.1330	-0.1143	-0.0036
0.1970	0.0385	0.0000	0.0000	0.0640
0.1246	0.4965	0.3700	-0.1489	0.3710
0.0207	-0.0163	-0.1111	0.0000	0.1060
0.2400	0.0918	-0.1600	0.0670	0.0570
*****	*****	0.0090	*****	*****
0.2101	0.2500	-0.0152	0.0000	0.1160
0.0951	0.1912	-0.0345	0.2070	0.4800
-0.0079	-0.0321	0.2000	0.1400	0.0710
*****	*****	-0.4138	0.0000	*****
0.1947	0.0824	0.0400	0.0180	0.1270
0.2071	0.2343	0.0000	0.1330	0.0000
0.1818	0.1628	0.0000	0.0540	0.0470
0.2638	0.2187	-0.0185	0.0000	0.0940
0.1493	0.0966	-0.0385	0.0000	0.0770
0.1082	0.0783	*****	0.0000	0.1440
*****	*****	-0.0641	0.0000	*****
0.2978	0.4692	-0.0769	0.1110	0.1740
0.0841	0.0199	0.0000	0.0000	0.0420
-0.0200	0.0069	-0.0128	0.0240	0.2220
0.1531	0.0204	0.0000	0.0370	0.0850
*****	*****	0.0000	-0.0278	*****
0.1348	0.0777	-0.0500	0.0640	0.0920
0.0535	0.3358	0.0000	-0.1400	-0.0756
*****	*****	0.0000	0.0000	*****
*****	*****	0.0000	0.0000	0.1130
-0.0205	-0.0280	0.0910	*****	*****

Table 1.A.3 (continued)

Industry Code	1961	1962	1963
7 North Amer. Car Corp. (Flying Tiger)	0.1800	0.0351	0.1379
2 Northern States Power Co.	0.0552	0.0615	0.1324
5 Norwich Phar. Co. (Morton-Norwich)	0.1590	0.0159	0.0111
2 Oklahoma Gas & Electric Co.	0.1040	0.1047	0.2105
7 Otis Elevator Co. (United Tech.)	*****	*****	*****
8 Owens-Corning Fiberglass Corp.	0.0783	-0.0667	-0.0526
2 Pacific Gas & Electric Co.	0.0361	0.0746	0.0221
6 Penney (J.C.) Co., Inc.	0.0541	0.0087	0.0112
5 Pfizer (Chas & Co.) Inc.	0.0857	0.1039	0.0940
3 Phelps Dodge Corp.	0.0719	-0.0629	-0.0237
8 Philip Morris Inc.	0.0619	-0.0042	0.0464
4 Phillips Petroleum Co.	0.0555	-0.0175	-0.0268
1 Pitney-Bowes, Inc.	0.1609	0.0154	0.0628
8 Pittsburg Plate Glass (PPG Ind.)	0.1859	-0.0088	0.0000
8 Polaroid Corp.	0.4690	0.3826	0.2295
8 Prentice Hall Inc.	0.2592	0.1318	0.0853
6 Procter & Gamble Co.	0.1324	-0.0070	-0.0167
2 Public Service of Colorado	0.0329	0.0300	0.0900
2 Public Service Electric & Gas Co.	-0.0147	0.0567	0.1011
1 Radio Corp. of America (RCA Corp.)	*****	0.2337	0.3292
3 Republic Steel Corp.	*****	-0.3625	-0.0071
3 Reynolds Metals Co.	-0.1094	-0.2103	0.0064
8 Reynolds (R.J.) Tob. Co. (Rey. Ind.)	0.0875	0.0079	0.0425
5 Richardson-Merrell Inc.	0.0620	-0.0041	-0.0229
8 Rohm/Haas Co.	0.1068	0.1036	0.1878
4 Royal Dutch Petroleum Co.	*****	0.0455	0.0617
6 Safeway Stores, Inc.	0.0345	0.0339	0.0784
8 Scott Paper Co.	0.0529	0.0028	0.0926
6 Sears, Roebuck & Co.	0.1043	-0.0342	0.0938
4 Shell Oil Co.	0.0000	0.0514	0.1995
8 Singer Co.	*****	*****	*****
5 Smith Kline & French (Smithkline)	0.1027	0.0905	0.0933
4 Socony (Mobil Oil Corp.)	-0.0656	0.0745	0.1481
2 Southern Co.	0.0859	0.0735	0.0729
2 Southwestern Public Service Co.	*****	*****	*****
1 Sperry Rand Corp.	*****	-0.1892	0.0588
4 Standard Oil Co. of California	0.0202	0.0726	0.0036
4 Standard Oil Co. of Indiana	-0.0057	0.0378	0.0908
4 Standard Oil of N.J. (Exxon)	0.0152	0.0444	0.1848
5 Sterling Drug Inc.	-0.0195	0.0279	0.0261
7 Swift & Co. (Esmark)	*****	*****	*****
8 Talcott Nat. (Assoc. Fst. Cap. Corp.)	0.0789	0.0634	-0.1184
2 Tampa Electric Co.	*****	*****	*****
4 Texaco Inc.	0.0902	0.0772	0.1194
8 Texas Gulf Sulphur Co. Inc.	*****	*****	*****
1 Texas Instruments, Inc.	-0.1015	-0.0485	0.2163
2 Texas Utilities Co.	0.0795	0.0763	0.1329
8 Union Carbide Corp.	0.0604	-0.0014	0.0394
4 Union Oil Co. of California	0.0296	0.0383	0.1980

1964	1965	1966	1967	1968
0.3220	0.2696	0.0530	-0.0870	*****
0.0068	0.0086	-0.0238	0.0000	*****
0.1038	0.0611	0.0000	0.0000	0.1520
0.1364	0.0980	-0.0333	0.0000	*****
*****	*****	-0.0714	0.1000	0.0740
0.1032	0.0084	-0.0526	0.0000	0.0370
0.0634	0.0734	-0.0217	0.0000	0.0600
0.2258	0.1054	-0.0303	0.0290	0.0480
0.0889	0.1009	-0.0147	0.0000	0.0820
0.1739	0.2371	0.1490	-0.1250	0.3170
0.0281	0.0403	0.1150	*****	*****
0.0476	0.0678	0.0220	0.0000	0.2310
0.1111	0.0268	-0.2222	0.1200	0.1280
0.1186	0.1615	-0.0500	0.0000	0.0200
-0.0612	0.9666	*****	0.0440	0.1880
0.1538	0.2157	0.0000	0.0770	0.1920
0.0062	0.0060	-0.0132	0.0000	0.0350
0.0741	0.0526	0.0000	0.0000	0.0590
0.0732	0.0705	0.0000	0.0000	0.0380
0.1481	0.3898	-0.0185	0.0400	0.0850
-0.0757	0.1054	0.1330	*****	*****
0.1754	0.4281	0.1670	0.0610	0.4700
-0.0123	0.0370	-0.0286	*****	*****
0.0222	0.0604	0.0000	0.0000	0.0600
0.1470	0.0651	0.0000	*****	0.0680
0.0064	0.0253	-0.0114	0.0000	0.1190
0.1389	-0.0353	0.1430	0.1050	0.0450
0.0991	0.1111	0.0000	0.0630	0.0670
0.1005	0.0041	-0.0385	0.1250	0.1110
0.1557	0.1262	0.0000	0.0000	0.0580
*****	*****	-0.0638	0.0400	0.1430
0.1287	0.0994	0.0000	-0.3548	0.0690
0.0900	0.0952	0.0000	0.0000	0.0980
0.1200	0.0714	-0.3182	0.0000	0.0630
*****	*****	-0.0556	0.0000	0.0260
0.1463	0.1136	0.0940	1.3750	0.1360
0.0390	0.0610	0.0000	0.0000	0.0840
0.1418	0.1354	0.0130	0.0230	0.0630
0.1376	0.0226	-0.0179	-0.0339	0.0640
0.0667	0.0877	-0.0278	0.0000	0.3800
*****	*****	*****	*****	*****
-0.0714	-0.0580	0.0000	*****	*****
*****	*****	0.0000	0.0000	0.1640
0.0634	0.0819	0.0090	0.0000	0.0670
*****	*****	-0.3250	*****	*****
0.2692	0.3481	0.0000	0.3330	0.1880
0.0966	0.0495	0.0000	0.0000	0.0930
0.1450	0.1809	0.0000	0.0000	0.1320
0.2969	0.2915	-0.0111	0.0000	0.0980

Table 1.A.3 (continued)

Industry Code		1961	1962	1963
7	United Aircraft Corp. (United Tech.)	*****	-0.1611	-0.0902
7	U. S. Gypsum Co.	-0.0513	-0.0497	0.0229
8	U. S. Rubber (Uniroyal, Inc.)	0.1765	-0.1313	-0.0947
3	U. S. Steel Corp.	0.1053	-0.3780	-0.0584
5	Upjohn Inc.	0.0606	0.0235	0.1037
2	Virginia Electric & Power Co.	0.0286	0.1077	0.0697
1	Westinghouse Electric Corp.	-0.2216	-0.2064	-0.2525
2	Wisconsin Electric Power Co.	*****	0.0493	0.0667
1	Xerox Corp.	0.8600	0.5312	0.6000
1	Zenith Radio Corp.	0.1009	0.0883	0.2258

Table 1.A.4 Dividend-Payout Ratio Based on Normalized Earnings (D/\overline{NE})

Industry Code		1961	1962	1963
7	A.C.F. Industries, Inc.	*****	0.5291	0.5556
1	Addressograph-Multigraph (AM Corp.)	0.4444	0.4091	0.4348
8	Air Reduction Co. (B.O.C. Fin. Corp.)	0.6849	0.6803	0.6897
2	Allegheny Power System Inc.	*****	0.7176	0.7148
8	Allied Chemical Corp.	0.7200	0.7200	0.7129
3	Alcan Aluminum Ltd.	0.5000	0.4364	0.4800
3	Aluminum Company of America	0.5275	0.4660	0.4615
4	Amerada Pet. (Amerada Hess)	0.5347	0.5333	0.5781
5	American Cyanamid Co.	0.6956	0.6667	0.6429
2	American Electric Power Co.	0.7308	0.7088	0.7230
5	American Home Products Corp.	0.6698	0.6696	0.6598
8	Amer. Mach. & Foundry Co. (AMF Ind.)	0.5500	0.6000	0.6429
8	Amer. Nat. Gas Co. (Amer. Nat. Res.)	0.5333	0.5517	0.6237
3	Amer. Smelt. & Refin. (UV Ind.)	*****	0.5111	0.4107
8	American Telephone & Telegraph Co.	0.6188	0.6261	0.6025
8	American Tobacco (Amer. Brands, Inc.)	*****	0.5825	0.5882
3	Anaconda Co.	*****	0.5494	0.5208
3	Armco Steel Corp. (ARMCO Inc.)	0.5505	0.6742	0.6667
7	Armour & Co. (Esmark)	*****	0.4870	0.4828
4	Atlantic Richfield Co.	0.4400	0.5053	0.4948
8	Atlas Chem. Ind. Inc. (Imperial Ch.)	0.4615	0.5106	0.6154
2	Baltimore Gas & Electric Co.	*****	0.7000	0.7077
1	Beckman Instruments, Inc.	*****	*****	*****
8	Beneficial Finance Co.	0.3647	0.4112	0.4174
3	Bethlehem Steel Corp.	0.8276	0.7267	0.5454
7	Boeing Co.	*****	0.4848	0.5714
6	Borden Inc.	0.5272	0.5484	0.5519
2	Boston Edison Co.	0.6897	0.7167	0.6769
5	Bristol-Myers Co.	0.4898	0.4918	0.4615
1	Burroughs Corp.	*****	0.5882	0.6154
8	C.I.T. Financial Corp. (RCA Corp.)	0.5833	0.6061	0.6337

1964	1965	1966	1967	1968
-0.1111	0.0784	0.2790	0.0000	-0.0625
-0.0119	-0.1337	-0.1447	0.0000	0.0950
0.0317	1.3857	0.2500	-0.1500	0.1580
-0.2025	0.0305	0.0140	-0.1556	-0.0809
0.0864	0.0980	-0.0172	0.0000	0.0740
0.0348	0.0403	0.0000	0.0000	0.0910
0.1508	0.3040	-0.1429	0.0590	0.0810
0.0262	0.1507	0.0000	0.0000	*****
0.4494	0.1042	-0.1667	0.1090	0.1900
0.0489	0.4328	-0.1212	0.0380	0.1080

1964	1965	1966	1967	1968	1969
0.6537	0.5643	0.6000	0.6000	0.6600	0.6000
0.4536	0.4906	0.4500	0.4000	0.5200	0.4200
0.7194	0.5988	0.6000	0.6000	0.8100	*****
0.7286	0.6968	0.7000	0.7000	*****	*****
0.6429	0.6387	0.6500	0.6000	0.6700	0.5400
0.4815	0.4955	0.5000	0.5000	0.2300	0.5600
0.4248	0.4667	0.4500	0.4000	0.9000	0.3500
0.5385	0.5556	0.5500	0.6000	0.6000	0.1200
0.6250	0.5375	0.6500	0.6000	0.6600	0.6200
0.7151	0.7000	0.7000	0.8000	0.7700	0.7400
0.6539	0.6230	0.6500	0.6000	0.6000	0.5900
0.6923	0.7200	0.5000	*****	*****	*****
0.6531	0.6238	0.6500	0.6000	*****	*****
0.6176	0.5833	0.5000	0.5000	0.8900	*****
0.6240	0.5926	0.6500	0.6000	0.6500	0.6500
0.6274	0.5593	0.5500	*****	*****	*****
0.5208	0.6329	0.5000	0.5000	0.5800	0.4400
0.5556	0.6218	0.6000	0.6000	0.5500	0.5300
0.3500	*****	*****	*****	*****	*****
0.4753	0.4484	0.4000	0.3000	0.4900	0.4700
0.6000	0.4516	0.5000	*****	*****	*****
0.7200	0.7013	0.7000	0.7000	0.7000	0.6400
*****	*****	0.1500	0.1000	0.4100	0.4000
0.4216	0.4427	0.5000	0.5000	0.4200	0.3800
0.4412	0.5310	0.5500	0.5000	0.5100	0.5600
0.3448	0.2857	0.5000	0.3000	0.2800	0.2400
0.5480	0.5177	0.5500	0.5000	0.6900	0.6600
0.6884	0.6809	0.7500	0.8000	*****	*****
0.4667	0.4602	0.5000	0.5000	0.6200	0.5300
0.6250	0.5333	0.4000	0.4000	0.2300	0.1800
0.6154	0.6095	0.6000	0.6000	0.5900	0.5700

Table 1.A.4 (continued)

Industry Code		1961	1962	1963
6	Campbell Soup Co.	0.4969	0.4914	0.5238
7	Caterpillar Tractor Co.	0.4651	0.4546	0.5000
2	Central & Southwest Corp.	0.6963	0.6646	0.6743
2	Cincinnati Gas & Electric Co.	0.6383	0.5849	0.6473
4	Cities Service Co.	0.5714	0.5217	0.5138
2	Cleveland Electric Illuminating Co.	0.6281	0.5926	0.6197
6	Colgate Palmolive Co.	0.5283	0.4667	0.4884
2	Consolidated Edison Co.	0.7317	0.7186	0.7218
2	Consumers Power Co.	0.6887	0.6747	0.6805
4	Continental Oil Co. (CONOCO)	0.6182	0.5343	0.5588
6	Corn Products Co. (CPC Intl. Inc.)	0.6486	0.6265	0.6222
8	Crown Zellerback	0.5714	0.7200	0.6729
1	Cutler-Hammer Inc. (Eaton Corp.)	0.5000	0.4908	0.5195
2	Dayton Power & Light Co.	*****	0.7094	0.7051
2	Detroit Edison Co.	*****	0.7586	0.7742
8	Dow Chemical	0.6078	0.6274	0.5907
2	Duquesne Light Co.	0.7375	0.7515	0.7420
8	Eastman Kodak Co.	0.6977	0.5509	0.6219
7	Ex-Cell-O Corp.	*****	0.4921	0.5039
6	Federated Dept Stores Inc.	0.5000	0.5130	0.5447
8	Firestone Tire & Rubber Co.	0.3806	0.4126	0.4126
2	Florida Power Corp.	0.6429	0.6533	0.6523
2	Florida Power & Light Co.	0.4874	0.4968	0.4941
6	Food Fair, Inc.	0.5029	0.5373	0.5538
7	Ford Motor Co.	0.3871	0.4417	0.4286
7	General Amer. Transp. Corp. (GATX)	0.7031	0.6686	0.6703
1	General Electric Co.	0.6838	0.5634	0.5797
6	General Foods Corp.	0.5614	0.5760	0.5926
6	General Mills Inc.	0.7273	0.6575	0.6154
7	General Motors Corp.	0.8130	0.8054	0.9412
7	General Portland Cement Co.	0.6750	0.7059	0.7164
2	General Public Utilities Corp.	0.7312	0.7210	0.7176
8	General Telephone & Electronics	0.7415	0.6696	0.6588
8	Goodrich (B.F.) Co.	0.5789	0.5570	0.5789
8	Goodyear Tire & Rubber Co.	0.3745	0.4043	0.4255
6	Grand Union Co. (Cavenham Ltd.)	0.3636	0.4286	0.4528
6	Great Atlantic & Pacific Tea Co.	0.4748	0.6362	0.5676
4	Gulf Oil Corp.	0.3273	0.4328	0.4671
2	Gulf States Utilities Co.	0.7143	0.6540	0.6892
6	Heinz (H. J.) Co.	0.3738	0.3571	0.3884
8	Hercules Inc.	0.4370	0.4412	0.4412
1	Hewlett Packard Co.	*****	*****	*****
1	Honeywell Inc.	0.5161	0.4624	0.4762
8	Household Finance Corp.	0.4706	0.4531	0.4480
2	Houston Ltg. & Pow. Co. (Hous. Inds.)	0.4741	0.4359	0.4600
2	Idaho Power Co.	0.6552	0.6780	0.7000
7	Ideal Cement (Ideal Basic Ind. Inc.)	*****	0.5246	0.6667
2	Illinois Power Co.	0.6875	0.6941	0.6857

1964	1965	1966	1967	1968	1969
0.5288	0.5333	0.5500	0.5000	0.6500	0.7100
0.5000	0.4396	0.5000	0.5000	0.5900	0.4500
0.6649	0.6494	0.6500	0.6000	0.7200	0.6700
0.6456	0.6349	0.7500	0.8000	0.7000	0.6700
0.4818	0.4206	0.4500	0.4000	0.5300	0.5100
0.6316	0.6361	0.7000	0.7000	0.7400	0.7400
0.4706	0.4722	0.5000	0.5000	0.4900	0.4900
0.6911	0.7200	0.9500	0.9000	0.6900	0.7000
0.7033	0.6717	0.7000	0.7000	0.7300	0.7100
0.4941	0.5000	0.5000	0.5000	0.5300	0.5200
0.6061	0.5882	0.6500	0.6000	0.7200	0.6900
0.6789	0.6612	0.6000	0.6000	0.6200	0.6500
0.4494	0.3826	0.5500	0.5000	0.7500	0.6000
0.7226	0.6956	0.7000	0.7000	0.6600	0.7200
0.7273	0.6842	0.7500	0.8000	0.7400	0.7100
0.5833	0.5197	0.5500	0.5000	0.5300	0.5500
0.7549	0.7273	0.8500	0.8000	*****	*****
0.5340	0.5169	0.6500	0.6000	0.4900	0.5000
0.5000	0.4533	*****	*****	*****	*****
0.5524	0.4960	0.5500	0.4000	0.5300	0.5000
0.4314	0.4404	0.4000	0.4000	0.3700	0.3900
0.6514	0.6421	0.6500	0.6000	0.6100	0.5500
0.4982	0.4767	0.5500	0.5000	0.4400	0.5300
0.6000	0.5454	0.6000	0.6000	*****	*****
0.4444	0.4286	0.4500	0.4000	0.4400	0.4800
0.6711	0.6494	0.6500	0.6000	0.7300	0.6600
0.6423	0.5897	0.7000	0.7000	0.7000	0.8600
0.5480	0.5385	0.5500	0.5000	0.5700	0.5900
0.5977	0.5000	0.5500	0.5000	0.4600	0.4700
0.8517	0.8400	0.7500	0.8000	0.7400	0.7400
0.7059	0.7143	0.6000	0.8000	*****	*****
0.7123	0.6937	0.8500	0.8000	0.7400	0.8000
0.6836	0.5889	0.7000	0.7000	0.6900	0.6700
0.5058	0.4835	0.5000	0.5000	0.5500	0.5600
0.4311	0.4404	0.4500	0.4000	0.3900	0.3800
0.4000	0.3105	0.5000	0.5000	0.3000	0.3700
0.5901	0.6409	0.6500	0.6000	0.7400	0.6300
0.4564	0.4512	0.4500	0.5000	0.5000	0.4800
0.7086	0.6927	0.7000	0.7000	0.7000	0.6800
0.3670	0.3871	0.4000	0.4000	0.3600	0.4000
0.5333	0.4598	0.5000	0.5000	0.4500	0.5200
*****	0.1990	0.1000	0.1000	0.1200	0.1900
0.1934	0.3964	0.4000	0.4000	0.3300	0.2800
0.4672	0.4331	0.5000	0.4000	0.3900	0.3500
0.4727	0.4543	0.5000	0.5000	0.5500	0.5000
0.7302	0.6667	0.6500	0.6000	0.7400	0.7400
0.6557	0.6667	*****	*****	*****	*****
0.7179	0.6667	0.7000	0.7000	0.7300	0.7400

Table 1.A.4 (continued)

Industry Code		1961	1962	1963
7	Ingersoll-Rand Co.	0.9195	0.9302	0.9143
3	Inland Steel Co.	0.5161	0.5079	0.5156
1	International Business Machines	0.2556	0.2791	0.3366
7	International Harvester Co.	*****	0.6194	0.5854
3	Intl. Nickel Co. Canada (INCO)	0.5424	0.5588	0.6667
8	International Paper Co.	0.5568	0.5407	0.5493
1	Intl. Telephone & Telegraph Corp.	0.4651	0.4348	0.3960
7	Johns-Manville Corp.	0.6400	0.6667	0.6667
3	Jones & Laug. Steel Corp. (LTV Corp.)	*****	0.5988	0.4975
3	Kaiser Aluminum & Chemical Corp.	*****	0.5217	0.4931
6	Kellogg Co.	*****	0.5660	0.5763
3	Kennecott Copper Corp.	0.7692	0.8333	0.6154
8	Kimberly-Clark Corp.	0.5101	0.5401	0.5714
6	Kroger Co.	0.7097	0.7097	0.6286
8	Liggett & Myers (Liggett Group)	0.7692	0.7042	0.7813
5	Lilly Eli Co.	0.8065	0.7874	0.7289
1	Litton Industries, Inc.	*****	*****	*****
7	Lockheed Aircraft Corp.	*****	0.2981	0.3586
2	Long Island Lighting Co.	0.6578	0.6653	0.6182
4	Marathon Oil	*****	0.5267	0.5463
8	McGraw Hill Inc.	0.6300	0.5098	0.5385
8	Mead Corporation	*****	0.6602	0.6602
5	Merck & Company	0.6214	0.6261	0.6107
2	Middle South Utilities Inc.	0.7000	0.6687	0.6493
8	Minnesota Mining & Manufacturing Co.	0.4262	0.4776	0.5000
8	Moore Corp.	0.4304	0.4546	0.4430
1	Motorola, Inc.	*****	0.3448	0.3200
6	National Biscuit Co. (NABISCO)	0.7179	0.6965	0.6796
1	National Cash Register Co. (NCR)	0.3478	0.3158	0.3478
6	National Dairy Prods. (Kraft Inc.)	0.5480	0.5503	0.5789
8	National Distillers & Chemical Corp.	0.5714	0.6000	0.6667
8	National Lead Co. (NL Industries)	0.7692	0.7104	0.7602
3	National Steel Corp.	*****	0.6038	0.5280
2	New York State Electric & Gas Co.	0.5954	0.6202	0.5958
2	Niagara Mohawk Power Corp.	0.7826	0.7551	0.7407
7	No. Amer. Aviation (Rockwell Intl.)	*****	0.5263	0.4494
7	North Amer. Car Corp. (Flying Tiger)	0.5600	0.5474	0.5517
2	Northern States Power Co.	0.7662	0.7569	0.7765
5	Norwich Phar. Co. (Morton-Norwich)	0.6461	0.5833	0.5833
2	Oklahoma Gas & Electric Co.	0.7643	0.7314	0.7368
7	Otis Elevator Co. (United Tech.)	0.5405	0.5378	0.6102
8	Owens-Corning Fiberglass Corp.	0.4348	0.4040	0.4211
2	Pacific Gas & Electric Co.	0.6133	0.6222	0.5882
6	Penney (J.C.) Co., Inc.	0.7059	0.6522	0.6742
5	Pfizer (Chas & Co.) Inc.	0.4857	0.4935	0.5060
3	Phelps Dodge Corp.	0.7500	0.7547	0.7101
8	Philip Morris Inc.	0.6372	0.6102	0.5902
4	Phillips Petroleum Co.	0.5152	0.5564	0.5781

1964	1965	1966	1967	1968	1969
0.8421	0.6780	*****	*****	*****	*****
0.5000	0.5634	0.5500	0.5000	0.4900	0.5700
0.3878	0.4040	0.4000	0.4000	0.3400	0.4800
0.5806	0.4852	0.6000	0.6000	0.6700	0.7800
0.6875	0.6932	0.6000	0.6000	0.6000	0.8800
0.6187	0.6250	0.6000	0.6000	0.7100	0.6000
0.3443	0.3288	0.4000	0.4000	0.3700	0.3600
0.6107	0.5223	0.6500	0.6000	0.6000	0.4800
0.4115	0.4493	0.6500	0.6000	0.6800	*****
0.5217	0.4800	0.5000	0.5000	0.3600	0.3500
0.6061	0.5641	0.5500	0.5000	0.6400	0.6400
0.6154	0.6291	0.6000	0.6000	0.6100	0.4800
0.5517	0.5229	0.6000	0.6000	0.5500	0.4700
0.6027	0.5020	0.6000	0.6000	0.4900	*****
0.7752	0.7905	0.7500	*****	*****	*****
0.7652	0.5957	0.6500	0.6000	0.4700	0.4800
*****	*****	0.0000	0.0000	0.0000	0.0000
0.3616	0.3571	0.4300	0.4000	0.5200	0.4800
0.6276	0.6222	0.7500	0.8000	*****	*****
0.5263	0.5059	0.5000	0.4000	0.5100	0.5300
0.5714	0.5714	0.5500	0.5000	0.5800	0.6000
0.6182	0.5271	0.6000	0.6000	0.5300	0.5500
0.7231	0.6667	0.6000	0.6000	0.7500	0.7800
0.6187	0.5573	0.7000	0.7000	0.6800	0.6600
0.5263	0.5000	0.5000	0.5000	0.4900	0.5000
0.4566	0.4267	0.4000	0.4000	*****	*****
0.2367	0.2174	0.3000	0.2000	0.2200	0.1800
0.6280	0.6086	0.6500	0.6000	0.6800	0.8100
0.3478	0.3153	0.4000	0.4000	0.3300	0.2800
0.5926	0.5306	0.5500	0.5000	0.6000	0.6100
0.6575	0.6087	0.6000	0.6000	*****	*****
0.7303	0.6736	0.7500	0.8000	0.8600	*****
0.4042	0.5427	0.5000	0.5000	0.5800	0.5600
0.6059	0.6586	0.7500	0.8000	*****	*****
0.7017	0.7714	0.9500	0.9000	0.7100	0.7300
0.4035	0.4538	0.5000	*****	*****	*****
0.5627	0.5643	0.5000	0.5000	*****	*****
0.7562	0.7385	0.7000	0.7000	*****	*****
0.5468	0.4968	0.6000	0.6000	0.4800	0.4900
0.7091	0.6431	0.7000	0.7000	*****	*****
0.5719	0.5399	0.6000	0.6000	0.7400	0.6800
0.4211	0.4370	0.4500	0.4000	0.5200	*****
0.6084	0.5975	0.7000	0.7000	0.6000	0.5500
0.6452	0.5914	0.5500	0.5000	0.4800	0.4500
0.5111	0.4771	0.5000	0.5000	0.5400	0.5300
0.6739	0.6897	0.6500	0.6000	0.6300	0.4600
0.5783	0.5275	0.5500	*****	*****	*****
0.5714	0.5256	0.5500	0.5000	0.6500	0.7600

Table 1.A.4 (continued)

Industry Code		1961	1962	1963
1	Pitney-Bowes, Inc.	0.4966	0.4923	0.4638
8	Pittsburg Plate Glass (PPG Ind.)	0.5641	0.5521	0.5357
8	Polaroid Corp.	0.0870	0.0714	0.0580
8	Prentice Hall Inc.	0.4444	0.3721	0.3721
6	Procter & Gamble Co.	0.5216	0.5088	0.5167
2	Public Service of Colorado	0.5474	0.6000	0.6400
2	Public Service Electric & Gas Co.	0.6029	0.6383	0.6323
1	Radio Corp. of America (RCA Corp.)	*****	0.4126	0.4262
3	Republic Steel Corp.	*****	0.6250	0.5714
3	Reynolds Metals Co.	0.2985	0.3077	0.2985
8	Reynolds (R.J.) Tob. Co. (Rey. Ind.)	0.4667	0.5079	0.5197
5	Richardson-Merrell Inc.	0.3107	0.3306	0.3053
8	Rohm/Haas Co.	0.1611	0.1963	0.2469
4	Royal Dutch Petroleum Co.	*****	0.3781	0.4000
6	Safeway Stores, Inc.	0.5276	0.5424	0.4925
8	Scott Paper Co.	0.6383	0.6274	0.6148
6	Sears, Roebuck & Co.	0.5405	0.4748	0.4861
4	Shell Oil Co.	0.4400	0.4400	0.5000
8	Singer Co.	*****	0.5167	0.5113
5	Smith Kline & French (Smithkline)	0.6757	0.6429	0.6667
4	Socony (Mobil Oil Corp.)	0.4592	0.5000	0.5253
2	Southern Co.	0.7229	0.6955	0.6936
2	Southwestern Public Service Co.	0.6960	0.7462	0.7368
1	Sperry Rand Corp.	*****	0.0000	0.0000
4	Standard Oil Co. of California	0.4270	0.4313	0.4255
4	Standard Oil Co. of Indiana	0.3200	0.4138	0.4000
4	Standard Oil of N.J. (Exxon)	0.6301	0.6250	0.6433
5	Sterling Drug Inc.	0.6154	0.5714	0.5565
7	Swift & Co. (Esmark)	0.5441	0.5766	0.5664
8	Talcott Nat. (Assoc. Fst. Cap. Corp.)	0.4895	0.4878	0.5263
2	Tampa Electric Co.	0.5961	0.5655	0.5875
4	Texaco Inc.	0.4662	0.4966	0.5250
8	Texas Gulf Sulphur Co. Inc.	0.7692	0.3860	0.3077
1	Texas Instruments, Inc.	*****	0.2330	0.2723
2	Texas Utilities Co.	0.6277	0.6027	0.5975
8	Union Carbide Corp.	0.6956	0.6857	0.6636
4	Union Oil Co. of California	0.4422	0.4422	0.4371
7	United Aircraft Corp. (United Tech.)	*****	0.5369	0.5229
7	U. S. Gypsum Co.	0.6000	0.6283	0.6231
8	U. S. Rubber (Uniroyal, Inc.)	0.5177	0.5333	0.5207
3	U. S. Steel Corp.	0.6316	0.6286	0.5333
5	Upjohn Inc.	0.4485	0.4776	0.4822
2	Virginia Electric & Power Co.	0.6191	0.6154	0.6030
1	Westinghouse Electric Corp.	0.5454	0.5581	0.5581
2	Wisconsin Electric Power Co.	*****	0.6433	0.6349
1	Xerox Corp.	0.2000	0.1528	0.1818
1	Zenith Radio Corp.	0.6158	0.5783	0.5806

1964	1965	1966	1967	1968	1969
0.4800	0.4506	0.5000	0.5000	0.0000	0.5200
0.5424	0.5208	0.5500	0.5000	0.5700	*****
0.0408	0.1040	*****	0.1000	0.1600	0.1600
0.4135	0.4392	0.4000	0.4000	0.5200	0.4300
0.5169	0.5373	0.5500	0.5000	0.6000	0.5700
0.5704	0.6035	0.7500	0.8000	0.6200	0.6400
0.6518	0.6318	0.8000	0.8000	0.6200	0.5800
0.4074	0.4610	0.4500	0.3000	0.4300	0.4200
0.4546	0.5161	0.6000	*****	*****	*****
0.2632	0.3116	0.3000	0.3000	0.5500	0.4000
0.5538	0.5482	0.5500	*****	*****	*****
0.2963	0.2685	0.3000	0.3000	0.3700	0.3600
0.2345	0.2219	0.2000	*****	0.2700	*****
0.4436	0.4658	0.4500	0.4000	0.4500	0.4600
0.5167	0.4706	0.5000	0.5000	0.5000	*****
0.6207	0.5813	0.6000	0.6000	0.6700	0.6000
0.4762	0.4612	0.5500	0.5000	0.5000	0.4700
0.4918	0.4626	0.4500	0.4000	0.4800	0.5300
0.4848	0.4862	0.6000	0.6000	0.5300	0.5000
0.6139	0.6491	0.6000	0.0000	0.6900	0.7100
0.4978	0.4919	0.5000	0.5000	0.5400	0.5000
0.6920	0.6536	0.7000	0.7000	0.7100	0.7000
0.7139	0.7212	0.7500	0.8000	0.8200	0.8500
0.0000	0.0000	0.0000	0.0000	0.1800	0.2100
0.4255	0.4282	0.4500	0.4000	0.4500	0.4900
0.5115	0.5210	0.5000	0.4000	0.5200	0.6400
0.6349	0.6146	0.6000	0.6000	0.6400	0.6400
0.5412	0.5333	0.6000	0.6000	0.5600	0.5300
0.5833	*****	*****	*****	*****	*****
0.5714	0.5797	0.5000	0.6000	*****	*****
0.5650	0.5098	0.6000	0.6000	0.6200	0.5600
0.4949	0.5213	0.5000	0.5000	0.4800	0.5300
0.1454	0.1143	0.4000	*****	*****	*****
0.2462	0.2210	0.2500	0.1000	0.3300	0.2700
0.5793	0.5583	0.6000	0.6000	0.5900	0.5600
0.6102	0.5882	0.7000	0.7000	0.7500	0.6800
0.4229	0.3559	0.3500	0.3000	0.3000	0.4700
0.3653	0.2745	0.3200	0.4000	0.3500	0.4500
0.6214	0.6632	0.6500	0.8000	0.3300	0.9800
0.4656	0.8748	0.4500	0.4000	0.8400	0.3600
0.4000	0.4878	0.6500	0.6000	0.7100	0.6000
0.4938	0.4706	0.5000	0.5000	0.6800	0.6200
0.6197	0.6051	0.7000	0.7000	0.6500	0.6400
0.5714	0.4673	0.6500	0.6000	0.5300	0.4800
0.6523	0.6137	0.7000	0.7000	*****	*****
0.2234	0.1667	0.2500	0.3000	0.3000	0.2900
0.5345	0.6452	0.5500	0.5000	0.5500	0.6500

Table 1.A.5 Variance of the Long-Term Growth Forecasts (σ_p^2)

Industry Code		1961	1962	1963
7	A.C.F. Industries, Inc.	*****	2.5166	2.0000
1	Addressograph-Multigraph (AM Corp.)	2.3094	1.6733	1.4720
8	Air Reduction Co. (B.O.C. Fin. Corp.)	1.4142	1.5275	1.6073
2	Allegheny Power System Inc.	*****	0.5774	0.8539
8	Allied Chemical Corp.	1.4142	1.0000	2.1602
3	Alcan Aluminum Ltd.	*****	7.2111	7.6322
3	Aluminum Company of America	2.7538	5.6745	6.3087
4	Amerada Pet. (Amerada Hess)	2.1213	1.7321	1.4142
5	American Cyanamid Co.	2.0000	1.5000	0.8165
2	American Electric Power Co.	0.5000	0.7071	0.6325
5	American Home Products Corp.	1.1547	1.5000	1.0954
8	Amer. Mach. & Foundry Co. (AMF Ind.)	2.1213	1.0000	1.8930
8	Amer. Nat. Gas Co. (Amer. Nat. Res.)	*****	1.0000	1.0308
3	Amer. Smelt. & Refin. (UV Ind.)	*****	4.9329	2.8723
8	American Telephone & Telegraph Co.	0.5000	0.6646	0.7528
8	American Tobacco (Amer. Brands, Inc.)	*****	0.0000	0.0000
3	Anaconda Co.	*****	2.8868	3.3040
3	Armco Steel Corp. (ARMCO Inc.)	2.1213	2.3805	3.7815
7	Armour & Co. (Esmark)	*****	1.4142	0.9574
4	Atlantic Richfield Co.	*****	1.0000	0.5000
8	Atlas Chem. Ind. Inc. (Imperial Ch.)	*****	2.0817	2.0000
2	Baltimore Gas & Electric Co.	*****	0.5000	0.7416
1	Beckman Instruments, Inc.	2.3094	1.4720	2.5820
8	Beneficial Finance Co.	0.7071	1.5275	0.8165
3	Bethlehem Steel Corp.	*****	4.3589	5.0662
7	Boeing Co.	*****	2.3094	3.3665
6	Borden Inc.	0.0000	0.5774	0.5774
2	Boston Edison Co.	*****	0.5774	0.5774
5	Bristol-Myers Co.	1.7321	1.2111	1.3801
1	Burroughs Corp.	*****	5.5076	1.5275
8	C.I.T. Financial Corp. (RCA Corp.)	1.7321	1.3416	1.6432
6	Campbell Soup Co.	0.5774	0.6325	0.7868
7	Caterpillar Tractor Co.	0.7071	1.8708	1.5811
2	Central & Southwest Corp.	0.5774	0.4472	0.4756
2	Cincinnati Gas & Electric Co.	*****	0.5774	0.0000
4	Cities Service Co.	*****	2.0000	0.0000
2	Cleveland Electric Illuminating Co.	1.1547	0.9574	0.5000
6	Colgate Palmolive Co.	*****	1.0000	1.8257
2	Consolidated Edison Co.	*****	0.2500	0.5477
2	Consumers Power Co.	0.7071	0.9574	0.6291
4	Continental Oil Co. (CONOCO)	2.0817	1.5000	1.3416
6	Corn Products Co. (CPC Intl. Inc.)	1.1547	0.8944	0.8367
8	Crown Zellerback	*****	2.0817	2.0616
1	Cutler-Hammer Inc. (Eaton Corp.)	*****	3.5119	1.5275
2	Dayton Power & Light Co.	*****	0.5774	0.5774
2	Detroit Edison Co.	*****	0.7071	0.4787
8	Dow Chemical	2.3805	1.5275	1.4142
2	Duquesne Light Co.	*****	0.5774	0.5000

1964	1965	1966	1967	1968
1.1547	2.5166	*****	*****	*****
1.2724	1.3973	4.3330	5.3330	6.2530
1.7078	0.8367	0.0000	4.5000	5.1200
0.8944	0.9747	0.0000	0.0000	0.0000
1.3571	1.4960	1.0000	2.3330	1.0530
1.5055	3.3116	4.3330	4.0000	62.1000
1.7895	2.8284	4.3330	2.3330	43.3200
3.9328	2.0736	0.5000	0.0000	14.0500
1.5626	1.3292	0.3333	0.3333	1.1630
0.5976	0.6232	0.0833	0.0833	0.1033
1.2247	1.4142	0.0000	1.0000	8.0530
1.1402	0.8367	0.5000	*****	*****
1.0368	0.9832	0.2500	0.2500	0.1250
1.7440	1.2813	0.3333	5.3330	*****
0.6346	0.4173	0.0000	0.3333	0.3333
1.0488	1.0488	0.0000	0.0000	*****
1.7889	1.3663	4.5000	2.0000	81.9200
1.3784	1.7995	0.5000	0.5000	12.0100
2.2174	2.3805	*****	*****	*****
3.2787	2.5565	1.3330	12.3300	29.0800
2.0817	5.0332	18.0000	*****	*****
0.6268	0.6986	0.0833	0.5833	3.3700
3.4641	2.8284	13.0000	33.3300	25.7200
1.2374	1.0351	0.0000	0.5000	1.4450
1.3038	1.7440	0.5000	0.5000	41.4100
2.9496	1.2247	57.3300	21.0000	*****
0.9832	1.5059	0.3333	1.0000	0.2533
0.2500	0.7416	0.2500	0.0000	0.0000
1.6690	1.7269	1.0000	1.3330	12.8100
2.5100	4.3205	78.1300	4.5000	91.1300
0.4082	0.5670	0.5000	0.1250	0.0200
0.7440	1.0690	0.5000	0.5000	5.7800
1.2817	1.2817	7.0000	21.000	19.2000
0.6667	0.5000	0.0000	0.0000	0.0133
0.2500	0.2236	0.0000	0.0000	6.1250
0.6708	1.0206	0.0833	1.3330	6.4130
0.6519	0.8010	0.0833	0.0833	5.2630
1.3571	1.2007	3.0830	5.2500	0.7200
0.9940	1.1073	0.3333	0.3333	0.9633
0.6646	0.6124	0.2500	0.0833	4.3200
2.7124	2.0863	0.0000	1.3330	4.2030
0.4880	0.7559	0.3333	0.3333	5.0630
2.3022	1.6330	2.3330	1.7500	1.7500
2.5100	2.8723	4.0000	9.3330	6.8030
0.2236	0.4916	0.1250	0.1250	6.4800
0.5701	0.9487	0.0833	0.0833	2.2300
1.4720	1.5119	2.3330	2.3330	9.6700
0.2887	0.2500	0.5000	0.5000	*****

Table 1.A.5 (continued)

Industry Code		1961	1962	1963
8	Eastman Kodak Co.	0.8367	0.8944	1.0690
7	Ex-Cell-O Corp.	*****	2.6458	2.0817
6	Federated Dept Stores Inc.	1.4142	0.8367	1.0328
8	Firestone Tire & Rubber Co.	0.5774	0.5000	1.0954
2	Florida Power Corp.	0.9574	0.7416	0.5477
2	Florida Power & Light Co.	1.2247	1.1143	0.5345
6	Food Fair, Inc.	*****	1.0000	1.0000
7	Ford Motor Co.	*****	1.4142	1.2583
7	General Amer. Transp. Corp. (GATX)	0.7071	0.5774	0.5774
1	General Electric Co.	0.8165	1.5811	1.0488
6	General Foods Corp.	1.7078	1.0328	0.8367
6	General Mills Inc.	*****	3.2146	2.0616
7	General Motors Corp.	0.0000	2.1679	1.3038
7	General Portland Cement Co.	*****	1.7321	1.2583
2	General Public Utilities Corp.	1.1547	1.0000	0.0000
8	General Telephone & Electronics	0.8165	1.3769	1.5969
8	Goodrich (B.F.) Co.	0.0000	0.5774	1.8930
8	Goodyear Tire & Rubber Co.	0.5774	1.4142	2.0736
6	Grand Union Co. (Cavenham Ltd.)	1.1547	1.3150	1.1547
6	Great Atlantic & Pacific Tea Co.	0.8660	1.4832	1.7819
4	Gulf Oil Corp.	0.5774	1.0000	1.1402
2	Gulf States Utilities Co.	1.5275	0.5000	0.4787
6	Heinz (H. J.) Co.	0.7071	0.5774	0.0000
8	Hercules Inc.	3.3665	1.9748	1.6047
1	Hewlett Packard Co.	4.9497	2.4221	2.5884
1	Honeywell Inc.	1.7889	1.2111	1.7182
8	Household Finance Corp.	*****	1.5275	1.2583
2	Houston Ltg. & Pow. Co. (Hous. Inds.)	0.5000	0.8367	0.6646
2	Idaho Power Co.	*****	1.0000	1.0000
7	Ideal Cement (Ideal Basic Ind. Inc.)	*****	2.0817	1.7321
2	Illinois Power Co.	1.0000	0.5774	0.4472
7	Ingersoll-Rand Co.	1.4142	0.5774	0.5774
3	Inland Steel Co.	1.5275	2.0000	2.1679
1	International Business Machines	0.7071	1.8708	1.6330
7	International Harvester Co.	*****	1.1547	0.8539
3	Intl. Nickel Co. Canada (INCO)	2.5166	3.9623	0.4472
8	International Paper Co.	2.1213	2.0000	2.0616
1	Intl. Telephone & Telegraph Corp.	2.8284	4.3493	1.9235
7	Johns-Manville Corp.	1.4142	1.2583	1.2583
3	Jones & Laug. Steel Corp. (LTV Corp.)	*****	5.1962	4.0000
3	Kaiser Aluminum & Chemical Corp.	*****	7.3711	7.1181
6	Kellogg Co.	*****	1.2910	0.9574
3	Kennecott Copper Corp.	*****	1.0000	1.8930
8	Kimberly-Clark Corp.	0.3536	0.9747	0.5477
6	Kroger Co.	0.7071	0.5000	1.8166
8	Liggett & Myers (Liggett Group)	*****	1.5275	0.9574
5	Lilly Eli Co.	2.8284	1.5275	2.4958
1	Litton Industries, Inc.	2.9861	2.7869	1.9518

1964	1965	1966	1967	1968
0.6124	1.8708	1.3330	4.0000	68.4000
1.1402	1.2910	*****	*****	*****
0.8345	0.7817	0.3333	1.0000	6.3330
0.8381	0.9449	7.0000	8.3330	29.8000
0.8092	0.8092	2.0000	2.0000	0.0000
0.7440	0.4629	0.5000	0.3333	0.6533
0.9574	0.8367	0.5000	2.0000	*****
0.7528	1.3874	9.7500	*****	0.5000
1.1127	1.3292	*****	*****	*****
1.1160	1.4865	1.7500	1.7500	2.2800
0.7071	1.2019	0.3333	0.3333	0.4133
1.9235	1.3663	2.0000	2.0000	14.0500
0.9039	1.0000	7.5830	20.3300	4.1700
1.0000	2.0616	*****	12.5000	*****
0.3780	0.4880	0.1250	0.1250	0.0450
1.0836	1.1547	1.3330	1.3330	9.6700
1.3416	1.2649	6.2500	13.5800	7.6300
1.6421	1.5980	8.0830	8.3330	24.4100
1.4930	1.3038	0.5000	0.0000	72.0000
1.2649	0.9759	2.0000	0.0000	7.2200
1.2247	1.0329	0.1250	3.0000	52.6800
0.7583	0.8522	0.7500	0.5833	1.3300
1.7078	1.2583	1.2800	2.0000	*****
0.8522	0.8165	2.3330	2.3330	3.2130
3.1091	3.1091	4.5000	4.3330	29.2300
3.2642	1.1260	1.3330	8.3330	14.1700
1.2374	1.1667	0.0000	0.1250	74.4200
0.6455	0.6124	0.7500	0.7500	0.5700
1.0000	0.6646	0.7500	0.5833	5.7630
0.8367	0.8944	*****	*****	*****
0.7480	0.9063	0.5833	0.5833	1.4700
0.5000	0.8944	4.5000	*****	*****
1.7559	1.7762	0.0000	0.0000	1.2800
1.2693	1.2693	0.0000	3.0000	2.2030
0.7416	1.6330	4.3330	4.3330	25.4800
1.1073	1.2488	6.3330	1.3330	0.9033
1.3292	1.3292	2.3330	2.3330	9.0030
1.6330	1.4639	1.0000	1.3330	2.4700
1.4832	1.0328	1.0000	0.3333	20.3000
0.5000	1.6253	5.3330	5.3330	20.4800
3.0605	3.1689	4.5000	18.0000	60.5000
0.8165	0.6325	0.0000	0.0000	7.6050
1.6583	1.8619	4.3330	16.0000	24.0000
1.0206	0.9940	2.2500	2.5830	2.5830
1.0206	0.7868	0.0000	0.5000	1.4450
1.2247	1.2247	*****	*****	*****
1.6047	2.6882	3.1250	0.5000	18.0000
1.8077	1.8516	13.0000	13.0000	2.8130

Table 1.A.5 (continued)

Industry Code		1961	1962	1963
7	Lockheed Aircraft Corp.	*****	2.6458	1.5000
2	Long Island Lighting Co.	*****	0.5774	0.2887
4	Marathon Oil	*****	3.7859	2.2174
8	McGraw Hill Inc.	1.2910	1.3663	1.4960
8	Mead Corporation	*****	2.5166	3.1623
5	Merck & Company	1.1402	1.7889	1.4960
2	Middle South Utilities Inc.	0.7071	0.5774	0.2236
8	Minnesota Mining & Manufacturing Co.	1.9235	2.0976	2.4103
8	Moore Corp.	0.0000	1.0000	1.5000
1	Motorola, Inc.	*****	2.0817	1.6330
6	National Biscuit Co. (NABISCO)	1.4142	0.9574	1.8166
1	National Cash Register Co. (NCR)	2.1213	2.3381	1.9149
6	National Dairy Prods. (Kraft Inc.)	0.0000	0.2887	0.2500
8	National Distillers & Chemical Corp.	*****	1.5275	2.5166
8	National Lead Co. (NL Industries)	1.9149	1.7078	1.7970
3	National Steel Corp.	*****	4.7258	3.4248
2	New York State Electric & Gas Co.	*****	1.2583	1.1549
2	Niagara Mohawk Power Corp.	*****	0.8165	0.4787
7	No. Amer. Aviation (Rockwell Intl.)	*****	2.1602	1.8257
7	North Amer. Car Corp. (Flying Tiger)	4.2426	4.8563	1.5000
2	Northern States Power Co.	*****	0.0000	0.5000
5	Norwich Phar. Co. (Morton-Norwich)	0.9574	1.2247	1.8257
2	Oklahoma Gas & Electric Co.	*****	1.5275	0.5000
7	Otis Elevator Co. (United Tech.)	0.7071	0.5000	1.4318
8	Owens-Corning Fiberglass Corp.	2.1602	1.5166	1.3038
2	Pacific Gas & Electric Co.	0.5774	0.5000	0.8944
6	Penney (J.C.) Co., Inc.	0.7071	1.0000	0.9574
5	Pfizer (Chas & Co.) Inc.	1.1547	1.4142	0.6986
3	Phelps Dodge Corp.	*****	3.0551	2.6300
8	Philip Morris Inc.	*****	0.5774	0.0000
4	Phillips Petroleum Co.	0.0000	0.5774	0.5000
1	Pitney-Bowes, Inc.	0.0000	1.5166	1.6733
8	Pittsburg Plate Glass (PPG Ind.)	1.0000	1.5275	2.5000
8	Polaroid Corp.	5.1186	6.4936	6.8605
8	Prentice Hall Inc.	3.5355	1.3416	1.8974
6	Procter & Gamble Co.	1.5811	1.2247	1.1127
2	Public Service of Colorado	0.0000	1.6733	1.5166
2	Public Service Electric & Gas Co.	0.0000	1.1547	0.5774
1	Radio Corp. of America (RCA Corp.)	*****	4.5735	1.8166
3	Republic Steel Corp.	*****	3.6056	4.8563
3	Reynolds Metals Co.	3.5355	7.5443	6.8557
8	Reynolds (R.J.) Tob. Co. (Rey. Ind.)	*****	1.5275	1.2583
5	Richardson-Merrell Inc.	1.8257	1.8257	1.2247
8	Rohm/Haas Co.	3.4034	2.4014	2.5884
4	Royal Dutch Petroleum Co.	*****	1.5000	0.5000
6	Safeway Stores, Inc.	1.4142	1.0408	0.8944
8	Scott Paper Co.	0.9574	1.0488	1.2111
6	Sears, Roebuck & Co.	2.3094	1.0488	1.0408

1964	1965	1966	1967	1968
1.9235	3.6056	28.0000	6.3330	4.0300
0.4472	0.5477	0.2500	15.2500	0.5000
3.5835	3.1689	0.5833	4.3330	14.2500
0.9258	1.1650	9.3330	21.0000	36.6000
2.0966	1.9235	1.1250	0.5000	3.3800
1.5119	1.6159	1.3330	2.3330	68.2100
0.6455	0.6075	0.0833	0.0833	1.2130
1.5526	0.9161	3.1250	2.5830	4.5000
0.5477	0.5477	1.0000	0.5000	*****
1.3801	2.7484	9.3330	28.0000	17.7600
1.1339	1.1339	2.3330	1.0000	0.2633
2.1667	1.6915	4.3330	9.0000	12.6500
0.7559	0.7569	0.3333	0.3333	2.8030
1.5000	1.6432	2.3330	1.3330	*****
1.3801	0.7638	0.5000	8.0000	27.3800
1.2450	1.8371	2.0000	2.3330	15.0800
1.0000	1.0000	*****	*****	*****
0.7583	0.5164	0.0833	0.0833	0.0033
1.6432	1.7464	1.3330	*****	*****
2.7080	2.4495	*****	*****	*****
0.4472	0.4183	0.1250	0.1250	*****
0.8367	0.4472	0.0000	0.5000	6.8850
1.0954	1.0328	0.0833	0.0833	0.5000
1.3038	1.8166	*****	*****	*****
*****	1.2724	2.0000	0.5000	26.6500
0.5000	0.5345	0.3333	0.3333	3.0000
1.6938	1.1476	0.1250	0.0000	6.8130
0.5271	0.7817	0.3333	3.0000	1.3330
1.2813	0.6646	0.3333	14.3300	22.2300
0.5774	1.3038	3.1250	*****	*****
1.0746	1.1495	0.2500	6.3330	3.8030
0.9174	0.9174	9.0000	9.3330	10.9200
2.1679	1.7889	4.5000	4.5000	80.6500
6.0553	7.0071	84.5000	16.3300	*****
1.7889	1.6733	4.5000	0.0000	73.2000
1.0351	0.9613	1.0830	0.2500	1.8050
0.4880	0.5000	0.0000	0.0000	1.6200
0.6124	0.6124	0.5833	0.5833	0.0833
3.1411	1.7224	4.3330	4.0000	82.0300
0.8367	1.5055	2.3330	*****	*****
3.2326	2.5642	9.0000	9.3330	75.7300
0.8165	0.9832	0.3333	0.5000	*****
0.5164	1.2150	2.0000	0.5000	0.3200
1.5736	1.8127	8.0000	*****	15.1300
0.5477	0.8165	1.3330	2.3330	7.4530
1.3663	0.5774	0.1250	0.5000	0.9800
1.2247	1.0000	1.3330	0.0833	1.7200
1.0000	1.1304	0.3333	3.0000	4.8530

Table 1.A.5 (continued)

Industry Code		1961	1962	1963
4	Shell Oil Co.	0.5774	0.5000	0.4472
8	Singer Co.	*****	2.0616	0.5774
5	Smith Kline & French (Smithkline)	1.6733	1.0328	1.6036
4	Socony (Mobil Oil Corp.)	*****	2.3094	0.9574
2	Southern Co.	0.9574	0.5477	0.5477
2	Southwestern Public Service Co.	*****	0.4787	0.4787
1	Sperry Rand Corp.	*****	3.2146	3.3040
4	Standard Oil Co. of California	0.7071	1.7321	0.5000
4	Standard Oil Co. of Indiana	0.7071	0.5774	2.3094
4	Standard Oil of N.J. (Exxon)	2.5166	1.5811	1.3038
5	Sterling Drug Inc.	0.0000	0.5774	2.0817
7	Swift & Co. (Esmark)	*****	0.7071	0.5774
8	Talcott Nat. (Assoc. Fst. Cap. Corp.)	1.9149	1.2649	0.8367
2	Tampa Electric Co.	0.7071	0.6291	0.2500
4	Texaco Inc.	1.1547	0.8367	1.1402
8	Texas Gulf Sulphur Co. Inc.	*****	1.7321	1.5275
1	Texas Instruments, Inc.	3.5590	3.3466	3.2660
2	Texas Utilities Co.	1.0000	0.7416	0.6519
8	Union Carbide Corp.	1.9149	1.3038	0.8944
4	Union Oil Co. of California	*****	2.5166	0.5774
7	United Aircraft Corp. (United Tech.)	*****	7.5719	4.0825
7	U. S. Gypsum Co.	0.0000	1.7078	1.7176
8	U. S. Rubber (Uniroyal, Inc.)	0.7071	0.7071	0.5774
3	U. S. Steel Corp.	1.5275	1.5275	3.4641
5	Upjohn Inc.	1.3038	2.4833	2.4976
2	Virginia Electric & Power Co.	0.5774	0.7071	0.4916
1	Westinghouse Electric Corp.	0.0000	4.9244	1.9235
2	Wisconsin Electric Power Co.	*****	0.0000	0.5774
1	Xerox Corp.	0.0000	6.4083	3.9940
1	Zenith Radio Corp.	*****	1.4142	2.2174

1964	1965	1966	1967	1968
1.6890	1.3999	1.3330	0.3333	8.2530
1.5166	0.5477	1.3330	8.0000	2.4200
1.2247	1.3025	0.0833	3.5830	1.0030
1.0488	1.4100	0.5833	2.2500	4.0130
0.7559	0.3720	1.3330	0.0833	0.2633
0.7583	0.6646	1.1250	1.1250	19.8500
0.8367	1.3229	2.0000	2.0000	*****
1.6036	1.2488	0.2500	1.0830	4.0530
1.3048	0.9449	0.2500	4.0000	11.2600
1.5222	1.2660	0.0000	1.0830	4.0530
1.6021	1.1726	4.0830	4.3330	6.3330
2.0616	2.5166	*****	*****	*****
2.7928	1.1547	2.0000	0.1250	*****
0.4472	0.4916	0.5000	0.5000	2.4200
1.4142	0.9797	1.0830	0.2500	1.3330
22.5000	23.9730	84.5000	*****	*****
2.0310	2.1381	12.0000	6.3330	38.4500
0.8010	0.6646	0.0833	0.0833	0.5033
1.3844	1.2360	0.2500	0.2500	1.1630
3.0923	3.2146	0.3333	4.0000	*****
3.0332	0.8944	52.0000	21.0000	96.5800
0.7039	0.7868	1.3330	6.3330	0.2450
1.7500	1.8166	3.1250	10.1300	*****
1.3292	1.6021	1.3330	1.3330	8.0530
1.6850	1.7043	6.3330	0.0000	0.1200
0.4859	0.4410	0.3333	0.3333	0.2633
1.5166	2.3664	5.3330	7.0000	66.5600
0.5774	0.4787	*****	12.5000	*****
3.3991	4.7170	6.3330	6.3330	*****
1.4720	3.2094	4.3330	4.0000	28.6500
