STOCKS, BONDS, BILLS, AND INFLATION: THE PAST (1926–1976) AND THE FUTURE (1977–2000)

by
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Graduate School of Business
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THE
FINANCIAL
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RESEARCH
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Foreword by Jack Treynor

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FOREWORD

Lorie and Hamilton have argued that the investment policy decision is the most important decision investors make. Even so the importance of the policy decision continues to be underestimated, particularly by those investors who confuse *policy* with *strategy.*

The intuitive notion of an investment policy is of something more stable than an investment strategy. The use of strategy implies an attempt to seek advantage over other investors. Because the advantage conferred by investment insights is always temporary, investment strategies are temporary. What is relatively permanent is the market tradeoff between risk and return and—in the case of bonds—between maturity and return.

An investor requires a certain return for holding (rather than trading) an asset. If he accepts the market consensus on economic prospects, then he expects the same return that is implicit in current market prices. Of course, he may trade in and out of assets in attempts to improve that return, but if he doesn't trade, or if he trades without a genuine reason to challenge the market consensus, then his expected return is the expected market return. (If he trades, of course, then he reduces his return by the cost of trading.)

Expected return differs from one kind of asset to another principally because, taken as a group, investors prefer assets with low levels of undiversifiable risk and short maturities. In this study, Roger Ibbotson and Rex Sinquefield use the methods of modern capital theory to generate estimates of the rates of return that investors as a group will require from four important asset classes—common stocks, bills, government bonds and corporate bonds. They explain how they derive their estimates and how the estimates relate to each other. They also use their examples to demonstrate how to simulate investment results for portfolios containing various blends of these assets.

Modern Capital Theory

Because it distinguishes sharply between temporary return increments based on investment advantage and relatively permanent return increments based on market tradeoffs, modern capital market theory provides a natural and logical basis for the determination of a relatively stable investment policy. There is a certain irony in

this: Harry Markowitz' theory of portfolio selection—the foundation stone of modern capital theory—does not acknowledge any distinction between policy and strategy.

The need for the distinction arises out of the separation of the roles of owner and decision-maker—of professional and client. It would, of course, be impractical for a large investment institution to take the risk preferences of individual clients into account. But an expression of risk policy by an investment institution enables the institution's various shareholders or beneficiaries to adjust the other elements in their respective portfolios to complement the institution's announced risk policy. If the institution's policy tradeoff changed with every new investment opportunity, however, the amount of information required to keep clients' portfolio adjustments current would be impractically large. An investment policy provides a relatively stable long-term posture for the institution on which clients can rely.

These are important practical considerations for the large institution. But the real need for the distinction between policy and strategy is even more fundamental: it arises between a single investment counselor and a single client. The only justification for trading—for "active" portfolio management—is a perception on the part of the portfolio manager that, for certain securities, his assessments of risk and return differ from those of the market consensus. Thus any expectation on the part of the portfolio manager that leads to transactions is necessarily a subjective expectation. There is no way he can convey a subjective judgment regarding the distribution of possible future returns from a security to a client.

Nor can the client solve the communication problem between client and manager by conveying his risk preferences to the money manager. The money manager has his own risk preferences. Although a prudent money manager will, of course, allow for his client's risk preferences, only a client who believes in the tooth fairy would expect a money manager to substitute the client's preferences for his own.

The Way Out

Fortunately, there is a pragmatic resolution to the problem of communication between portfolio manager and client. Few professional money managers have demonstrated enough success with either security selection or market timing to feel confident in

making either large departures from the level of market risk elected as long-term policy, or large excursions into exposure to specific risk. The practical consequence has been that both the expected return and risk level of most professionally managed portfolios have been dominated by the average level of market risk incurred by these portfolios. (This is, of course, the reason why—as Lorie and Hamilton assert—the policy decision is so critical.)

To be sure, fluctuations in portfolio risk will result from strategy moves. But the portfolio manager selects his policy by determining the level of market risk (or, given the market tradeoff, the expected return) around which the portfolio total risk—both market and specific—fluctuates.

In some cases, the client's statement of objectives has no direct bearing on the money manager's policy decision (as, for example, in mutual funds) since the impact of the latter's portfolio depends on how the client manages his other assets and liabilities. In other cases (e.g., fixed income corporate pension funds), the overall level of risk borne by the client will be importantly influenced by the risk policy adopted by the money manager. In all cases, however, the money manager must have a risk policy sufficiently long-term and stable to be meaningfully communicated to the client.

Much of our language up to this point would seem to admit only one dimension of risk in a diversified portfolio—general stock market, or systematic risk—whereas in fact Ibbotson and Sinquefield recognize two. They extend the concept of policy to the level of interest rate or maturity risk in a bond portfolio and, obviously, to the specification of both the stock market and maturity risk levels in a balanced portfolio. We hope discussion of the role of policy in terms of stock market risk alone has avoided some circumlocution, while remaining reasonably faithful to the spirit of the Ibbotson and Sinquefield model.

Consistency in Estimates of the Market Parameters

Typically, the investor is dealing with several classes of investment assets and with a wide spectrum of risk possibilities within each class. No one knows what the actual returns for various asset classes will be in the future. But if the investor is to make meaningful choices among the various classes, his assumptions must be consistent from one asset class to another. Because, on balance, investors are risk averse, security markets can clear only when riskier and longer-maturity assets offer higher expected returns.

The first problem in consistency for an investor is making certain that the real return assumptions he makes for the various classes are compatible with risk (and maturity) differences across those classes.

The second, perhaps more serious, problem in establishing consistency among return estimates for various asset classes arises in connection with inflation. Inflation affects nominal returns on all asset classes. It also affects our expectations of returns in future holding periods as well as the current holding period. Adjustments to reflect current inflation rates thus raise questions of consistency, both across asset classes and over time. The estimation techniques employed by Ibbotson and Sinquefield reflect an attempt to preserve consistency in formulating these estimates, based on a careful study of the way inflation rates have behaved in the past.

Why Ibbotson-Sinquefield?

Although the models employed by Ibbotson and Sinquefield are daily becoming more familiar to many professional investors, to some they probably still seem arbitrary. The Ibbotson-Sinquefield model happens (1) to be among the simplest that allow for the principal capital market phenomena and (2) to rest on assumptions that have been extensively tested in the academic community in recent years. Nevertheless, the assumptions on which the Ibbotson-Sinquefield model is based are only assumptions. The real point is not that the investor must use the Ibbotson-Sinquefield framework to set investment policy but rather that he must use some framework that assures consistent estimates of returns for the various asset classes. He may prefer to base policy formulations on a recapitulation of the Ibbotson-Sinquefield exercise using his own assumptions.

Conventional Policy Forecasts

At this point, many investors—both money manager and clients—will respond: "I've been making long-range policy forecasts for years, and I achieve consistency by basing return forecasts for each asset class on the same economic assumptions about the future. Why do I need the data and approach of Ibbotson and Sinquefield?"

The answer to this question is provided by an editorial in the March/April 1977 issue of *Financial Analysts Journal*. The author, Douglas Love, argues that estimates of returns based on long-term

economic forecasts can be a basis for an investor's short-term *strategy,* but not for his *policy:* "This is not to say that his policy decision is not an economic one; he must choose a particular risk-reward tradeoff, based on his willingness to bear risk and the reward the market offers for risk-bearing. When his analysis of policy is based on a specific outlook, however, things begin to go awry. Things go awry because, if his analysis includes an outlook, the resulting policy is, in fact, a strategy and will soon be irrelevant." Surprisingly often, the investor finds his—and the market's—long-term economic outlook changing significantly over the short term. "To have a market outlook is to have an investment strategy. To have an investment policy is to have no outlook. It is to accept whatever consensus outlook is implicit in current market prices—and to focus instead on how risky assets are and on the risk premium investors require. The policy decision focuses on how investors discount uncertain future cash flows, rather than on what the flows are going to be."

This is, of course, exactly what Ibbotson and Sinquefield have done in this study. They have estimated the expected returns investors are going to require from the various asset classes considered.

The traditional approach to making policy decisions is irrational for the reasons cited by Love. Ibbotson and Sinquefield have provided a rational alternative.

PREFACE

Over the past quarter century, the idea of an efficient capital market has gradually emerged from being an obscure academic invention to a widely accepted and scientifically documented description of capital market behavior. We believe this monograph provides a direct application of efficient capital market theory in the relevant area of forecasting. We hope that our methods and forecast results will be useful to members of the financial analyst profession as well as to academics, the financial community at large, and the general public.

The forecasts we make are as of December 31, 1976. By the time this monograph is printed, the forecasts will be technically out of date. However, we are as interested in conveying the forecast methodology as we are in presenting the results. Inclusion of the results allows the reader to grapple with the numbers. In fact, astute readers can make by hand the few adjustments necessary to produce their own updated forecasts which would be roughly equivalent to any forecasts we could do with a complete computer analysis.

Our estimates of the future are based on historical data. The compilation of the data was made possible by our working relationship with the Center for Research in Security Prices (sponsored by Merrill Lynch, Pierce, Fenner and Smith Inc.) at the University of Chicago, Graduate School of Business. The Center provided important access to information as well as some direct financial support.

Historical data are, of course, fascinating in their own right. We present numerous exhibits both to illustrate and report them in great detail. The appendices of this monograph include rates of return for our five basic series for all yearly holding periods as well as monthly returns on 13 series and monthly cumulative wealth index values for 11 series. For readers interested in another source of historical data, we recommend Lawrence Fisher and James H. Lorie's *A Half Century of Returns on Stocks and Bonds: Rates of Return on Common Stocks and United States Treasury Securities, 1926–1976.* Their book will come to press about the same time as this one, and theirs is being published by the University of Chicago, Graduate

School of Business. They present holding period returns for stocks and government bonds under various weighting, dividend, commission, inflation and tax assumptions.

The American National Bank and Trust Company of Chicago has provided the principal financial support for our study. We are especially grateful to the Trust Department for its continuing interest and involvement in our work. Some financial support was also provided by Alliance Capital Management Corporation.

We thank the many colleagues and research assistants who helped us work on our two previous journal articles. We are grateful to Jane Hilmers of the Graduate School of Business and her staff for typing this manuscript. At the risk of being redundant, we once again express special gratitude to Lawrence Fisher who provided great help in developing our historical data, and to Fischer Black who provided the inspiration for our future simulations. The current monograph includes updates as well as many revisions of both the historical data and the forecast simulations. We thank William Gallery for his extensive work in programming the entire analysis. We also appreciate the efforts of Frank Dmuchowski who independently programmed the future simulations, providing a cross-check for our results.

Roger G. Ibbotson
Rex A. Sinquefield

Chicago
April 1977

I. INTRODUCTION

In 1976, *The Journal of Business* published our two companion papers on security returns. In the first paper,[1] we presented year-by-year historical returns for common stocks, long-term U.S. government and corporate bonds, U.S. Treasury bills and consumer goods (inflation) for the period 1926–74. In the second paper,[2] we presented a simulation model to forecast probability distributions of returns and wealth indices for these asset classes.

The current monograph has the following purposes:

1. To update and expand the historical returns through 1976, making revisions of previously published data where necessary.
2. To revise our forecasts (1977-2000) making use of historical and yield curve data through December 31, 1976.
3. To present our results in a more unified, less technical and directly usable manner for financial practitioners.
4. To answer many of the specific questions we have been asked over the last couple of years concerning our work. A question and answer section is presented at the end of the paper.

As in our previous work, the concept of an efficient capital market is the foundation of our analysis. In such a market, security prices are assumed to be "fair" in that they already reflect any information about the future that is currently available. Since we explicitly assume efficient capital markets, it is not possible to use our forecasts to identify over- and under-valued asset classes. Nor is it possible to use our forecasts to determine any optimal portfolio mix for any time horizons without knowing the risk preferences of the investor. Rather, it is our purpose to present the market's "consensus" forecast. To the extent that our simulation model portrays the market, its forecast can be thought of as a *benchmark* against which to compare other forecasts.

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[1] Roger G. Ibbotson and Rex A. Sinquefield, "Stocks, Bonds, Bills, and Inflation: Year-by-Year Historical Returns (1926–1974)," *Journal of Business* 49, no. 1 (January 1976): 11–47.

[2] Roger G. Ibbotson and Rex A. Sinquefield, "Stocks, Bonds, Bills, and Inflation: Simulations of the Future (1976–2000)," *Journal of Business* 49, no. 3 (July 1976): 313–338.

II. HISTORICAL RETURNS

A. *Overview*

Our look at history consists of a statistical examination of five basic series: common stocks, long-term corporate bonds, long-term U.S. government bonds, U.S. Treasury bills, and inflation. For each of these series we present total rates of return (rates of change for inflation) which reflect capital gains plus dividend or interest income. For stocks and long-term U.S. government bonds we also present separate series showing the returns due solely to capital appreciation and solely to income.

Before examining in detail the data and methods of computation for the various series, we display graphically the rewards and risks available from the U.S. capital markets over the past 51 years. Exhibit 1 shows the growth of an investment in common stocks, long-term government bonds, and treasury bills as well as the increase in the inflation index over the fifty-one year period. Each of the series is initiated at $1.00 at year-end 1925. The vertical scale is logarithmic so that equal distances represent equal percentage changes anywhere along the axis. The graph vividly portrays that common stocks were the 'big winner" over the entire period. If $1.00 were invested in stocks at year-end 1925 and all dividends reinvested, the dollar investment would have grown to $90.57 by year-end 1976. This phenomenal growth was not without substantial risk, especially during the earlier portion of the period. In contrast, long-term government bonds (with a constant 20-year maturity) exhibited much less risk, but grew to only $5.44. Exhibit 2 more effectively contrasts the volatility of stocks to the much less risky government bonds. Together, Exhibits 1 and 2 illustrate the fundamental tradeoff of the risk vs. reward that the investor faces in making an asset allocation decision.

Returning to Exhibit 1, we see that a virtually riskless strategy (for those with short-term time horizons) has been to buy U.S. Treasury bills. However, treasury bills have had a marked tendency to track inflation, with the result that their real (inflation adjusted) return is near zero for the entire 1926-1976 period. Note that the tracking is only prevalent over the latter portion of the period. During periods of deflation (such as the late 1920's and early 1930's)

EXHIBIT 1

WEALTH INDICES OF INVESTMENTS IN THE U.S. CAPITAL MARKETS 1926 - 1976

Assumed Initial Investment of $1.00 at Year End 1925
(includes Reinvestment income)

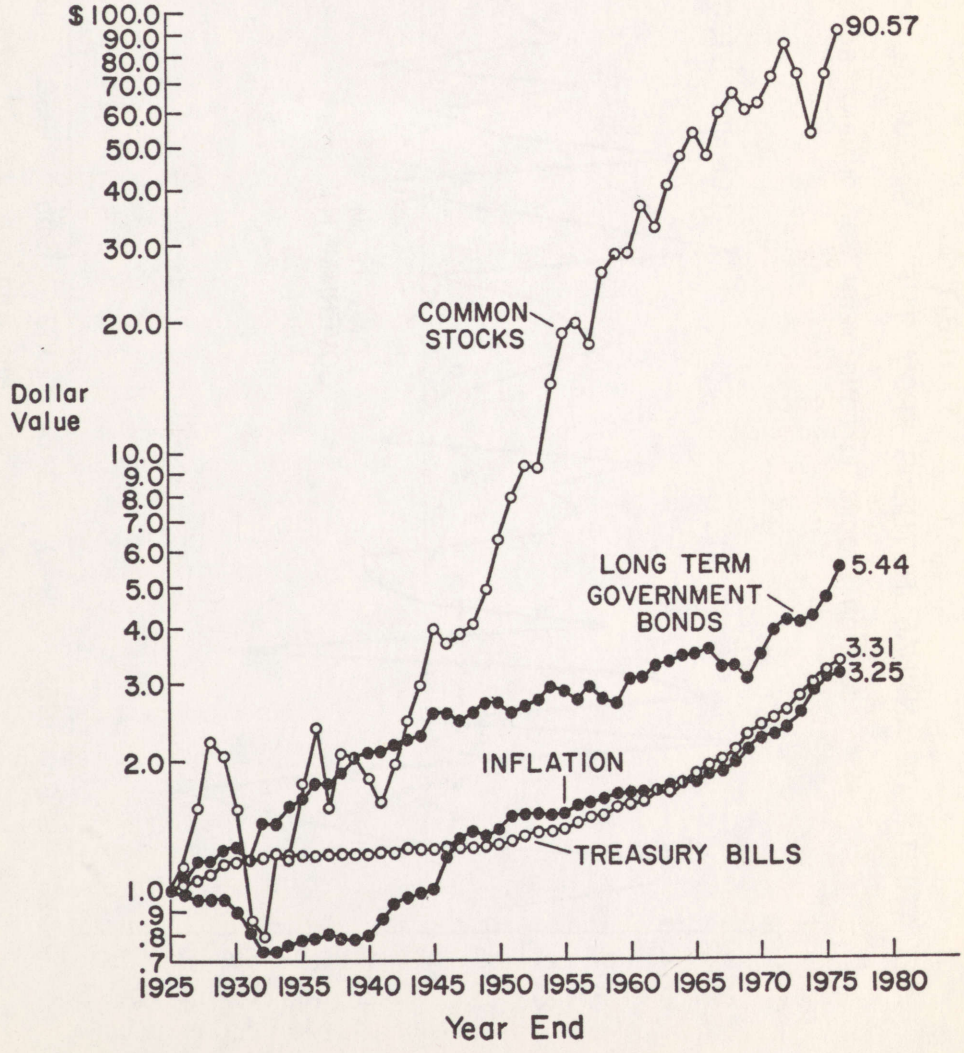
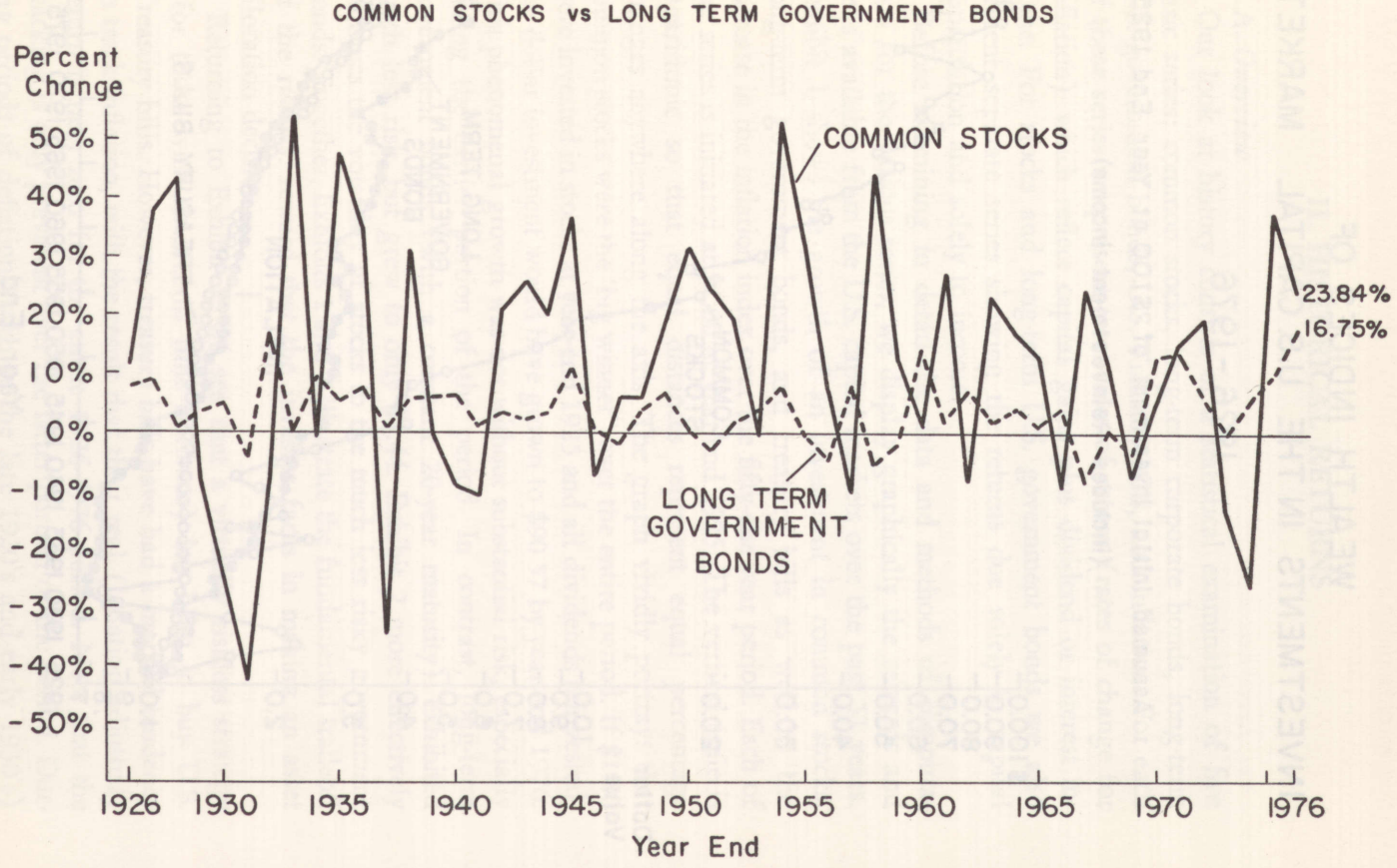


EXHIBIT 2

VOLATILITY OF ANNUAL RETURNS FROM THE U.S. CAPITAL MARKETS 1926-1976



the treasury bill returns were near zero, but not negative since no one intentionally buys securities with negative yields. Beginning in the early 1940's, the yields (returns) on Treasury bills were pegged by the government at low rates while high inflation was experienced. The government pegging ended with the U.S. Treasury-Federal Reserve Accord in March 1951.

B. *Description of Basic Series*

We present here a short description of the construction of the five basic series. A more detailed description is available in our earlier papers. Annual returns for each asset are formed by compounding monthly returns. In all cases, returns are formed assuming no taxes or transactions costs.

1. Common Stocks

Our common stock total return index is based upon the Standard and Poor's (S & P) Composite Index.[3] We use this index because it is a readily available, carefully constructed, market value weighted benchmark of common stock performance. By market value weighted, we mean that the weight of each stock in the index equals its price times the number of shares outstanding. Currently the S & P Composite includes 500 of the largest stocks (in terms of stock market value) in the United States; prior to March 1957 it consisted of 90 of the largest stocks. To the extent that the stocks included in the S & P Composite Index represent the market value of stocks in the United States, the weighting scheme allows the returns of the index to correspond to the aggregate stock market returns in the U.S. economy.

Designating common stocks as m, we form monthly returns by

$$R_{m,t} = \left[(P_{m,t} + D_{m,t}) / P_{m,t-1} \right] - 1 , \qquad (1)$$

where $R_{m,t}$ is the common stock total return during month t; $P_{m,t}$ is the value of the S & P Composite Index at the end of the month t; and $D_{m,t}$ is the estimated dividends received during month t and reinvested at the end of month t.

2. Long-Term U.S. Government Bonds

To measure the total returns of long-term U.S. government bonds, we construct a bond portfolio using the bond data obtained from the U.S. Government Bond File at the Center for Research in

[3] See Standard and Poor's *Trade and Security Statistics, Security Price Index Record* (Orange, Conn.: Standard & Poor's Corp., 1977).

Security Prices (CRSP).[4] Our objective is to maintain a 20-year term bond portfolio whose returns do not reflect potential tax benefits, impaired negotiability, or special redemption or call privileges. We then attempt to hold a 20-year life portfolio with the life arbitrarily measured as the simple average of the maturity and first call dates minus the holding period date.

Monthly returns on government bonds are formed according to

$$R_{g,t} = \left[(P_{g,t} + D_{g,t}) / P_{g,t-1} \right] - 1 , \qquad (2)$$

where $R_{g,t}$ is the long-term government bond total return during month t; $P_{g,t}$ is the average between the bid and ask flat price (includes accrued interest) of the bond at the end of month t; and $D_{g,t}$ is the coupon payment received during month t and invested at the end of month t.

3. Long-Term Corporate Bonds

Since most large corporate bond transactions take place over the counter, the natural source of data is a major dealer. Salomon Brothers has already constructed the High Grade Long-Term Corporate Bond Index.[5] We use this monthly index from its beginning in 1969 through 1976. For the period 1946-68 we backdate the Salomon Brothers' Index using Salomon Brothers' monthly yield data and similar methodology. For the period 1926-45 we use the Standard and Poor's monthly High-Grade Corporate Composite yield data, assuming a 4 percent coupon and a 20-year maturity

Monthly returns for each yield series are calculated according to

$$R_{c,t} = \left[(P_{c,t,19-11} + D_{c,t}) / P_{c,t-1,20} \right] - 1 , \qquad (3)$$

where $R_{c,t}$ is the monthly bond return for a series during month t; $P_{c,t-1,20}$ is the purchase price at the end of the month $t-1$ for the yield series bond given a 20-year maturity; $P_{c,t,19-11}$ is the sale price of the yield series bond at the end of month t given at this time

[4] The U.S. Government Bond File was compiled by Lawrence Fisher and consists of month-end price data on virtually all negotiable direct obligations of the U.S. Treasury for the period 1926–76.

[5] A description of the index is given by Martin L. Leibowitz and Richard I. Johannesen, Jr., "Introducing the Salomon Brothers' Total Performance Index for the High-Grade Long-Term Corporate Bond Market," Memorandum to Portfolio Managers (New York: Salomon Bros., November 1973).

19 years, 11 months to maturity; and $D_{c,t}$ is the coupon received which is one-twelfth the annual coupon given for the bond series.

4. United States Treasury Bills

For the U.S. Treasury Bill Index, we again use the data in the CRSP U.S. Government Bond File. Our objective is to construct an index that includes the shortest-term bills not less than 1 month in maturity. We also want our index to reflect achievable returns. Therefore, rather than compute yields, we measure 1-month holding period returns for a one-bill portfolio.

Although U.S. Treasury bills were initiated as early as 1929, the U. S. Government Bond File does not include any bills until 1931. Prior to that time, we use short-term coupon bonds. The bills are quoted on a discount basis without coupon.

The monthly total U.S. Treasury bill return during month t, $R_{f,t}$, can be computed directly from the end of the calendar month t discount bill prices, $P_{f,t}$ according to

$$R_{f,t} = \left[P_{f,t}/P_{f,t-1}\right] - 1 \ . \qquad (4)$$

Again, the prices used are the average of bid and ask.

5. Inflation

We utilize the Consumer Price Index (CPI)[6] to measure inflation, which is the rate of change of consumer goods prices. Monthly rates of change are formed by

$$R_{I,t} = \left[V_{I,t}/V_{I,t-1}\right] - 1 \ , \qquad (5)$$

where $V_{I,t}$ is the value of the CPI (not seasonally adjusted) measured during month t. Unfortunately, the inflation rate as measured by the CPI is not measured over the same period as the other asset returns. All of the security returns are measured from one month end to the next month end. CPI commodity prices are collected *during* the month. Thus, measured inflation rates lag the other series by about one-half month.

C. *Presentation of the Data*

At the end of each month n, we form a cumulative wealth relative index V_n for each of the monthly return series; R_t, $(t = 1/26,$

[6] The CPI is constructed by the U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C.

2/26, . . . , 12/76). This index is initialized at $V_{12/25} = 1.00$ and is formed for month n in the following manner:

$$V_n = V_{12/25}(1 + R_{1/26})(1 + R_{2/26}), \ldots, (1 + R_n) . \quad (6)$$

Using product notation, we can abbreviate the above expression as

$$V_n = \prod_{t=1/26}^{n} (1 + R_t) . \quad (7)$$

Annual calendar returns, R_T, are formed by compounding monthly returns or, equivalently, by using year-end index values, V_N, according to

$$R_T = \frac{V_N}{V_{N-1}} - 1 . \quad (8)$$

We also compute geometric mean annual returns (the rate of return per annum compounded annually); $R_G^*(T_1, T_2)$, for any calendar holding period beginning with year T_1 and ending with year T_2 according to

$$R_G^*(T_1, T_2) = \left[\prod_{T=T_1}^{T_2} (1 + R_T) \right]^{1/(T_2 - T_1 + 1)} - 1 . \quad (9)$$

Using index values simplifies the formula to

$$R_G^*(T_1, T_2) = \left[\frac{V_{T_2}}{V_{T_1}} \right]^{1/(T_2 - T_1 + 1)} - 1 . \quad (10)$$

We can also compute geometric mean annual returns over all monthly periods merely by expressing T_1 and T_2 as fractional years. For example, 5/46 is equivalent to 1946.4167 or 1946 and five-twelfths.

The geometric mean annual return formed by equations (9) and

(10) should not be confused with the more familiar arithmetic mean annual return $R_A^*(T_1, T_2)$ formed by

$$R_A^*(T_1, T_2) = \sum_{T=T_1}^{T_2} R_T/(T_2 - T_1 + 1) . \qquad (11)$$

In general,

$$R_G^*(T_1, T_2) \leq R_A^*(T_1, T_2) . \qquad (12)$$

The equality holds only for constant returns and the difference between the two estimates is positively related to the variance of returns.

A simple example illustrates the difference between geometric and arithmetic means and the validity of equation (12). Suppose \$1.00 were invested in a common stock portfolio that experiences successive annual returns of +50% and −50%. At the end of the first year the portfolio is worth \$1.50. At the end of the second year, the portfolio is worth \$.75. The annual arithmetic mean is 0% whereas the annual geometric mean is −13.4%. Naturally, it is the geometric mean that more directly measures the change in wealth over more than one period. On the other hand, the arithmetic mean serves as a better representation of typical performance over single periods.

We summarize the yearly returns for the basic series in Exhibit 3. Note that the arithmetic mean is always greater than the geometric mean, with the highly variable common stock series showing the greatest difference. The exhibit also confirms our earlier comments that the higher risk series showed the higher returns over the 51 year period. The risk of the five series is shown summarily by the standard deviations and more completely by the histograms. Since the histograms present single period returns, the arithmetic mean is the mean of the distribution.

Exhibit 4 presents year-by-year total returns for the five basic series. Exhibit 5 subdivides common stock and long-term government bond total returns into returns due solely to capital appreciation, returns due solely from the receipt of income, and returns from the reinvestment of income in the total return series. Income returns are assumed to be equal to the yield for bonds. Bond

EXHIBIT 3

BASIC SERIES

INVESTMENT TOTAL ANNUAL RETURNS
1926 - 1976

Series	Geometric Mean	Arithmetic Mean	Standard Deviation	Distribution
Common Stocks	9.2%	11.6%	22.4%	
Long Term Corporate Bonds	4.1%	4.2%	5.6%	
Long Term Government Bonds	3.4%	3.5%	5.8%	
U.S. Treasury Bills	2.4%	2.4%	2.1%	
Inflation	2.3%	2.4%	4.8%	

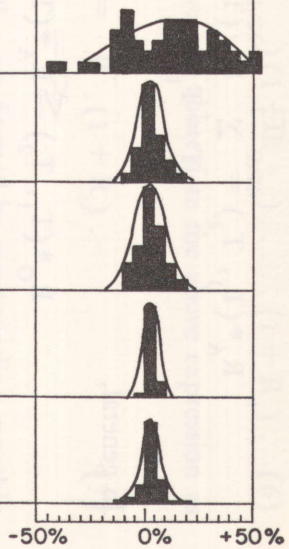


EXHIBIT 4

Basic Series
YEAR-BY-YEAR TOTAL RETURNS
1926-1976

Year	Common Stocks	Long-Term Government Bonds	Long-Term Corporate Bonds	U.S. Treasury Bills	Consumer Price Index
1926	0.1162	0.0777	0.0737	0.0327	-0.0149
1927	0.3749	0.0893	0.0744	0.0312	-0.0208
1928	0.4361	0.0010	0.0284	0.0324	-0.0097
1929	-0.0842	0.0342	0.0327	0.0475	0.0019
1930	-0.2490	0.0466	0.0798	0.0241	-0.0603
1931	-0.4334	-0.0531	-0.0185	0.0107	-0.0952
1932	-0.0819	0.1684	0.1082	0.0096	-0.1030
1933	0.5399	-0.0008	0.1038	0.0030	0.0051
1934	-0.0144	0.1002	0.1384	0.0016	0.0203
1935	0.4767	0.0498	0.0961	0.0017	0.0299
1936	0.3392	0.0751	0.0674	0.0018	0.0121
1937	-0.3503	0.0023	0.0275	0.0031	0.0310
1938	0.3112	0.0553	0.0613	-0.0002	-0.0278
1939	-0.0041	0.0594	0.0397	0.0002	-0.0048
1940	-0.0978	0.0609	0.0339	0.0000	0.0096
1941	-0.1159	0.0093	0.0273	0.0006	0.0972
1942	0.2034	0.0322	0.0260	0.0027	0.0929
1943	0.2590	0.0208	0.0283	0.0035	0.0316
1944	0.1975	0.0281	0.0473	0.0033	0.0211
1945	0.3644	0.1073	0.0408	0.0033	0.0225
1946	-0.0807	-0.0010	0.0172	0.0035	0.1817
1947	0.0571	-0.0263	-0.0234	0.0050	0.0901
1948	0.0550	0.0340	0.0414	0.0081	0.0271
1949	0.1879	0.0645	0.0331	0.0110	-0.0180
1950	0.3171	0.0006	0.0212	0.0120	0.0579
1951	0.2402	-0.0394	-0.0269	0.0149	0.0587
1952	0.1837	0.0116	0.0352	0.0166	0.0088
1953	-0.0099	0.0363	0.0341	0.0182	0.0062
1954	0.5262	0.0719	0.0539	0.0086	-0.0050
1955	0.3156	-0.0130	0.0048	0.0157	0.0037
1956	0.0656	-0.0559	-0.0681	0.0246	0.0286
1957	-0.1078	0.0745	0.0871	0.0314	0.0302
1958	0.4336	-0.0610	-0.0222	0.0154	0.0176
1959	0.1195	-0.0226	-0.0097	0.0295	0.0150
1960	0.0047	0.1378	0.0907	0.0266	0.0148
1961	0.2689	0.0097	0.0482	0.0213	0.0067
1962	-0.0873	0.0689	0.0795	0.0273	0.0122
1963	0.2280	0.0121	0.0219	0.0312	0.0165
1964	0.1648	0.0351	0.0477	0.0354	0.0119
1965	0.1245	0.0071	-0.0046	0.0393	0.0192
1966	-0.1006	0.0365	0.0020	0.0476	0.0335
1967	0.2398	-0.0919	-0.0495	0.0421	0.0304
1968	0.1106	-0.0026	0.0257	0.0521	0.0472
1969	-0.0850	-0.0508	-0.0809	0.0658	0.0611
1970	0.0401	0.1210	0.1837	0.0653	0.0549
1971	0.1431	0.1323	0.1101	0.0439	0.0336
1972	0.1898	0.0568	0.0726	0.0384	0.0341
1973	-0.1466	-0.0111	0.0114	0.0693	0.0880
1974	-0.2648	0.0435	-0.0306	0.0800	0.1220
1975	0.3720	0.0919	0.1464	0.0580	0.0701
1976	0.2384	0.1675	0.1865	0.0508	0.0481

EXHIBIT 5

YEAR-BY-YEAR INCOME AND CAPITAL APPRECIATION RETURNS FOR COMMON STOCKS AND LONG-TERM U.S. GOVERNMENT BONDS 1926-1976

Year	Common Stocks				Long-Term U.S. Government Bonds			
	Capital Appreciation	Dividend Returns	Reinvestment Returns	Total Returns	Capital Appreciation	Yield Returns	Reinvestment Returns	Total Returns
1926	0.0572	0.0562	0.0028	0.1162	0.0391	0.0373	0.0013	0.0777
1927	0.3091	0.0520	0.0138	0.3749	0.0539	0.0337	0.0017	0.0893
1928	0.3788	0.0432	0.0141	0.4361	-0.0313	0.0332	-0.0009	0.0010
1929	-0.1191	0.0382	-0.0033	-0.0842	-0.0021	0.0363	0.0000	0.0342
1930	-0.2848	0.0488	-0.0130	-0.2490	0.0128	0.0334	0.0004	0.0466
1931	-0.4707	0.0659	-0.0286	-0.4334	-0.0847	0.0342	-0.0026	-0.0531
1932	-0.1515	0.0797	-0.0101	-0.0819	0.1292	0.0351	0.0041	0.1684
1933	0.4659	0.0525	0.0215	0.5399	-0.0314	0.0316	-0.0010	-0.0008
1934	-0.0594	0.0479	-0.0029	-0.0144	0.0676	0.0308	0.0018	0.1002
1935	0.4137	0.0458	0.0172	0.4767	0.0214	0.0279	0.0005	0.0498
1936	0.2792	0.0478	0.0122	0.3392	0.0464	0.0275	0.0012	0.0751
1937	-0.3859	0.0547	-0.0191	-0.3503	-0.0248	0.0277	-0.0006	0.0023
1938	0.2521	0.0476	0.0115	0.3112	0.0283	0.0253	0.0007	0.0553
1939	-0.0545	0.0532	-0.0028	-0.0041	0.0348	0.0238	0.0008	0.0594
1940	-0.1529	0.0618	-0.0067	-0.0978	0.0377	0.0224	0.0008	0.0609
1941	-0.1786	0.0751	-0.0124	-0.1159	-0.0102	0.0197	-0.0002	0.0093
1942	0.1243	0.0713	0.0078	0.2034	0.0073	0.0247	0.0002	0.0322
1943	0.1945	0.0545	0.0100	0.2590	-0.0038	0.0247	-0.0001	0.0208
1944	0.1380	0.0531	0.0064	0.1975	0.0032	0.0249	0.0000	0.0281
1945	0.3072	0.0450	0.0122	0.3644	0.0827	0.0229	0.0017	0.1073
1946	-0.1187	0.0422	-0.0042	-0.0807	-0.0215	0.0209	-0.0004	-0.0010
1947	-0.0000	0.0565	0.0006	0.0571	-0.0470	0.0216	-0.0009	-0.0263
1948	-0.0065	0.0611	0.0004	0.0550	0.0096	0.0242	0.0002	0.0340
1949	0.1026	0.0772	0.0081	0.1879	0.0414	0.0222	0.0009	0.0645
1950	0.2178	0.0830	0.0163	0.3171	-0.0207	0.0216	-0.0003	0.0006
1951	0.1646	0.0651	0.0105	0.2402	-0.0627	0.0248	-0.0015	-0.0394
1952	0.1178	0.0595	0.0064	0.1837	-0.0148	0.0268	-0.0004	0.0116
1953	-0.0662	0.0598	-0.0035	-0.0099	0.0067	0.0295	0.0001	0.0363
1954	0.4502	0.0539	0.0221	0.5262	0.0435	0.0273	0.0011	0.0719
1955	0.2640	0.0416	0.0100	0.3156	-0.0407	0.0288	-0.0011	-0.0130
1956	0.0262	0.0381	0.0013	0.0656	-0.0846	0.0311	-0.0024	-0.0559
1957	-0.1431	0.0408	-0.0055	-0.1078	0.0381	0.0352	0.0012	0.0745
1958	0.3806	0.0391	0.0139	0.4336	-0.0923	0.0343	-0.0030	-0.0610
1959	0.0848	0.0323	0.0024	0.1195	-0.0620	0.0418	-0.0024	-0.0226
1960	-0.0297	0.0359	-0.0015	0.0047	0.0929	0.0414	0.0035	0.1378
1961	0.2313	0.0312	0.0064	0.2689	-0.0286	0.0393	-0.0010	0.0097
1962	-0.1181	0.0351	-0.0043	-0.0873	0.0278	0.0400	0.0011	0.0689
1963	0.1889	0.0332	0.0059	0.2280	-0.0270	0.0401	-0.0010	0.0121
1964	0.1297	0.0313	0.0038	0.1648	-0.0072	0.0425	-0.0002	0.0351
1965	0.0906	0.0312	0.0027	0.1245	-0.0345	0.0430	-0.0014	0.0071
1966	-0.1309	0.0341	-0.0038	-0.1006	-0.0106	0.0476	-0.0005	0.0365
1967	0.2009	0.0324	0.0065	0.2398	-0.1355	0.0499	-0.0063	-0.0919
1968	0.0766	0.0318	0.0022	0.1106	-0.0551	0.0553	-0.0028	-0.0026
1969	-0.1142	0.0325	-0.0033	-0.0850	-0.1083	0.0639	-0.0064	-0.0508
1970	0.0016	0.0387	-0.0002	0.0401	0.0484	0.0696	0.0030	0.1210
1971	0.1079	0.0320	0.0032	0.1431	0.0660	0.0625	0.0038	0.1323
1972	0.1563	0.0295	0.0040	0.1898	-0.0035	0.0606	-0.0003	0.0568
1973	-0.1737	0.0316	-0.0045	-0.1466	-0.0773	0.0712	-0.0050	-0.0111
1974	-0.2972	0.0442	-0.0118	-0.2648	-0.0346	0.0807	-0.0026	0.0435
1975	0.3155	0.0441	0.0124	0.3720	0.0073	0.0841	0.0005	0.0919
1976	0.1915	0.0395	0.0074	0.2384	0.0807	0.0810	0.0058	0.1675

EXHIBIT 6

Basic Series

INDICES OF YEAR-END CUMULATIVE WEALTH 1925-1976

Year	Common Stocks		Long-Term Government Bonds		Long-Term Corporate Bonds	U.S. Treasury Bills	Consumer Price Index
	Total Returns	Capital Appreciation	Total Returns	Capital Appreciation	Total Returns	Total Returns	Total Returns
1925	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1926	1.116	1.057	1.078	1.039	1.074	1.033	0.985
1927	1.535	1.384	1.174	1.095	1.154	1.065	0.965
1928	2.204	1.908	1.175	1.061	1.186	1.099	0.955
1929	2.018	1.681	1.215	1.059	1.225	1.152	0.957
1930	1.516	1.202	1.272	1.072	1.323	1.179	0.899
1931	0.859	0.636	1.204	0.981	1.299	1.192	0.814
1932	0.789	0.540	1.407	1.108	1.439	1.204	0.730
1933	1.214	0.792	1.406	1.073	1.588	1.207	0.734
1934	1.197	0.745	1.547	1.146	1.808	1.209	0.749
1935	1.767	1.053	1.624	1.170	1.982	1.211	0.771
1936	2.367	1.346	1.746	1.225	2.116	1.213	0.780
1937	1.538	0.827	1.750	1.194	2.174	1.217	0.804
1938	2.016	1.035	1.847	1.228	2.307	1.217	0.782
1939	2.008	0.979	1.957	1.271	2.399	1.217	0.778
1940	1.812	0.829	2.076	1.319	2.480	1.217	0.786
1941	1.602	0.681	2.095	1.305	2.548	1.218	0.862
1942	1.927	0.766	2.162	1.315	2.614	1.221	0.942
1943	2.427	0.915	2.207	1.310	2.688	1.225	0.972
1944	2.906	1.041	2.270	1.314	2.815	1.229	0.993
1945	3.965	1.361	2.513	1.423	2.930	1.233	1.015
1946	3.645	1.199	2.511	1.392	2.980	1.238	1.199
1947	3.853	1.199	2.445	1.327	2.911	1.244	1.307
1948	4.065	1.191	2.528	1.340	3.031	1.254	1.343
1949	4.829	1.313	2.691	1.395	3.132	1.268	1.318
1950	6.360	1.600	2.692	1.366	3.198	1.283	1.395
1951	7.888	1.863	2.586	1.281	3.112	1.302	1.477
1952	9.336	2.082	2.616	1.262	3.221	1.324	1.490
1953	9.244	1.944	2.711	1.270	3.331	1.348	1.499
1954	14.108	2.820	2.906	1.325	3.511	1.360	1.492
1955	18.561	3.564	2.868	1.271	3.527	1.381	1.497
1956	19.778	3.658	2.708	1.164	3.287	1.415	1.540
1957	17.646	3.134	2.910	1.208	3.573	1.459	1.587
1958	25.298	4.327	2.733	1.097	3.494	1.482	1.615
1959	28.322	4.694	2.671	1.029	3.460	1.526	1.639
1960	28.455	4.554	3.039	1.124	3.774	1.566	1.663
1961	36.106	5.607	3.068	1.092	3.956	1.600	1.674
1962	32.955	4.945	3.280	1.122	4.270	1.643	1.695
1963	40.469	5.879	3.319	1.092	4.364	1.695	1.723
1964	47.139	6.642	3.436	1.084	4.572	1.754	1.743
1965	53.008	7.244	3.460	1.047	4.552	1.823	1.777
1966	47.674	6.295	3.586	1.036	4.560	1.910	1.836
1967	59.104	7.560	3.257	0.895	4.335	1.991	1.892
1968	65.642	8.139	3.248	0.846	4.446	2.094	1.981
1969	60.059	7.210	3.083	0.754	4.086	2.232	2.102
1970	62.465	7.222	3.457	0.791	4.837	2.378	2.218
1971	71.406	8.001	3.914	0.843	5.370	2.482	2.292
1972	84.956	9.252	4.136	0.840	5.760	2.577	2.371
1973	72.500	7.645	4.090	0.775	5.825	2.756	2.579
1974	53.300	5.373	4.268	0.748	5.647	2.976	2.894
1975	73.130	7.068	4.661	0.754	6.474	3.149	3.097
1976	90.566	8.422	5.441	0.815	7.681	3.309	3.246

capital appreciation is then calculated each month as the total return (measured directly) minus the income return (assumed equal to the yield), i.e., capital appreciation is the return in excess of constant yield. Reinvestment returns for both stocks and bonds are zero each month, but nonzero over any longer period, since they reflect monthly income reinvested in the total return index for the remainder of the year. Exhibit 6 gives cumulative wealth index values for most of the series presented in Exhibits 4 and 5.

Geometric mean annual returns for any holding period can be found by using equation (10) for any two index values (V_{T_1} and V_{T_2}) for any one of the series in Exhibit 6. Geometric mean annual returns for the five basic series for all calendar yearly holding periods from 1926-1976 are presented in matrix form in Exhibits A1-A5 in Appendix A. Note that the year-by-year annual returns appearing in Exhibit 4 also appear along the diagonals of the matrices. The geometric mean annual returns are found in the matrix for any holding period by looking in the beginning year column and the ending year row. For example, in Exhibit 1A the geometric mean annual return for common stocks for the period 1926-76 is 9.2 percent (previously shown in Exhibit 3) and is found in the matrix in column 1926 and in row 1976.

Monthly returns and index values for many of the series are also presented in Appendix B. The monthly returns corresponding to the yearly returns presented in Exhibits 4 and 5 are presented in Exhibits B1-B9. Monthly indices corresponding to the Exhibit 6 yearly indices are presented in Exhibits B14-B20.

Exhibit 7 presents the yearly cross-correlations and serial correlations for the five basic series. Note that long-term government and corporate bond returns are highly correlated with each other but negatively correlated with inflation. Since the inflation was largely unanticipated, it had a negative effect on fixed income securities. Note also that U.S. Treasury bills and inflation are reasonably highly correlated, a result of the post 1951 "tracking" described earlier. Finally, note that both the U.S. Treasury bills and inflation series have high *serial* correlation.

EXHIBIT 7

Basic Series
SAMPLE SERIAL AND CROSS-CORRELATIONS FOR HISTORICAL YEARLY RETURNS (1926-1976)*

	Common Stocks	LT Gov't Bonds	LT Corp. Bonds	U.S. Treasury Bills	Inflation
Common Stocks	1.00	.04	.18	-.20	-.03
LT Gov't Bonds	-	1.00	.83	.04	-.19
LT Corp. Bonds	-	-	1.00	.00	-.17
U.S. Treasury Bills	-	-	-	1.00	.24
Inflation	-	-	-	-	1.00
Serial Correlation	.03	-.05	.14	.89	.59

*The standard error for all estimates is 0.14.

III. COMPONENT RETURNS

Historical data suggests that investors have been rewarded for taking risks and that returns have been related to inflation rates. We now seek to uncover the risk/return and the real/nominal relationships in the historical data.

From the five basic asset classes we derive seven additional series which represent the component or elemental parts of asset returns. They include the *equity risk premium,* the net return from investing in common stocks rather than bills; the *bond maturity premium,* the net return from investing in long-term government bonds rather than bills; and the *bond default premium,* the net return from investing in long-term corporate bonds rather than long-term government bonds. The seven derived series also include real (inflation-adjusted) total returns of the first four basic series.

A. *Description of Derived Series*

1. Equity Risk Premiums

It is generally accepted in financial theory that capital markets are dominated by risk-averse investors who expect compensation for investing in common stocks rather than risk-free assets such as U.S. Treasury bills. The monthly risk premiums, R_p, are given by the simple difference

$$R_p = R_m - R_f . \tag{13}$$

2. Bond Maturity Premiums

Since U.S. government bonds and bills are not considered subject to default, the net return from investing in bonds rather than bills stems primarily from differences in their maturity. The net returns are often called "liquidity premiums." Since "liquidity" implies marketability rather than the more important bond life characteristic, we relabel these net returns "maturity premiums" and generate them from historical data according to

$$R_L = R_g - R_f . \tag{14}$$

From the bond portfolio manager's point of view R_L can be

thought of as the gains or losses resulting from the decision to hold long-term bonds rather than short-term bonds.

3. Bond Default Premiums

We define the default premium as the net return from investing in long-term corporate bonds rather than long-term government bonds of equal maturity. We estimate monthly default premiums, R_d; according to

$$R_d = R_c - R_g . \tag{15}$$

Since the long-term U.S. government bond series and the long-term corporate bond series have approximately equal maturities, the net rate of return between the two series is primarily related to differences in the probability of coupon or principal default. From the bond portfolio manager's point of view, R_d is a measure of the gains or losses associated with holding high-quality corporate bonds rather than government bonds.

4. Inflation-Adjusted Returns of the Basic Series

The monthly inflation-adjusted returns for the R_m, R_g, R_c, and R_f series are estimated as

$$R_{mr} = R_m - R_I , \tag{16}$$

$$R_{gr} = R_g - R_I , \tag{17}$$

$$R_{cr} = R_c - R_I , \tag{18}$$

$$R_{fr} = R_f - R_I , \tag{19}$$

where the additional subscript r on each of the returns on the left side of equations (16)–(19) refer to the fact that each series is real (inflation-adjusted). Henceforth we designate R_{fr} as simply R_r.

B. *Presentation of Data*

Yearly returns for all of the above component series are formed by compounding the monthly component returns. Therefore, the

annual component returns, unlike monthly component returns, are not precisely equal to the simple difference of two basic annual returns.

We summarize the yearly component returns in Exhibit 8. Note that the risk premiums are all positive, with the equity risk premium exhibiting the highest return and greatest variability. Its arithmetic mean is 9.2% which is, once again, the mean of the distribution of one-year returns shown in the histogram. The 51-year geometric mean or annual compound rate of return is 6.7%. The geometric mean return for taking on default risk is 0.6%, while the geometric mean return for taking on maturity risk is 1.0% over the entire period. Note also that the real rate of interest is near zero on average as indicated earlier. The histogram reveals that both negative and positive real interest rates have occurred historically.

Exhibit 9 presents the year-by-year returns for the three risk premium series and the four inflation adjusted series. Exhibit 10 presents year-end cumulative wealth index values for these same series. The four inflation adjusted return series returns and cumulative wealth indices are also presented monthly in Appendix B, Exhibits B10–B13 and B21–B24.

C. *Component Time Series Behavior*

The risk/return relationships in the historical data are represented in the equity risk premiums, R_p, the bond maturity premiums, R_L, and the bond default premiums, R_d. The real/nominal historical relationships are represented in the inflation rates, R_I, and the real interest rates; R_r. Since we will be using these components to make predictions, it is useful to examine their time series behavior. We wish to uncover whether each series is random or whether it is subject to any trends, cycles, or other patterns.

A direct way to test for patterns in the series is to examine the (one-year) serial correlation coefficients. These coefficients measure the degree of correlation between returns from each year and the previous year for the same series. Highly positive serial correlations indicate trends, while highly negative serial correlations indicate cycles. Serial correlations "near zero" suggest no patterns, i.e., random walks.

Exhibit 11 presents the sample one-period yearly serial correla-

EXHIBIT 8

COMPONENT ANNUAL RETURNS

1926 - 1976

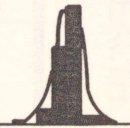
Series	Geometric Mean	Arithmetic Mean	Standard Deviation	Distribution
Risk Premiums (Stocks-Bills)	6.7%	9.2%	22.6%	
Default Premiums (LT Corps- LT Govts)	0.6%	0.6%	3.2 %	
Maturity Premiums (LT Govts - Bills)	1.0%	1.1%	5.9%	
Real Interest Rates (Bills-Inflation)	0.0%	0.1%	4.6%	

EXHIBIT 9

Derived Series
YEAR-BY-YEAR RETURNS
1926-1976

Year	Risk Premiums on Common Stocks	Maturity Premiums on Long-Term Gov't Bonds	Default Premiums on Long-Term Corp. Bonds	Inflation Adjusted			
				Common Stocks	Long-Term Gov't Bonds	Long-Term Corp. Bonds	U.S. Treasury Bills
1926	0.0811	0.0437	-0.0039	0.1325	0.0937	0.0896	0.0478
1927	0.3342	0.0564	-0.0143	0.4008	0.1112	0.0963	0.0523
1928	0.3924	-0.0305	0.0267	0.4507	0.0103	0.0380	0.0422
1929	-0.1264	-0.0127	-0.0054	-0.0852	0.0318	0.0304	0.0452
1930	-0.2671	0.0220	0.0316	-0.2009	0.1127	0.1480	0.0889
1931	-0.4397	-0.0632	0.0355	-0.3725	0.0458	0.0837	0.1159
1932	-0.0911	0.1574	-0.0649	0.0260	0.2999	0.2330	0.1239
1933	0.5360	-0.0037	0.1065	0.5325	-0.0071	0.0973	-0.0037
1934	-0.0160	0.0985	0.0343	-0.0342	0.0777	0.1154	-0.0187
1935	0.4743	0.0481	0.0441	0.4328	0.0193	0.0644	-0.0278
1936	0.3369	0.0733	-0.0075	0.3234	0.0621	0.0545	-0.0104
1937	-0.3523	-0.0008	0.0234	-0.3702	-0.0285	-0.0039	-0.0274
1938	0.3115	0.0555	0.0056	0.3482	0.0850	0.0912	0.0280
1939	-0.0043	0.0592	-0.0234	0.0035	0.0623	0.0442	0.0045
1940	-0.0978	0.0608	-0.0271	-0.1070	0.0507	0.0240	-0.0095
1941	-0.1164	0.0087	0.0168	-0.1955	-0.0807	-0.0644	-0.0890
1942	0.2003	0.0294	-0.0061	0.1014	-0.0560	-0.0618	-0.0833
1943	0.2547	0.0173	0.0074	0.2222	-0.0109	-0.0035	-0.0278
1944	0.1936	0.0248	0.0187	0.1730	0.0069	0.0257	-0.0175
1945	0.3600	0.1037	-0.0610	0.3343	0.0831	0.0177	-0.0190
1946	-0.0840	-0.0046	0.0180	-0.2291	-0.1595	-0.1439	-0.1552
1947	0.0518	-0.0312	0.0023	-0.0316	-0.1083	-0.1056	-0.0793
1948	0.0466	0.0257	0.0070	0.0267	0.0059	0.0129	-0.0192
1949	0.1751	0.0529	-0.0299	0.2091	0.0837	0.0517	0.0293
1950	0.3019	-0.0113	0.0204	0.2462	-0.0547	-0.0351	-0.0439
1951	0.2222	-0.0535	0.0129	0.1723	-0.0933	-0.0816	-0.0418
1952	0.1646	-0.0049	0.0286	0.1735	0.0027	0.0261	0.0076
1953	-0.0277	0.0178	-0.0025	-0.0162	0.0299	0.0277	0.0118
1954	0.5136	0.0627	-0.0174	0.5337	0.0771	0.0590	0.0136
1955	0.2956	-0.0283	0.0173	0.3111	-0.0167	0.0010	0.0119
1956	0.0400	-0.0787	-0.0137	0.0363	-0.0824	-0.0944	-0.0040
1957	-0.1353	0.0419	0.0111	-0.1340	0.0429	0.0550	0.0011
1958	0.4126	-0.0753	0.0394	0.4095	-0.0772	-0.0391	-0.0022
1959	0.0876	-0.0508	0.0129	0.1030	-0.0371	-0.0243	0.0143
1960	-0.0215	0.1085	-0.0434	-0.0100	0.1211	0.0747	0.0116
1961	0.2429	-0.0114	0.0374	0.2604	0.0030	0.0412	0.0144
1962	-0.1118	0.0405	0.0094	-0.0986	0.0560	0.0665	0.0149
1963	0.1914	-0.0185	0.0097	0.2081	-0.0043	0.0054	0.0144
1964	0.1254	-0.0003	0.0122	0.1514	0.0229	0.0354	0.0232
1965	0.0822	-0.0311	-0.0116	0.1031	-0.0120	-0.0235	0.0197
1966	-0.1420	-0.0106	-0.0365	-0.1303	0.0027	-0.0308	0.0136
1967	0.1904	-0.1289	0.0454	0.2035	-0.1190	-0.0779	0.0113
1968	0.0559	-0.0522	0.0273	0.0607	-0.0478	-0.0206	0.0046
1969	-0.1423	-0.1100	-0.0364	-0.1384	-0.1058	-0.1345	0.0045
1970	-0.0240	0.0526	0.0485	-0.0145	0.0628	0.1225	0.0098
1971	0.0954	0.0851	-0.0210	0.1063	0.0955	0.0742	0.0099
1972	0.1462	0.0178	0.0133	0.1509	0.0221	0.0373	0.0041
1973	-0.2029	-0.0756	0.0217	-0.2177	-0.0913	-0.0706	-0.0175
1974	-0.3216	-0.0341	-0.0702	-0.3479	-0.0708	-0.1373	-0.0378
1975	0.2983	0.0322	0.0509	0.2833	0.0205	0.0717	-0.0114
1976	0.1794	0.1116	0.0162	0.1820	0.1143	0.1324	0.0026

EXHIBIT 10

Derived Series
INDICES OF YEAR-END CUMULATIVE WEALTH
1925-1976

Year	Risk Premiums on Common Stocks	Maturity Premiums on Long-Term Gov't Bonds	Default Premiums on Long-Term Corp. Bonds	Inflation Adjusted			
				Common Stocks	Long-Term Gov't Bonds	Long-Term Corp. Bonds	U.S. Treasury Bills
1925	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1926	1.081	1.044	0.996	1.133	1.094	1.090	1.048
1927	1.442	1.103	0.982	1.586	1.215	1.195	1.103
1928	2.008	1.069	1.008	2.301	1.228	1.240	1.149
1929	1.755	1.055	1.003	2.105	1.267	1.278	1.201
1930	1.286	1.079	1.034	1.682	1.410	1.467	1.308
1931	0.721	1.010	1.071	1.056	1.474	1.590	1.459
1932	0.655	1.169	1.001	1.083	1.916	1.960	1.640
1933	1.006	1.165	1.108	1.660	1.903	2.151	1.634
1934	0.990	1.280	1.146	1.603	2.051	2.399	1.604
1935	1.459	1.341	1.197	2.297	2.090	2.553	1.559
1936	1.951	1.440	1.188	3.040	2.220	2.693	1.543
1937	1.263	1.439	1.216	1.915	2.157	2.682	1.500
1938	1.657	1.518	1.222	2.581	2.340	2.927	1.542
1939	1.650	1.608	1.194	2.590	2.486	3.056	1.549
1940	1.489	1.706	1.161	2.313	2.612	3.130	1.535
1941	1.315	1.721	1.181	1.861	2.401	2.928	1.398
1942	1.579	1.772	1.174	2.050	2.267	2.747	1.282
1943	1.981	1.802	1.182	2.505	2.242	2.737	1.246
1944	2.364	1.847	1.204	2.939	2.257	2.808	1.224
1945	3.215	2.038	1.131	3.921	2.445	2.857	1.201
1946	2.945	2.029	1.151	3.023	2.055	2.446	1.014
1947	3.098	1.966	1.154	2.927	1.832	2.188	0.934
1948	3.242	2.016	1.162	3.005	1.843	2.216	0.916
1949	3.810	2.123	1.127	3.634	1.997	2.330	0.943
1950	4.960	2.099	1.150	4.529	1.888	2.249	0.901
1951	6.063	1.987	1.165	5.309	1.712	2.065	0.864
1952	7.061	1.977	1.192	6.230	1.717	2.119	0.870
1953	6.865	2.012	1.189	5.129	1.768	2.178	0.881
1954	10.391	2.138	1.168	9.400	1.904	2.306	0.893
1955	13.463	2.078	1.188	12.325	1.872	2.309	0.903
1956	14.001	1.914	1.172	12.772	1.718	2.091	0.900
1957	12.107	1.995	1.185	11.061	1.792	2.206	0.901
1958	17.101	1.844	1.231	15.591	1.653	2.120	0.899
1959	18.600	1.751	1.247	17.197	1.592	2.068	0.911
1960	18.200	1.941	1.193	17.025	1.785	2.223	0.922
1961	22.621	1.919	1.238	21.459	1.790	2.314	0.935
1962	20.091	1.997	1.250	19.343	1.890	2.468	0.949
1963	23.937	1.960	1.262	23.369	1.882	2.481	0.963
1964	26.940	1.959	1.277	26.906	1.925	2.569	0.985
1965	29.155	1.898	1.262	29.680	1.902	2.509	1.005
1966	25.014	1.878	1.216	25.813	1.907	2.432	1.018
1967	29.777	1.636	1.271	31.065	1.680	2.242	1.030
1968	31.440	1.550	1.306	32.949	1.600	2.196	1.035
1969	26.966	1.380	1.259	28.390	1.431	1.901	1.039
1970	26.320	1.453	1.320	27.978	1.521	2.133	1.049
1971	28.831	1.576	1.292	30.951	1.666	2.292	1.060
1972	33.048	1.604	1.309	35.621	1.703	2.377	1.064
1973	26.343	1.483	1.338	27.866	1.547	2.209	1.046
1974	17.871	1.432	1.244	18.171	1.438	1.906	1.006
1975	23.202	1.479	1.307	23.320	1.467	2.043	0.995
1976	27.364	1.644	1.328	27.565	1.635	2.313	0.997

EXHIBIT 11

INTERPRETATION OF SAMPLE YEARLY FIRST ORDER SERIAL CORRELATIONS FOR COMPONENT SERIES 1926-1976

Series	Symbol	Serial Correlation	Interpretation*
Equity risk premiums	R_p	.05	Random walk
Bond maturity premiums	R_L	.07	Random walk
Bond default premiums	R_d	-.25	Random walk
Inflation rates	R_I	.59	Trend
Real interest rates	R_r	.64	Trend

*The standard error for all estimates is 0.14. To be statistically different from zero at the 5% significance level, serial correlations must have an absolute value greater than 0.28.

tions for the component series. Consistent with our earlier efficient capital markets assumption, we interpret all three risk premium series as random walks in their levels. On the other hand, there seems to be strong evidence that both inflation rates and real interest rates follow trends.

If the trends are linear and stationary, we can use regression analysis to identify the relationships. Although more detailed time series tests were performed, the following two first-order autoregressions (with t-statistics in parentheses) represent the historical behavior about as well as any other stationary model can:

1. *Inflation Rates:*

$$R_{I,t} = \underset{(1.81)}{.0111} + \underset{(5.07)}{.588}\, R_{I,t-1} + \epsilon_{I,t} \qquad (20)$$

$$R^2 = .35, \sigma(\epsilon_{I,t}) = .039, DW = 1.79 .$$

2. *Real Interest Rates:*

$$R_{r,t} = \underset{(5.82)}{.636} R_{r,t-1} + \epsilon_{r,t} \qquad (21)$$

$$R^2 = .41, \sigma(\epsilon_{r,t}) = .035, DW + 1.82 .$$

We will be using equation (21) as a relationship to predict real interest rates. We will be using the prediction errors ($\epsilon_{I,t}$ and $\epsilon_{r,t}$) from both equations (20) and (21). We assume these errors follow random walks in their levels.

We have extracted five component series that follow random walks in their levels. These are R_p, R_L, R_d, ϵ_I, and ϵ_r. Each can be forecast through random drawings and input directly into our simulation model.

Now we account for *co-movement* in these five input series. Exhibit 12 presents the sample cross-correlations. The cross correla-

EXHIBIT 12

Input Series
SAMPLE SERIAL AND CROSS-CORRELATIONS* 1927-1976

Input Series	R_p	R_L	R_d	ϵ_I	ϵ_r
Equity Risk Premium, R_p	1.00	.13	.26	-.08	-.06
Bond Maturity Premiums, R_L	-	1.00	-.31	-.25	.13
Bond Default Premiums, R_d	-	-	1.00	.10	-.19
Inflation Forecast Errors, ϵ_I	-	-	-	1.00	-.95
Real Interest Rate Forecast Errors, ϵ_r	-	-	-	-	1.00
Serial Correlation	.05	.07	-.25	.10	.09

*The standard error for all estimates is 0.14.

tions between R_d and R_L and between ϵ_I and ϵ_r have large negative values due to measurement error as we discussed in detail in our earlier paper on future simulations. The remaining co-movement of the five series falls rather naturally into the following two categories:

1. *Group 1 inputs* are the equity risk premiums, R_p, and the bond default risk premiums, R_d. They tend to move together since *unanticipated* changes in economic activity and efficiency affect both the same way. An unanticipated change for the worse is, by definition, accompanied by low or negative stock returns. Negative stock returns represent decreases in the value of firms and corresponding increases in the probabilities of bond default. This has the effect of increasing corporate bond yields, thus lowering the immediate returns of existing corporate bonds. On the other hand, high or positive stock returns represent an increase in the value of firms. This is usually accompanied by lowered default risk, lower corporate bond yield spreads between governments, and positive default premiums, R_d.

2. *Group 2 inputs* are bond maturity premiums, R_L, and the inflation and real interest rate forecast errors, ϵ_I and ϵ_r In general, ϵ_I reflects *unanticipated* changes in inflation rates. These are usually negatively related to both short-term and long-term bond inflation adjusted returns since fixed income sercurity holders only demand to be compensated for expected or *anticipated* inflation rates.

In the next section we uncover the year-by-year inflation rate and interest rate expectations of the market.

IV. INTERPRETING THE YIELD CURVE

In the previous section we presented historical data and demonstrated its use in forecasting. We now discuss the use of a readily available instantaneously updated source of information about the future—the government bond yield curve. Our assumption of market efficiency is particularly potent here, since it allows us to forecast period-by-period expected interest and inflation rates.

A. *Theories of The Term Structure of Interest Rates*

The government bond yield curve is simply a plot of the yields to maturity of government bonds over various maturities. Bond prices and yields are of course, market determined. By making applications of a body of theory pertaining to the term structure of interest rates, we can extract from the yield curve the market's consensus forecast of future interest rates.

There are three major theories that purport to interpret the term structure of interest rates. They differ in terms of the degree in which bonds of various maturities are hypothesized to be substitutes for one another. At one end of the continuum is the *"pure" expectations* theory which asserts that on average bonds of any maturity are perfect substitutes for one another. The *preferred habitat* theory presents the more moderate view that bonds of various maturities are only partial substitutes for one another since the market may prefer particular maturities. Finally, the *market segmentation* theory claims that bonds of various maturities are at best poor substitutes for one another. Strangely, the third theory seems to be the most widely accepted among the financial community. We reject it out of hand since it is a blatant violation of market efficiency.

Neither of the two remaining theories is inconsistent with market efficiency. Both of them can be termed *"expectations"* theories since each allows for long-term bond yields to encompass expected period-by-period short term interest rates. According to the "pure" expectations theory the holder of a long-term bond would be expected to earn an amount equal on average to the amount earned by the investor who rolls over short-term bonds. Thus this theory hypothesizes that the market (investors collectively but not necessarily individually) is completely indifferent to which maturities are held. In contrast, the preferred habitat theory states that investors and

issuers, each as a group may prefer different maturities. Thus issuers induce investors to invest in less desirable maturities by offering higher expected returns.

One version of the preferred habitat expectations theory specifies that investors prefer shorter maturities to longer maturities. This version is usually referred to as the *liquidity preference* hypothesis.[7] It rests on the presumptions that on the one hand, investors are risk averse with short-term time horizons on balance, so that they view long-term maturities as riskier than short-term maturities. On the other hand, issuers are presumed to prefer to issue long-term securities in order to reduce the frequency of flotation costs.

We shall make use of the liquidity preference version of the theory. We allow risk to be positively related to maturity with the effect that long-term bond yields are an upward biased geometric average of expected period-by-period short-term interest rates.

B. *Computation of Forward Rates*

Exhibit 13 presents the government bond yield curve as of December 31, 1976. Exhibit 14 presents the schedule of bonds used to compute the yield curve, giving both year-end yields and forward rates for all years 1977-2000. We use yields to maturity, Y_N, with terms to maturity N = 1 to 24, corresponding to maturity dates 1977-2000. The year-end yields to maturity are computed by linear interpolation. We define forward rates F_n for each year n into the future according to

$$(1+Y_N) = [\,(1+F_{1977})\,(1+F_{1978})\ldots(1+F_N)\,]^{1/N} \qquad (22)$$

or in more compact form

$$(1+Y\ ) = \prod_{n=1}^{N}(1+F_n)^{1/N}. \qquad (23)$$

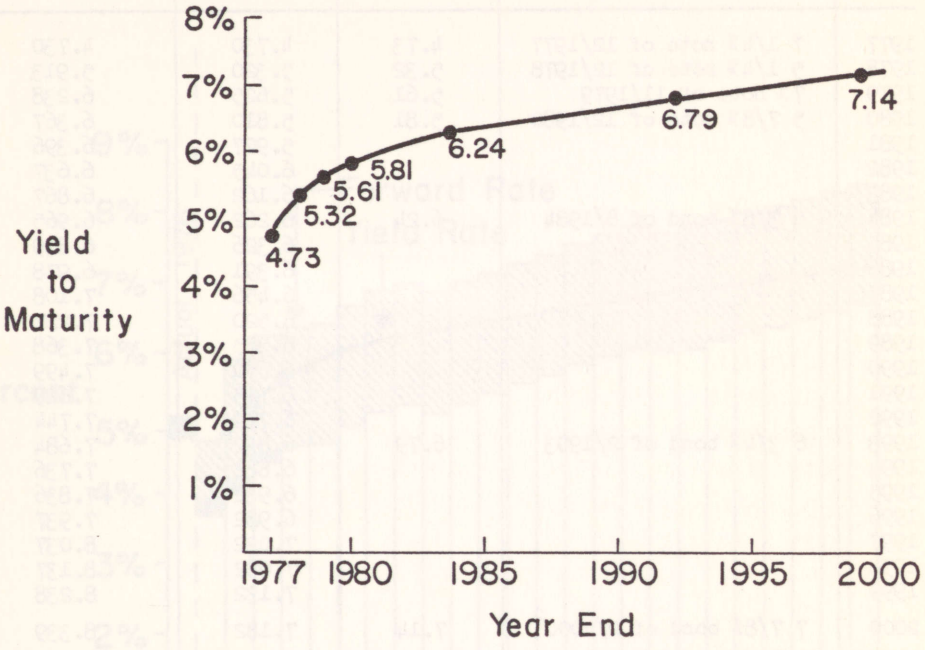
While the yield is a geometric average of forward rates, as long as the variation in the forward rates is low the yield can be approximated by the arithmetic average

$$(1+Y_N) \cong \frac{1}{N}\sum_{n-1}^{N}(1+F\ )_n. \qquad (24)$$

[7] Chronologically, the more specific liquidity preference hypothesis was developed long before the preferred habitat generalization

EXHIBIT 13

THE U.S. GOVERNMENT BOND YIELD CURVE AS OF DECEMBER 31, 1976



Given two bonds with successive terms to maturity n and n−1, we can solve for each F_n directly by

$$(1 + F_n) = \frac{(1 + Y_n)^n}{(1 + Y_{n-1})^{n-1}} \qquad (25)$$

or we can again use the more convenient arithmetic approximation

$$F_n \cong (n)\ (Y_n) - (n-1)\ (Y_{n-1}) \ . \qquad (26)$$

For example, from Exhibit 14, we can use equation (26) to compute the forward rate for 1978 as

$$F_2 = (2)\ (.0532) - (1)\ (.0473) = .0591 \ .$$

EXHIBIT 14

COMPUTATION OF THE U.S. GOVERNMENT BOND YIELD CURVE AND FORWARD RATES AS OF DECEMBER 31, 1976

Year	Bond	Yield to Maturity	Year-End Yield[1]	Forward Rate
1977	7 1/4% note of 12/1977	4.73	4.730	4.730
1978	5 1/4% note of 12/1978	5.32	5.320	5.913
1979	7% note of 11/1979	5.61	5.625	6.238
1980	5 7/8% note of 12/1980	5.81	5.810	6.367
1981			5.927	6.396
1982			6.045	6.637
1983			6.162	6.867
1984	6 3/8% bond of 8/1984	6.24	6.262	6.965
1985			6.326	6.839
1986			6.391	6.978
1987			6.456	7.108
1988			6.520	7.227
1989			6.585	7.368
1990			6.650	7.499
1991			6.715	7.629
1992			6.779	7.744
1993	6 3/4% bond of 2/1993	6.79	6.832	7.684
1994			6.882	7.736
1995			6.932	7.836
1996			6.982	7.937
1997			7.032	8.037
1998			7.082	8.137
1999			7.132	8.238
2000	7 7/8% bond of 2/2000[2]	7.14	7.182	8.339

[1] Year-end yield is computed on the basis of linear interpolation. No adjustments are made for coupons.

[2] The 7 7/8% bond of 2/2000 is callable after 2/1995.

Exhibit 15 shows a graph of the yield curve and the forward rates for each year from 1977 to 2000 inclusive.

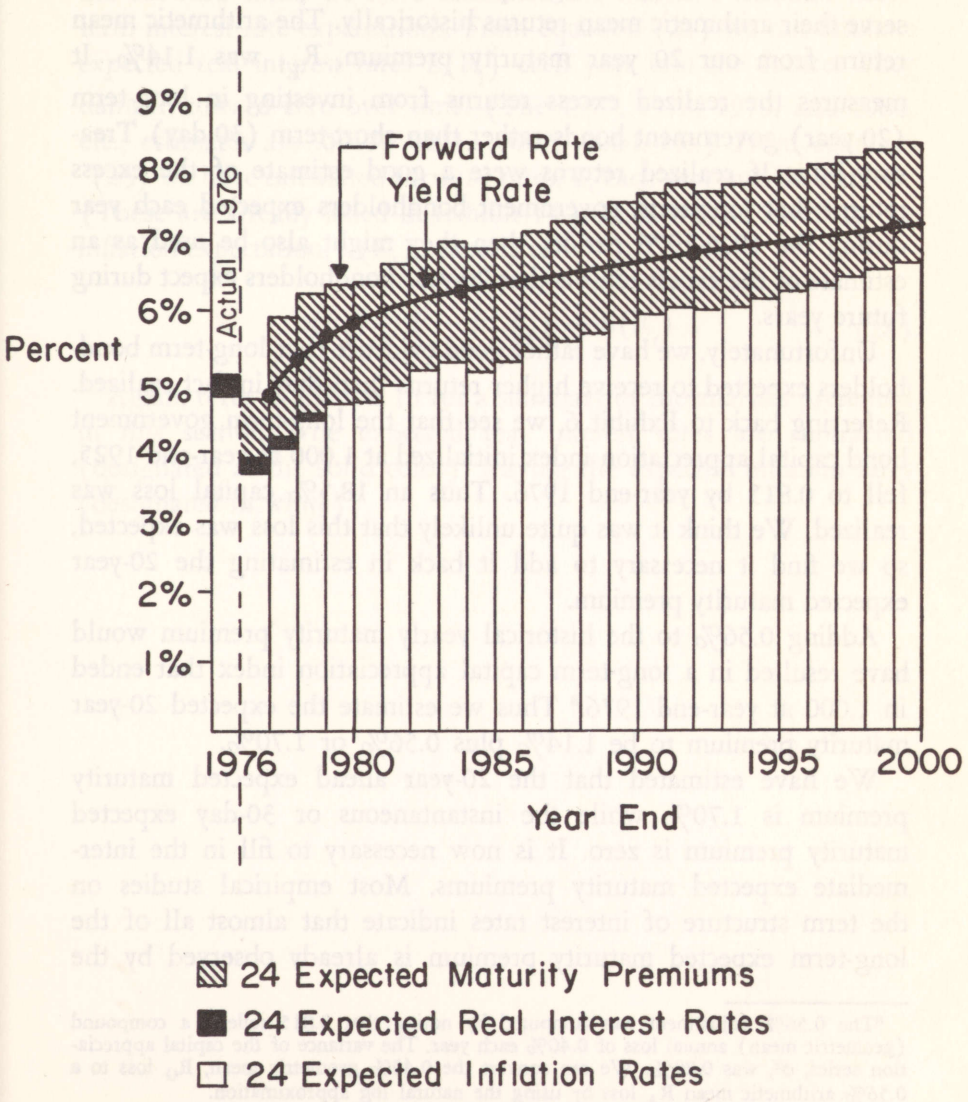
C. *Forward Rates As Revealed Market Expectations*

As reported earlier, we make use of the liquidity preference version of expectations theory. Thus we assume that each forward rate, F, is comprised of an expected one-period future expected inflation rate, $E(R_I)$, an expected real interest rate $E(R_r)$ and an expected maturity premium $E(R_L)$. We can express this algebraically as

$$F \cong E(R_I) + E(R_r) + E(R_L) \quad . \qquad (27)$$

EXHIBIT 15

THE 72 MARKET FORECASTS IMPLICIT IN THE YIELD CURVE



Similar to equation (26), equation (27) is only an approximation since the forward rate is a geometric return while its three components are arithmetic means.

In order to uncover the expected year-by-year future interest and inflation rates, it is first necessary to estimate the year-by-year expected maturity premiums. The natural starting point is to examine historical maturity premiums.

One method of estimating expected maturity premiums is to observe their arithmetic mean returns historically. The arithmetic mean return from our 20 year maturity premium, R_L, was 1.14%. It measures the realized excess returns from investing in long-term (20-year) government bonds rather than short-term (30-day) Treasury bills. If realized returns were a good estimate of the excess returns that long-term government bondholders expected each year during the 1926-1976 period, then they might also be used as an estimate of the excess returns that 20-year bondholders expect during future years.

Unfortunately, we have rather good evidence that long-term bondholders expected to receive higher returns than they in fact realized. Referring back to Exhibit 6, we see that the long-term government bond capital appreciation index initialized at 1.000 at year-end 1925, fell to 0.815 by year-end 1976. Thus an 18.5% capital loss was realized. We think it was quite unlikely that this loss was expected, so we find it necessary to add it back in estimating the 20-year expected maturity premium.

Adding 0.56% to the historical yearly maturity premium would have resulted in a long-term capital appreciation index that ended in 1.000 at year-end 1976.[8] Thus we estimate the expected 20-year maturity premium to be 1.14% plus 0.56% or 1.70%.

We have estimated that the 20-year ahead expected maturity premium is 1.70% while the instantaneous or 30-day expected maturity premium is zero. It is now necessary to fill in the intermediate expected maturity premiums. Most empirical studies on the term structure of interest rates indicate that almost all of the long-term expected maturity premium is already observed by the

[8]The 0.56% adjustment was computed by noting that 0.815 reflects a compound (geometric mean) annual loss of 0.40% each year. The variance of the capital appreciation series, σ^2, was 0.29%. We can convert the 0.40% geometric mean, R_G loss to a 0.56% arithmetic mean R_A loss by using the natural log approximation.

$$E[\ell n[1 + R_G]] \cong \ell n[1 + R_A] - \frac{1}{2}[\sigma^2/(1 + R_A)^2] \ .$$

first two year forward rates. We shall assume that the expected maturity premium inherent in the 1977 forward rate is half the total or 0.85%, while all other forward rates (i.e., 1978, 1979, . . ., 2000) contain the full 1.70% expected maturity premium. Returning again to Exhibit 15 we show the 24 forward rates and indicate the subtraction of the expected maturity premiums by stripes.

Once the expected maturity premiums have been removed from the forward rates, we have estimated the market's nominal short-term interest rate expectations. From equation (21) we can estimate expected real interest rates $E(R_r)$ each year into the future. They dampen toward zero over time. (The 1977, 1978, 1979, and 1980, etc., estimates are .0017, .0011, .0007, .0004, etc.) From equation (25) we have calculated forward rates, F, each year into the future. (These are already listed in Exhibit 14.) Thus we can compute the inflation expectation, $E(R_I)$, directly as

$$E(R_I) = F - E(R_L) - E(R_r) \quad . \qquad (28)$$

Again, refer to Exhibit 15 for a summary of the analysis presented in this section. The expected real interest rates are subtracted (designated as the solid color), leaving the expected inflation rates (designated in white).

V. SIMULATING THE FUTURE

The previous two sections of this monograph have set the stage for understanding the simulation procedures. First we examined the risk/return and real/nominal components, then derived the five input components, and finally showed how probability distributions of these components could be forecast. Second, we computed forward rates from the yield curve and showed that these forward rates revealed the market's interest rate and inflation rate expectations. We now present the forecast simulations. Readers interested in the more technical aspects of the model are again referred to our earlier simulation model paper.[9]

A. *Summary of Inputs*

The two sources of inputs are the historical returns from the period 1926–1976 and the December 31, 1976 yield curve.

1. *Historical Returns*

a) From the historical returns, R_m, R_g, R_c, R_f, and R_I we compute component returns; R_p, R_L, R_d, R_I, and R_r.

b) We assume that R_I and R_r follow first-order autoregressive processes according to:

$$R_{I,t} = .011 + .588\ R_{I,t-1} + \epsilon_{I,t} \tag{29}$$

$$R_{r,t} = .636\ R_{r,t-1} + \epsilon_{r,t} \tag{30}$$

$$E(R_{r,t}) = .636\, R_{r,t-1};\ R_{r,1976} = .0026 \tag{31}$$

c) We assume that R_p, R_L, R_d, ϵ_I, and ϵ_r follow random walks in their levels.

d) We forecast probability distributions for R_p, R_L, R_d, ϵ_I and ϵ_r by drawing at random *group 1* components, R_p and R_d, in sets from 1926–1976 and independently at random *group 2* components, R_L, ϵ_I, and ϵ_r, in sets from 1927–1976. Means are constrained to be equal to

[9]Roger G. Ibbotson and Rex A. Sinquefield, "Stocks, Bonds, Bills and Inflation: Simulations of the Future (1976–2000)" op. cit. See especially the section entitled, 'The Formal Simulation Model.' p 324–326.

historical arithmetic means for R_p and R_d, equal to .0170 for R_L, and equal to zero for ϵ_I and ϵ_r.

e) There are 399 simulation drawings for each forecast year.

2. *Yield Curve*

a) We compute forward rates each year into the future.

b) Forward rates are assumed to be comprised of expected maturity premiums, expected real interest rates, and expected inflation rates.

c) Expected maturity premiums are assumed to be .0085 for 1977 and .0170 for every year thereafter. Expected real interest rates are estimated from equation (31) above.

d) Expected inflation rates are solved for as the forward rate

EXHIBIT 16

FORECASTING THE INFLATION RATE, THE REAL INTEREST RATE, AND THE NOMINAL INTEREST RATE PROBABILITY DISTRIBUTIONS FOR THE YEAR 1977

Component	Symbol	1977 Forecast	Reference
Forward rate	F	.0473	Yield curve
- Expected real interest rate	$-E(R_r)$	- .0017	R_r regression
- Expected maturity premium	$-E(R_L)$	- .0085	$E(R_L)$ estimator
Expected inflation rate	$E(R_I)$	.0371	
Expected inflation rate	$E(R_I)$	.0371	From above
+ Inflation forecast error	ϵ_I	.0000*	R_I regression
Inflation rate distribution	R_I	.0371*	
Expected real interest rate	$E(R_r)$	.0017	R_r regression
+ Real interest rate error	ϵ_r	.0000*	R_r regression
Real interest rate distribution	R_r	.0017*	
Inflation rate distribution	R_I	.0371*	From above
Real interest rate distribution	R_r	.0017*	From above
Nominal interest rate distribution	R_f	.0388*	

*Forecast probability distribution mean.

minus the expected maturity premium minus the expected real interest rate as in equation (28).

B. *Forecasting 1977; The One-Year Ahead Forecast*

Using the inputs described above, the actual 1977 forecast can be readily described by examination of Exhibits 16 and 17.

In Exhibit 16, we see that first the expected inflation rate is derived. The inflation distribution is then derived by adding the forecast error distribution, ϵ_I to the expected inflation rate. The real interest rate distribution is derived directly from equations (30) and (31). The nominal interest or Treasury bill rate distribution is merely the sum of the inflation rate and real interest rate distributions.

In Exhibit 17, we begin with either the riskless rate (treasury

EXHIBIT 17

FORECASTING CAPITAL MARKET RETURNS: SUMMING THE COMPONENTS FOR THE YEAR 1977

	Nominals		Reals		
Series	Symbol	1977 Forecast Mean	Symbol	1977 Forecast Mean	Reference
U.S. treasury bills	R_f	.0388	R_r	.0017	Exhibit 16
U.S. treasury bills	R_f	.0388	R_r	.0017	From above
Risk premium	R_p	.0916	R_p	.0916	Random walk
Common stocks	R_m	.1304	R_{mr}	.0932	
U.S. treasury bills	R_f	.0388	R_r	.0017	From above
Maturity premium	R_L	.0170	R_L	.0170	Random walk
L.T. government bonds	R_g	.0558	R_{gr}	.0187	
U.S. treasury bills	R_f	.0388	R_r	.0017	From above
Maturity premium	R_L	.0170	R_L	.0170	Random walk
Default premium	R_d	.0061	R_d	.0061	Random walk
L.T. corporate bonds	R_c	.0619	R_{cr}	.0247	

EXHIBIT 18

SIMULATED TOTAL RETURN DISTRIBUTION FOR THE YEAR 1977
ALL SERIES
Annual Rates (in decimal form), Selected Percentiles

PERCENTILE*	R_m	R_g	R_c	R_f	R_I	R_p	R_L	R_d	R_r	R_{mr}	R_{gr}	R_{cr}
5.	-0.2272	-0.0432	-0.0371	0.0260	-0.0226	-0.2643	-0.0754	-0.0435	-0.0787	-0.2548	-0.1013	-0.1066
10.	-0.1080	-0.0108	-0.0246	0.0279	-0.0010	-0.1395	-0.0720	-0.0354	-0.0228	-0.1605	-0.0831	-0.0837
20.	-0.0691	0.0064	0.0059	0.0304	0.0192	-0.1090	-0.0279	-0.0144	-0.0120	-0.1008	-0.0537	-0.0449
30.	0.0176	0.0264	0.0270	0.0315	0.0257	-0.0212	-0.0081	-0.0062	-0.0077	-0.0172	-0.0144	-0.0233
40.	0.0753	0.0445	0.0460	0.0337	0.0293	0.0428	-0.0013	0.0055	0.0041	0.0396	-0.0024	-0.0072
50.	0.1214	0.0525	0.0632	0.0371	0.0329	0.0850	0.0206	0.0096	0.0066	0.0882	0.0320	0.0309
60.	0.2073	0.0631	0.0792	0.0399	0.0370	0.1674	0.0289	0.0161	0.0096	0.1670	0.0496	0.0501
70.	0.2485	0.0891	0.0940	0.0433	0.0426	0.2031	0.0513	0.0204	0.0128	0.2044	0.0533	0.0713
80.	0.3382	0.0925	0.1112	0.0457	0.0495	0.3011	0.0641	0.0273	0.0196	0.3021	0.0854	0.0901
90.	0.3964	0.1313	0.1463	0.0538	0.0900	0.3628	0.1017	0.0393	0.0381	0.3567	0.1030	0.1217
95.	0.5055	0.1603	0.1710	0.0635	0.0952	0.4771	0.1148	0.0484	0.0541	0.4685	0.1286	0.1447
MEAN	0.1304	0.0558	0.0619	0.0388	0.0371	0.0916	0.0170	0.0061	0.0017	0.0932	0.0187	0.0247
S.D.	0.2156	0.0567	0.0644	0.0118	0.0380	0.2154	0.0604	0.0298	0.0350	0.2149	0.0743	0.0806

*Even though many of the simulated series are interrelated, each series is sorted independently of the others in this table.

bill) nominal or real distributions. Adding the risk premium distribution gives the common stock nominal and real distributions. Adding the maturity premium distribution gives the long-term government bond distribution. Adding both maturity premium and default premium distributions gives the long-term corporate bond distributions.

Selected percentiles of the probability distributions for all the series for the year 1977 are given in Exhibit 18. Note that the distribution means correspond to the distribution means from the previous Exhibits 16 and 17.

Exhibit 19 gives selected percentiles for a few stock/bond/cash portfolio mixes. Portfolio mix distributions are formed in a similar manner to the methods we used to form basic series distributions. The only difference is that in the case of portfolio mixes, the components are the basic series themselves.

EXHIBIT 19

PORTFOLIO MIXES FOR THE YEAR 1977

Annual Rates (in decimal form), Selected Percentiles

Portfolio Mix:				
% Common Stocks	80%	60%	40%	20%
% Long term corporate bonds	10	30	50	70
% Cash (U.S. Treasury bills)	10	10	10	10
PERCENTILES				
5.	-0.1713	-0.1125	-0.0598	-0.0276
10.	-0.0810	-0.0589	-0.0344	-0.0046
20.	-0.0458	-0.0177	0.0016	0.0160
30.	0.0240	0.0252	0.0350	0.0376
40.	0.0670	0.0624	0.0592	0.0550
50.	0.1054	0.0921	0.0825	0.0705
60.	0.1749	0.1443	0.1114	0.0869
70.	0.2092	0.1711	0.1375	0.1040
80.	0.2816	0.2290	0.1686	0.1230
90.	0.3247	0.2623	0.2110	0.1561
95.	0.4209	0.3247	0.2400	0.1946
MEAN	0.1144	0.1007	0.0870	0.0733
S.D.	0.1731	0.1321	0.0941	0.0644

Since the component series may be interrelated, the sorted simulations in this table cannot be ascertained from the previous table.

C. *Forecasting The Period 1977–2000*

Forecasting each additional year into the future is very similar to forecasting the year 1977. The only differences are changes in the forward rates, expected real interest rates and expected maturity premiums. Expected inflation rates are found by subtraction, so that they reflect the differences. Basic series are formed by addition so that any changes in their components are also reflected in their forecast means.

Just as we did with the historical series, we can form cumulative wealth indices from equation (7) using the simulated returns. We initialize the 1976 value at $1.00. Since we have 399 simulation drawings, it is necessary for us to form 399 wealth indices and follow each of them over the period 1977–2000. Using equation (10) we can compute geometric means for each of the 399 simulated wealth indices.

Selected percentiles from the simulated distributions of cumulative wealth indices for many of the series and portfolio mixes are presented over various forecast periods in Exhibits 20, 22, 24, 26, and 28. Selected percentiles from the geometric mean distributions for the same series are presented in Exhibits 21, 23, 25, 27, and 29.

The mean, median, 5th and 95th percentiles of the cumulative wealth index distributions for the entire forecast period 1977–2000 are given for common stocks in Exhibit 30, for long-term corporates in Exhibit 32, for inflation in Exhibit 34, and for inflation-adjusted common stocks in Exhibit 36. The mean, 5th and 95th percentiles of the geometric mean distributions for the entire period 1977–2000 are also given for these same four series in Exhibits 31, 33, 35, and 37.

Since the simulation means are constrained, they contain no sampling error. However, the standard deviations and the various percentile results do contain sampling error. The sample error diminishes as we forecast further into the future.

EXHIBIT 20

SIMULATED DISTRIBUTIONS OF WEALTH INDICES FOR THE PERIOD 1977-1978 INCLUSIVE:

Selected Percentiles, Year-End 1976 Equals 1.0000

	MAJOR ASSET CATEGORIES			INFLATION RELATED		PORTFOLIO MIXES % Common Stocks % Long Term Corporate Bonds % U. S. Treasury Bills			
PERCENTILE	Common Stocks	Long Term Corporate Bonds	U.S. Treasury Bills	Inflation	Common Stocks, Inflation Adjusted	80% 10% 10%	60% 30% 10%	40% 50% 10%	20% 70% 10%
5.	0.7334	0.9964	1.0545	0.9623	0.6673	0.8156	0.9032	0.9656	1.0193
10.	0.8569	1.0223	1.0583	0.9906	0.7833	0.9049	0.9609	1.0090	1.0383
20.	0.9745	1.0553	1.0633	1.0260	0.8947	1.0011	1.0341	1.0633	1.0777
30.	1.0791	1.0803	1.0684	1.0487	0.9819	1.0896	1.0974	1.1012	1.0957
40.	1.1553	1.1009	1.0747	1.0625	1.0801	1.1527	1.1401	1.1375	1.1246
50.	1.2454	1.1261	1.0792	1.0710	1.1608	1.2161	1.1965	1.1750	1.1461
60.	1.3562	1.1446	1.0851	1.0834	1.2485	1.3061	1.2598	1.2136	1.1710
70.	1.4648	1.1735	1.0914	1.1013	1.3802	1.3926	1.3257	1.2637	1.2031
80.	1.5914	1.2051	1.1009	1.1286	1.5021	1.4860	1.3996	1.3140	1.2347
90.	1.7446	1.2536	1.1196	1.1712	1.6598	1.6147	1.4909	1.3758	1.2882
95.	1.8872	1.2869	1.1281	1.2301	1.7909	1.7284	1.5703	1.4411	1.3248
MEAN	1.2809	1.1305	1.0826	1.0805	1.1950	1.2451	1.2147	1.1847	1.1550
S.D.	0.3512	0.0891	0.0247	0.0769	0.3449	0.2766	0.2072	0.1439	0.0941

EXHIBIT 21

SIMULATED TOTAL RETURN DISTRIBUTIONS FOR THE PERIOD 1977-1978 INCLUSIVE:

Geometric Average Annual Rates (in decimal form), Selected Percentiles

	MAJOR ASSET CATEGORIES			INFLATION RELATED		PORTFOLIO MIXES % Common Stocks % Long Term Corporate Bonds % U. S. Treasury Bills			
PERCENTILE	Common Stocks	Long Term Corporate Bonds	U.S. Treasury Bills	Inflation	Common Stocks, Inflation Adjusted	80% 10% 10%	60% 30% 10%	40% 50% 10%	20% 70% 10%
5.	-0.1436	-0.0018	0.0269	-0.0190	-0.1831	-0.0969	-0.0496	-0.0173	0.0096
10.	-0.0743	0.0111	0.0287	-0.0047	-0.1150	-0.0488	-0.0197	0.0045	0.0190
20.	-0.0128	0.0273	0.0312	0.0129	-0.0541	0.0005	0.0169	0.0312	0.0381
30.	0.0388	0.0394	0.0336	0.0241	-0.0091	0.0438	0.0476	0.0494	0.0468
40.	0.0748	0.0493	0.0367	0.0308	0.0393	0.0736	0.0678	0.0665	0.0605
50.	0.1160	0.0612	0.0389	0.0349	0.0774	0.1028	0.0938	0.0840	0.0706
60.	0.1646	0.0699	0.0417	0.0408	0.1174	0.1429	0.1224	0.1016	0.0821
70.	0.2103	0.0833	0.0447	0.0494	0.1748	0.1801	0.1514	0.1242	0.0969
80.	0.2615	0.0978	0.0492	0.0623	0.2256	0.2190	0.1830	0.1463	0.1112
90.	0.3208	0.1196	0.0581	0.0822	0.2883	0.2707	0.2210	0.1730	0.1350
95.	0.3737	0.1344	0.0621	0.1091	0.3382	0.3147	0.2531	0.2004	0.1510
MEAN	0.1209	0.0624	0.0404	0.0389	0.0815	0.1089	0.0981	0.0865	0.0739
S.D.	0.1565	0.0416	0.0112	0.0363	0.1595	0.1246	0.0941	0.0660	0.0435

EXHIBIT 22

SIMULATED DISTRIBUTIONS OF WEALTH INDICES FOR THE PERIOD 1977-1979 INCLUSIVE:

Selected Percentiles, Year-End 1976 Equals 1.0000

	MAJOR ASSET CATEGORIES			INFLATION RELATED		PORTFOLIO MIXES % Common Stocks % Long Term Corporate Bonds % U. S. Treasury Bills			
PERCENTILE	Common Stocks	Long Term Corporate Bonds	U.S. Treasury Bills	Inflation	Common Stocks, Inflation Adjusted	80% 10% 10%	60% 30% 10%	40% 50% 10%	20% 70% 10%
5.	0.7362	1.0071	1.0840	0.9701	0.6247	0.8266	0.9153	0.9965	1.0524
10.	0.8454	1.0458	1.0947	1.0001	0.7428	0.9168	0.9904	1.0552	1.0845
20.	1.0475	1.1088	1.1059	1.0418	0.8992	1.0800	1.1068	1.1237	1.1442
30.	1.1663	1.1467	1.1127	1.0749	1.0268	1.1746	1.1805	1.1833	1.1759
40.	1.2737	1.1735	1.1206	1.0950	1.1190	1.2582	1.2512	1.2335	1.2147
50.	1.3938	1.2013	1.1271	1.1206	1.2433	1.3539	1.3203	1.2771	1.2441
60.	1.5360	1.2359	1.1333	1.1363	1.3699	1.4625	1.3821	1.3345	1.2741
70.	1.6927	1.2735	1.1440	1.1613	1.5240	1.5930	1.4851	1.3868	1.3079
80.	1.8640	1.3028	1.1605	1.2144	1.7021	1.7012	1.5859	1.4606	1.3423
90.	2.1053	1.3644	1.1783	1.2669	1.9301	1.9132	1.7423	1.5534	1.4122
95.	2.4207	1.4171	1.1938	1.3717	2.1563	2.1168	1.8559	1.6460	1.4678
MEAN	1.4562	1.2078	1.1319	1.1305	1.3062	1.3955	1.3449	1.2954	1.2471
S.D.	0.4944	0.1193	0.0357	0.1140	0.4721	0.3844	0.2851	0.1963	0.1269

EXHIBIT 23

SIMULATED TOTAL RETURN DISTRIBUTIONS FOR THE PERIOD 1977-1979 INCLUSIVE:

Geometric Average Annual Rates (in decimal form), Selected Percentiles

	MAJOR ASSET CATEGORIES			INFLATION RELATED		PORTFOLIO MIXES % Common Stocks % Long Term Corporate Bonds % U. S. Treasury Bills			
PERCENTILE	Common Stocks	Long Term Corporate Bonds	U.S. Treasury Bills	Inflation	Common Stocks, Inflation Adjusted	80% 10% 10%	60% 30% 10%	40% 50% 10%	20% 70% 10%
5.	-0.0970	0.0024	0.0272	-0.0101	-0.1451	-0.0615	-0.0291	-0.0012	0.0172
10.	-0.0544	0.0154	0.0306	0.0000	-0.0944	-0.0285	-0.0032	0.0181	0.0274
20.	0.0156	0.0350	0.0341	0.0137	-0.0348	0.0260	0.0344	0.0396	0.0459
30.	0.0526	0.0467	0.0362	0.0244	0.0089	0.0551	0.0569	0.0577	0.0555
40.	0.0840	0.0548	0.0387	0.0307	0.0382	0.0796	0.0776	0.0725	0.0670
50.	0.1170	0.0630	0.0407	0.0387	0.0753	0.1063	0.0970	0.0849	0.0755
60.	0.1538	0.0732	0.0426	0.0435	0.1106	0.1351	0.1139	0.1010	0.0841
70.	0.1918	0.0839	0.0459	0.0511	0.1508	0.1679	0.1409	0.1152	0.0936
80.	0.2307	0.0922	0.0509	0.0669	0.1940	0.1938	0.1662	0.1346	0.1031
90.	0.2816	0.1091	0.0562	0.0820	0.2451	0.2414	0.2033	0.1581	0.1219
95.	0.3427	0.1232	0.0608	0.1111	0.2919	0.2840	0.2289	0.1807	0.1365
MEAN	0.1186	0.0638	0.0421	0.0406	0.0769	0.1079	0.0983	0.0873	0.0752
S.D.	0.1303	0.0350	0.0106	0.0342	0.1334	0.1037	0.0783	0.0549	0.0363

EXHIBIT 24

SIMULATED DISTRIBUTIONS OF WEALTH INDICES FOR THE PERIOD 1977-1980 INCLUSIVE:

Selected Percentiles, Year-End 1976 Equals 1.0000

	MAJOR ASSET CATEGORIES			INFLATION RELATED		PORTFOLIO MIXES % Common Stocks % Long Term Corporate Bonds % U. S. Treasury Bills			
PERCENTILE	Common Stocks	Long Term Corporate Bonds	U.S. Treasury Bills	Inflation	Common Stocks, Inflation Adjusted	80% 10% 10%	60% 30% 10%	40% 50% 10%	20% 70% 10%
5.	0.7401	1.0658	1.1233	0.9708	0.6023	0.8364	0.9536	1.0390	1.1049
10.	0.8625	1.1030	1.1366	1.0178	0.7219	0.9479	1.0200	1.1000	1.1448
20.	1.1153	1.1658	1.1475	1.0707	0.9063	1.1433	1.1848	1.1956	1.2126
30.	1.2436	1.2090	1.1583	1.1078	1.0350	1.2551	1.2552	1.2621	1.2517
40.	1.3779	1.2467	1.1676	1.1359	1.1833	1.3703	1.3456	1.3260	1.2944
50.	1.5484	1.2879	1.1774	1.1653	1.3220	1.5015	1.4503	1.3820	1.3315
60.	1.7250	1.3254	1.1896	1.1967	1.4945	1.6179	1.5403	1.4663	1.3773
70.	1.9311	1.3683	1.2053	1.2309	1.6750	1.7981	1.6595	1.5466	1.4320
80.	2.2125	1.4154	1.2252	1.2925	1.9459	1.9920	1.8143	1.6535	1.4931
90.	2.5914	1.5803	1.2452	1.3898	2.2185	2.2689	1.9915	1.7481	1.5512
95.	2.9025	1.5305	1.2658	1.4915	2.5883	2.5163	2.1840	1.8852	1.6342
MEAN	1.6632	1.2918	1.1849	1.1853	1.4341	1.5700	1.4933	1.4196	1.3488
S.D.	0.6913	0.1431	0.0474	0.1523	0.6377	0.5266	0.3841	0.2599	0.1632

EXHIBIT 25

SIMULATED TOTAL RETURN DISTRIBUTIONS FOR THE PERIOD 1977-1980 INCLUSIVE:

Geometric Average Annual Rates (in decimal form), Selected Percentiles

	MAJOR ASSET CATEGORIES			INFLATION RELATED		PORTFOLIO MIXES % Common Stocks % Long Term Corporate Bonds % U. S. Treasury Bills			
PERCENTILE	Common Stocks	Long Term Corporate Bonds	U.S. Treasury Bills	Inflation	Common Stocks, Inflation Adjusted	80% 10% 10%	60% 30% 10%	40% 50% 10%	20% 70% 10%
5.	-0.0725	0.0161	0.0295	-0.0074	-0.1190	-0.0437	-0.0118	0.0096	0.0253
10.	-0.0363	0.0248	0.0325	0.0044	-0.0782	-0.0133	0.0050	0.0241	0.0344
20.	0.0277	0.0391	0.0350	0.0172	-0.0243	0.0340	0.0433	0.0457	0.0494
30.	0.0560	0.0486	0.0374	0.0259	0.0086	0.0585	0.0585	0.0599	0.0577
40.	0.0834	0.0567	0.0395	0.0324	0.0430	0.0819	0.0770	0.0731	0.0666
50.	0.1155	0.0653	0.0417	0.0390	0.0723	0.1070	0.0974	0.0842	0.0742
60.	0.1460	0.0730	0.0444	0.0459	0.1057	0.1278	0.1140	0.1004	0.0833
70.	0.1788	0.0815	0.0478	0.0533	0.1376	0.1580	0.1350	0.1152	0.0939
80.	0.2196	0.0907	0.0521	0.0662	0.1811	0.1880	0.1606	0.1340	0.1054
90.	0.2688	0.1030	0.0564	0.0858	0.2204	0.2273	0.1879	0.1499	0.1160
95.	0.3052	0.1123	0.0607	0.1051	0.2684	0.2595	0.2157	0.1718	0.1306
MEAN	0.1177	0.0649	0.0432	0.0419	0.0745	0.1078	0.0987	0.0882	0.0762
S.D.	0.1166	0.0295	0.0102	0.0326	0.1203	0.0929	0.0704	0.0495	0.0323

EXHIBIT 26

SIMULATED DISTRIBUTIONS OF WEALTH INDICES FOR THE PERIOD 1977-1990 INCLUSIVE:

Selected Percentiles, Year-End 1976 Equals 1.0000

	MAJOR ASSET CATEGORIES			INFLATION RELATED		PORTFOLIO MIXES % Common Stocks % Long Term Corporate Bonds % U. S. Treasury Bills			
PERCENTILE	Common Stocks	Long Term Corporate Bonds	U.S. Treasury Bills	Inflation	Common Stocks, Inflation Adjusted	80% 10% 10%	60% 30% 10%	40% 50% 10%	20% 70% 10%
5.	1.2560	1.8633	1.7178	1.2407	0.5116	1.4388	1.6906	1.8899	1.9895
10.	1.6252	1.9442	1.7627	1.3438	0.7398	1.8083	2.0796	2.2274	2.2463
20.	2.3902	2.1759	1.8366	1.5012	1.1642	2.4783	2.5704	2.5808	2.5013
30.	3.2152	2.3244	1.8951	1.6640	1.5570	3.1336	3.0782	2.9486	2.6840
40.	3.8382	2.4799	1.9268	1.7625	2.0230	3.6710	3.5171	3.2239	2.8853
50.	5.0077	2.6042	1.9779	1.9072	2.5238	4.5554	4.0472	3.5354	3.0365
60.	6.3468	2.7457	2.0164	2.0726	3.1743	5.4108	4.6800	3.9142	3.2127
70.	7.6886	2.9231	2.0740	2.2610	4.1929	6.2974	5.2152	4.2372	3.3755
80.	9.3312	3.1645	2.1483	2.4973	5.2607	7.5524	5.9747	4.7517	3.6694
90.	13.3966	3.5093	2.2320	2.8758	8.0237	9.8392	7.5239	5.5064	4.1127
95.	16.2691	3.8516	2.3044	3.3077	9.6410	11.3947	8.5960	6.0517	4.5082
MEAN	6.4274	2.6879	1.9887	2.0412	3.5486	5.2735	4.4344	3.7204	3.1166
S.D.	5.0701	0.6145	0.1838	0.6600	3.1637	3.3370	2.1550	1.3006	0.7440

EXHIBIT 27

SIMULATED TOTAL RETURN DISTRIBUTIONS FOR THE PERIOD 1977-1990 INCLUSIVE:

Geometric Average Annual Rates (in decimal form), Selected Percentiles

	MAJOR ASSET CATEGORIES			INFLATION RELATED		PORTFOLIO MIXES % Common Stocks % Long Term Corporate Bonds % U. S. Treasury Bills			
PERCENTILE	Common Stocks	Long Term Corporate Bonds	U.S. Treasury Bills	Inflation	Common Stocks, Inflation Adjusted	80% 10% 10%	60% 30% 10%	40% 50% 10%	20% 70% 10%
5.	0.0164	0.0455	0.0394	0.0155	-0.0467	0.0263	0.0382	0.0465	0.0504
10.	0.0353	0.0486	0.0413	0.0213	-0.0213	0.0432	0.0537	0.0589	0.0595
20.	0.0642	0.0571	0.0444	0.0294	0.0109	0.0670	0.0698	0.0701	0.0677
30.	0.0870	0.0621	0.0467	0.0370	0.0321	0.0850	0.0836	0.0803	0.0731
40.	0.1008	0.0670	0.0480	0.0413	0.0516	0.0973	0.0940	0.0872	0.0786
50.	0.1220	0.0708	0.0499	0.0472	0.0684	0.1144	0.1050	0.0944	0.0826
60.	0.1411	0.0748	0.0514	0.0534	0.0860	0.1282	0.1165	0.1024	0.0869
70.	0.1568	0.0796	0.0535	0.0600	0.1078	0.1405	0.1252	0.1086	0.0908
80.	0.1730	0.0858	0.0561	0.0676	0.1259	0.1554	0.1362	0.1178	0.0973
90.	0.2036	0.0938	0.0590	0.0784	0.1604	0.1774	0.1551	0.1296	0.1063
95.	0.2205	0.1011	0.0614	0.0892	0.1757	0.1898	0.1661	0.1372	0.1136
MEAN	0.1201	0.0714	0.0500	0.0490	0.0688	0.1118	0.1038	0.0941	0.0826
S.D.	0.0635	0.0170	0.0069	0.0225	0.0672	0.0506	0.0384	0.0271	0.0181

EXHIBIT 28

SIMULATED DISTRIBUTIONS OF WEALTH INDICES FOR THE PERIOD 1977-2000 INCLUSIVE:

Selected Percentiles, Year-End 1976 Equals 1.0000

	MAJOR ASSET CATEGORIES			INFLATION RELATED		PORTFOLIO MIXES % Common Stocks % Long Term Corporate Bonds % U. S. Treasury Bills			
PERCENTILE	Common Stocks	Long Term Corporate Bonds	U.S. Treasury Bills	Inflation	Common Stocks, Inflation Adjusted	80% 10% 10%	60% 30% 10%	40% 50% 10%	20% 70% 10%
5.	3.2742	3.6515	2.9479	1.8683	0.7093	3.9147	4.4382	4.4089	4.3526
10.	4.4087	4.1000	3.0882	2.1164	0.9737	4.7765	5.3161	5.4000	5.1119
20.	6.7198	4.6344	3.2787	2.4573	1.7349	6.8860	6.8500	6.5396	5.8601
30.	9.0545	4.9481	3.4087	2.7870	2.4534	8.6785	8.3056	7.5158	6.4193
40.	12.6162	5.3653	3.5204	3.0624	3.3697	11.0618	10.0283	8.6412	6.8845
50.	17.0194	5.8001	3.6247	3.4625	4.6465	14.1839	12.2541	9.6102	7.4918
60.	22.4589	6.3122	3.7255	3.8358	6.4602	17.4899	13.9683	10.8855	7.9600
70.	29.1636	6.8670	3.8372	4.3153	9.4724	22.1301	16.5904	11.9699	8.7777
80	38.8387	7.6157	3.9905	5.1176	13.0877	27.3739	19.4719	13.8234	9.8783
90.	67.1729	8.5894	4.2704	6.2130	20.3443	42.7481	27.7036	17.2962	11.3185
95.	95.9145	9.4431	4.4341	7.6313	35.7719	56.9695	34.7212	20.6021	12.1580
MEAN	27.0358	6.1018	3.6473	3.8787	8.8199	19.2676	14.3184	10.6117	7.8511
S.D.	29.6328	1.8060	0.4395	1.8496	11.0546	16.6973	9.3530	4.8809	2.4272

EXHIBIT 29

SIMULATED TOTAL RETURN DISTRIBUTIONS FOR THE PERIOD 1977-2000 INCLUSIVE:

Geometric Average Annual Rates (in decimal form), Selected Percentiles

	MAJOR ASSET CATEGORIES			INFLATION RELATED		PORTFOLIO MIXES % Common Stocks % Long Term Corporate Bonds % U. S. Treasury Bills			
PERCENTILE	Common Stocks	Long Term Corporate Bonds	U.S. Treasury Bills	Inflation	Common Stocks, Inflation Adjusted	80% 10% 10%	60% 30% 10%	40% 50% 10%	20% 70% 10%
5.	0.0507	0.0554	0.0461	0.0264	-0.0142	0.0585	0.0641	0.0638	0.0632
10.	0.0638	0.0606	0.0481	0.0317	-0.0011	0.0673	0.0721	0.0728	0.0703
20.	0.0826	0.0660	0.0507	0.0382	0.0232	0.0837	0.0835	0.0814	0.0765
30.	0.0961	0.0689	0.0524	0.0436	0.0381	0.0942	0.0922	0.0877	0.0806
40.	0.1114	0.0725	0.0538	0.0477	0.0519	0.1053	0.1008	0.0940	0.0837
50.	0.1254	0.0760	0.0551	0.0531	0.0661	0.1168	0.1101	0.0989	0.0875
60.	0.1384	0.0798	0.0563	0.0576	0.0808	0.1266	0.1161	0.1046	0.0903
70.	0.1509	0.0836	0.0576	0.0628	0.0982	0.1377	0.1242	0.1090	0.0947
80.	0.1647	0.0883	0.0594	0.0704	0.1131	0.1479	0.1317	0.1156	0.1001
90.	0.1916	0.0937	0.0624	0.0791	0.1338	0.1694	0.1484	0.1261	0.1064
95.	0.2094	0.0981	0.0640	0.0884	0.1607	0.1835	0.1593	0.1343	0.1097
MEAN	0.1247	0.0764	0.0551	0.0542	0.0678	0.1166	0.1087	0.0991	0.0876
S.D.	0.0481	0.0132	0.0053	0.0186	0.0515	0.0382	0.0289	0.0204	0.0138

EXHIBIT 30

COMMON STOCKS
Simulated Distributions of Nominal Wealth Index
For the Period 1977-2000
(year-end 1976 equals 1.00)

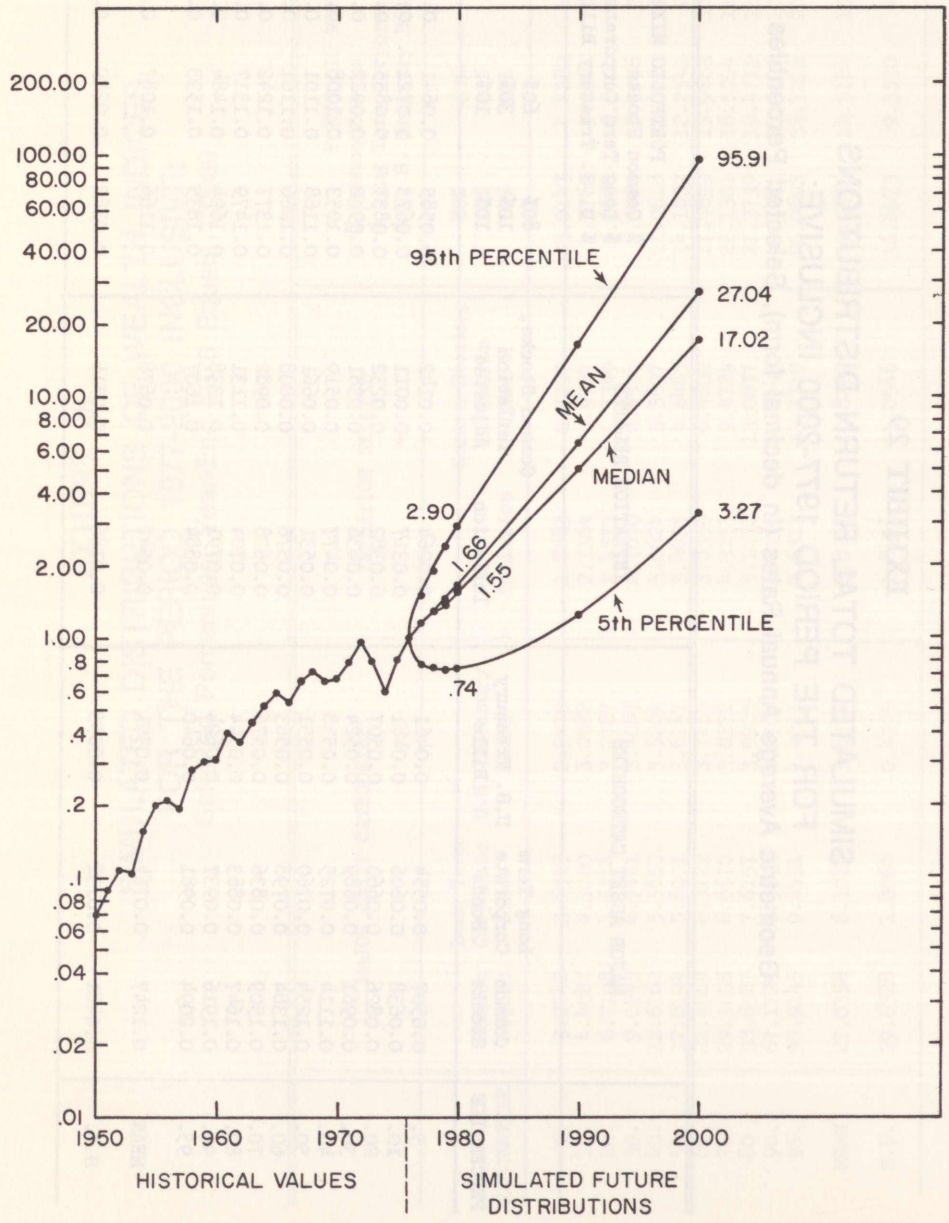


EXHIBIT 31

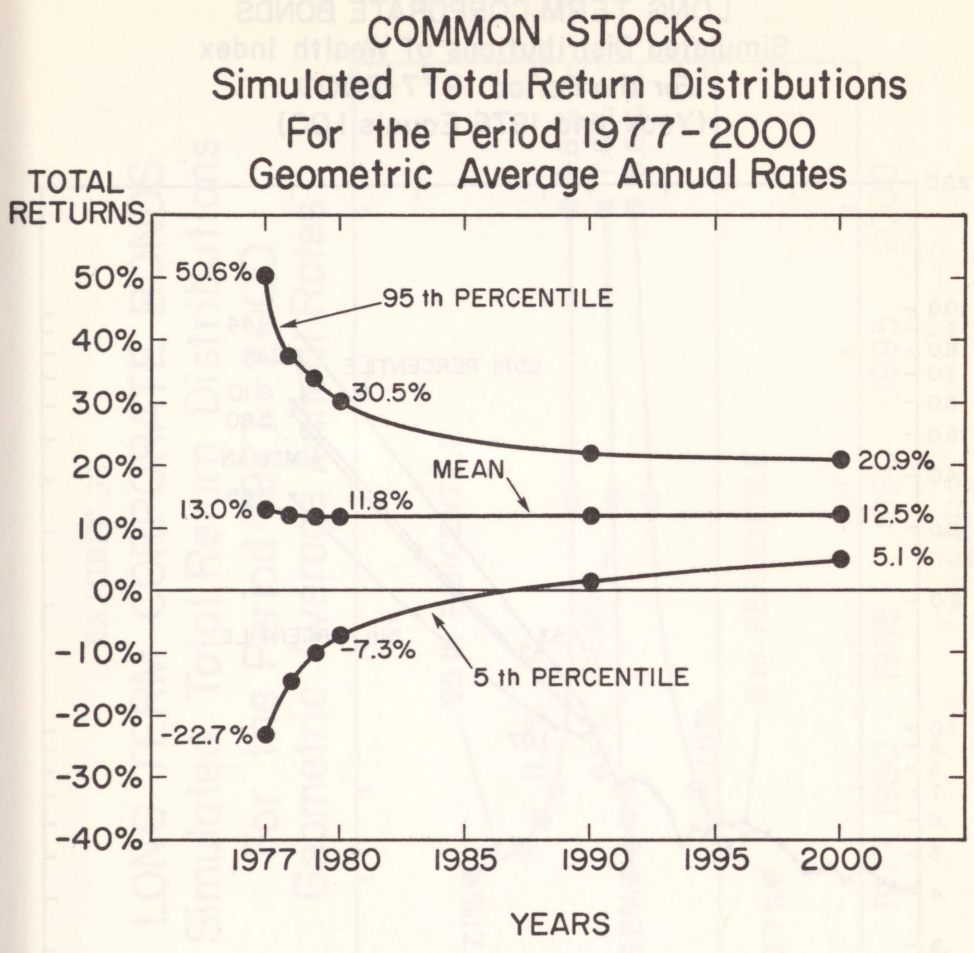

COMMON STOCKS
Simulated Total Return Distributions
For the Period 1977-2000
Geometric Average Annual Rates
TOTAL RETURNS
50%
40%
30%
20%
10%
0%
-10%
-20%
-30%
-40%
50.6%
95 th PERCENTILE
30.5%
MEAN
20.9%
13.0%
11.8%
12.5%
5.1%
-7.3%
5 th PERCENTILE
-22.7%
1977
1980
1985
1990
1995
2000
YEARS

EXHIBIT 32

LONG TERM CORPORATE BONDS
Simulated Distributions of Wealth Index
For the Period 1977-2000
(Year-end 1976 Equals 1.00)

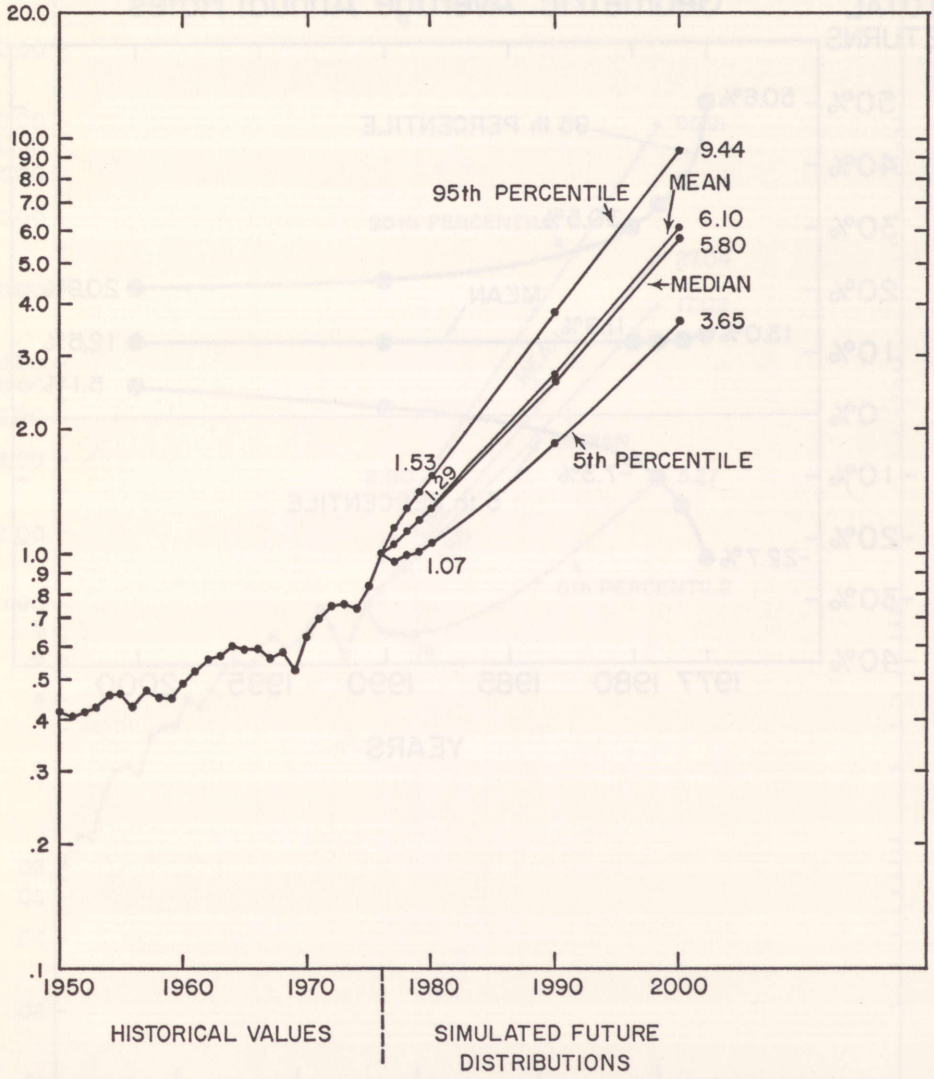


EXHIBIT 33

LONG TERM CORPORATE BONDS
Simulated Total Return Distributions
For the Period 1977-2000
Geometric Average Annual Rates

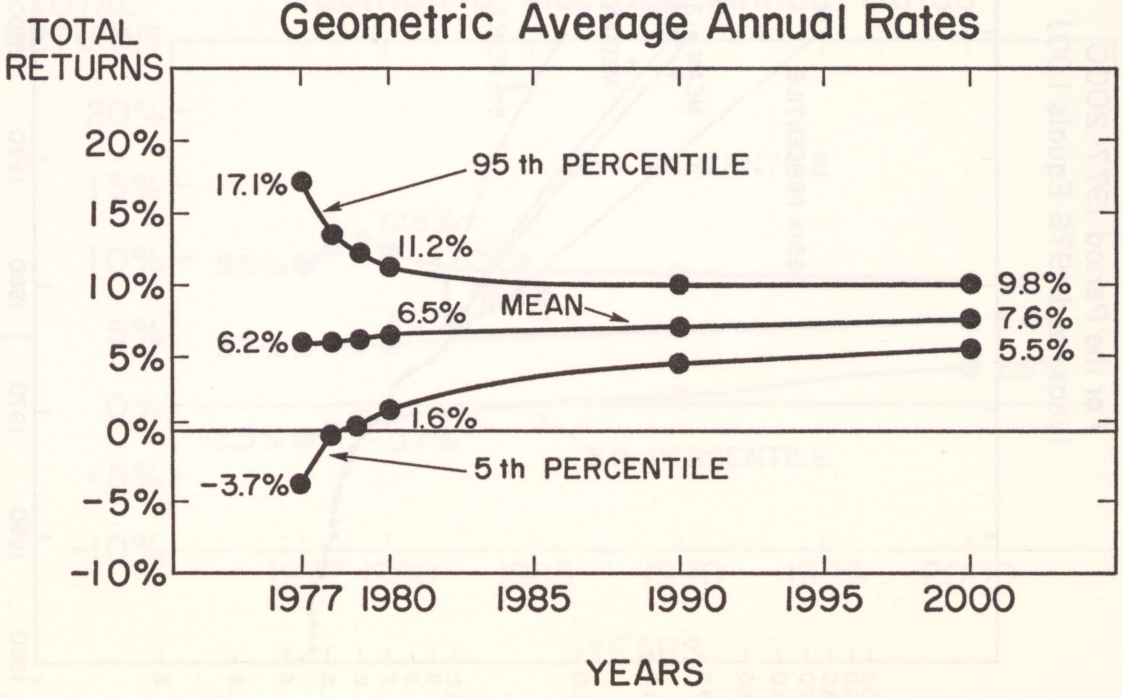


EXHIBIT 34

INFLATION
Simulated Distributions of Wealth Index
For the Period 1977-2000
(year-end 1976 Equals 1.00)

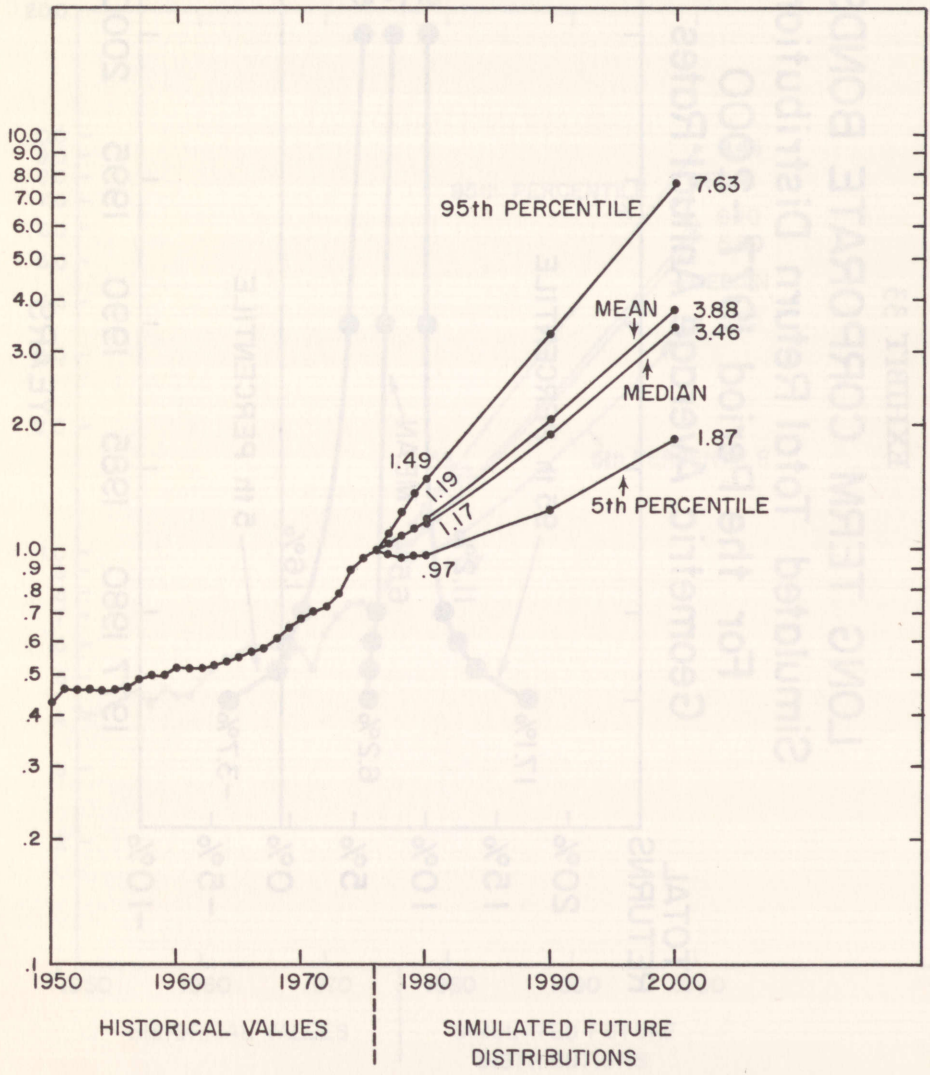


EXHIBIT 35

INFLATION

Simulated Rate Distributions For the Period 1977-2000 Geometric Average Annual Rates

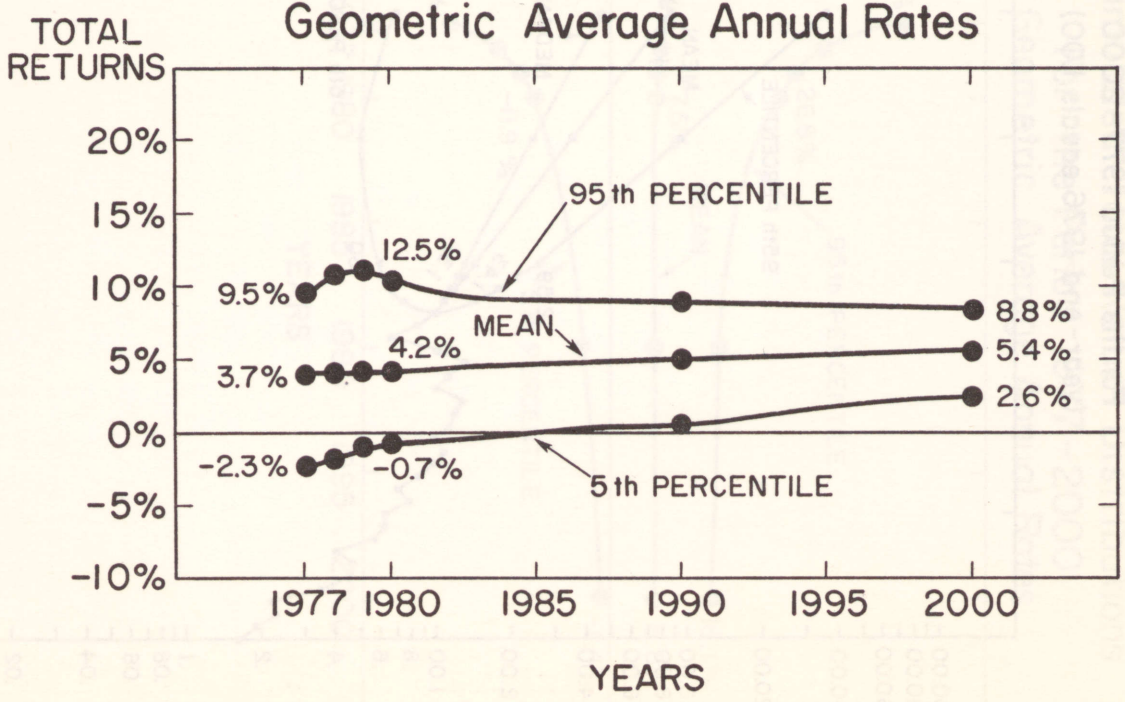


EXHIBIT 36

Common Stocks Inflation Adjusted
Simulated Distributions of Real Wealth Index
For the Period 1977-2000
(year-end 1976 equals 1.00)

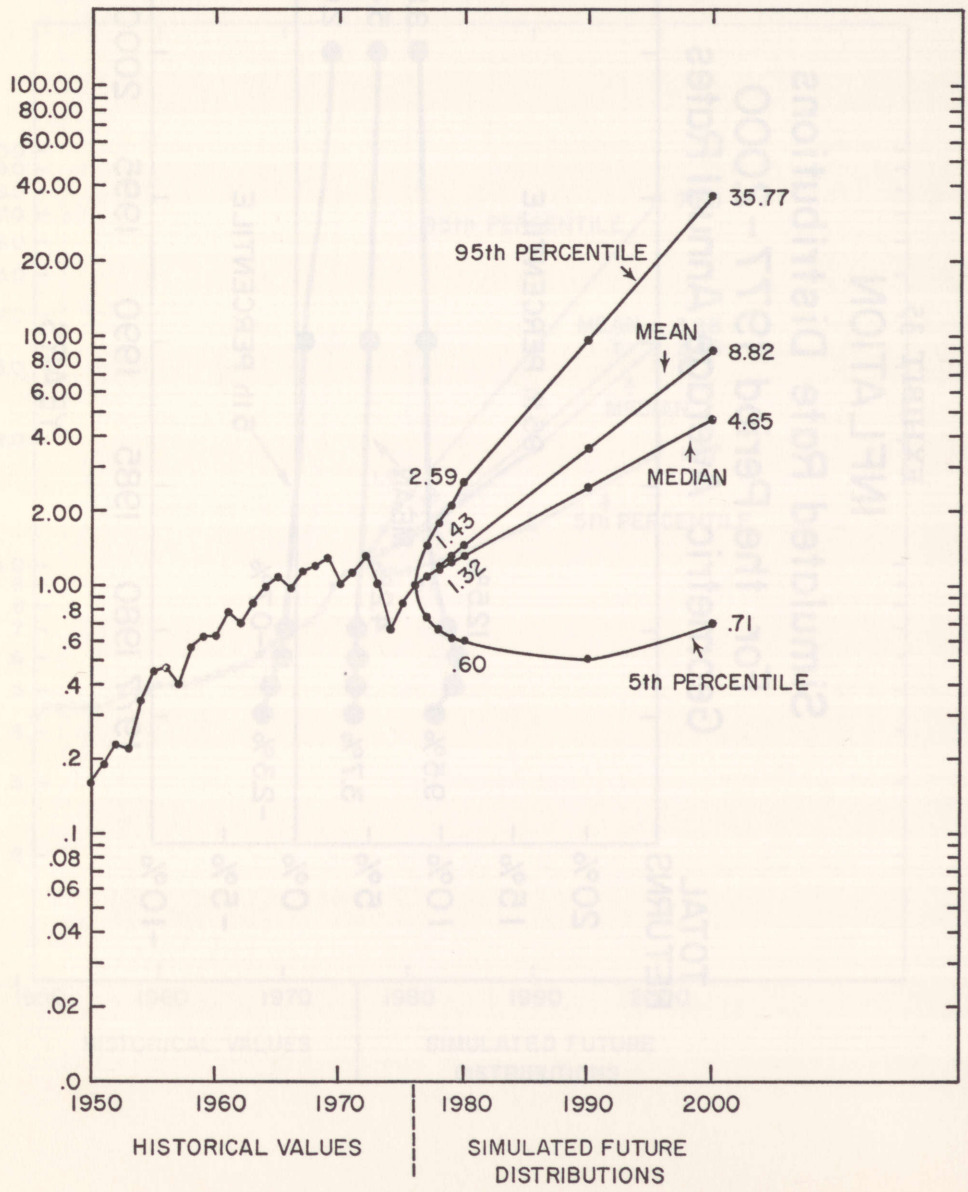
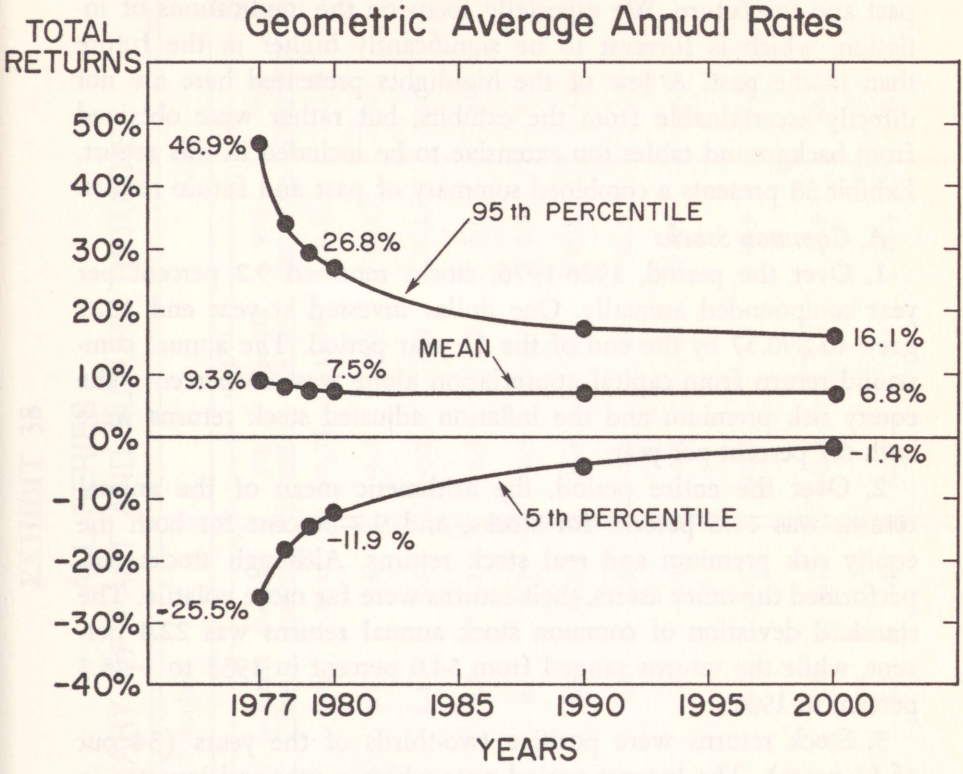


EXHIBIT 37

COMMON STOCKS, INFLATION ADJUSTED
Simulated Total Return Distributions
For the Period 1977-2000
Geometric Average Annual Rates



VI. HISTORICAL AND FORECAST HIGHLIGHTS

A comparison of the principal historical and forecast results enables us to focus on the similarities and differences between the past and the future. We especially focus on the implications of inflation, which is forecast to be significantly higher in the future than in the past. A few of the highlights presented here are not directly ascertainable from the exhibits, but rather were obtained from background tables too extensive to be included in this report. Exhibit 38 presents a combined summary of past and future results.

A. *Common Stocks*

1. Over the period, 1926-1976, stocks returned 9.2 percent per year compounded annually. One dollar invested at year end 1925 grew to $90.57 by the end of the 51 year period. The annual compound return from capital appreciation alone was 4.3 percent. The equity risk premium and the inflation adjusted stock returns were both 6.7 percent per year.

2. Over the entire period, the arithmetic mean of the annual returns was 11.6 percent for stocks, and 9.2 percent for both the equity risk premium and real stock returns. Although stocks outperformed the other assets, their returns were far more volatile. The standard deviation of common stock annual returns was 22.4 percent, while the returns ranged from 54.0 percent in 1933 to —43.3 percent in 1931.

3. Stock returns were positive two-thirds of the years (34 out of 51 years). The longest period over which a year-end investor in our common stock total return index would have earned a negative return was the 14-year period 1929-42. A month-end investor would have earned negative returns for an additional three months, from the beginning of December, 1928 through February, 1943.

4. The longest period an investor would have earned a negative return in real terms was more recent. It covers the 15 years and 2 months from the beginning of August, 1959 through the end of October, 1974. But in *nominal terms* the investor would have more than doubled his investment over that same period of time.

5. The 1976 stock return was 23.8 percent. While that was well above the historical mean, it was not especially outstanding in that there were 16 years in which total returns were greater. The common

EXHIBIT 38

ALL SERIES
SUMMARY OF PAST AND FUTURE RETURNS

	Historical			Future					
				1977			1977-2000		
	Arithmetic Mean	Geometric Mean	Standard Deviation	5th Percentile	Expected Return	95th Percentile	5th Percentile	Expected Geometric Return	95th Percentile
Common stocks, R_m	11.6%	9.2%	22.4%	-22.7%	13.0%	50.6%	5.1%	12.5%	20.9%
Long-term govt. bonds, R_g	3.5	3.4	5.8	-4.3	5.6	16.0	5.3	7.1	8.9
Long-term corp. bonds, R_c	4.2	4.1	5.6	-3.7	6.2	17.1	5.5	7.6	9.8
U.S. treasury bills, R_f	2.4	2.4	2.1	2.6	3.9	6.4	4.6	5.5	6.4
Consumer price index, R_I	2.4	2.3	4.7	-2.3	3.7	9.5	2.6	5.4	8.8
Equity risk premium, R_p	9.2	6.7	22.6	-26.4	9.2	47.7	-.8	6.8	14.8
Maturity premium, R_L	1.1	1.0	5.9	-7.5	1.7	11.5	-.3	1.5	3.5
Default premium, R_d	.6	.6	3.2	-4.4	.6	4.8	-.6	.6	1.6
Common stocks, inflation adjusted, R_{mr}	9.2	6.7	22.7	-25.5	9.3	46.9	-1.4	6.8	16.1
Long-term govt. bonds, inflation adjusted, R_{gr}	1.3	1.0	8.1	-10.1	1.9	12.9	-2.8	1.5	5.3
Long-term corp. bonds, inflation adjusted, R_{cr}	2.0	1.7	7.8	-10.7	2.5	14.5	-2.3	2.0	6.0
U.S. treasury bills, inflation adjusted, R_r	.1	0.0	4.6	-7.9	.2	5.4	-3.5	0.0	2.9

stock total return index was at an all time high at year-end 1976. This contrasts sharply to the inflation adjusted total return index, which stood at 27.565 at year-end 1976 as compared to 27.833 as far back as January, 1965.

6. Five-year annual calendar holding period returns ranged from a high of 23.9 percent during the period 1950-54 to a low of -12.5 percent during the period 1928-32. The highest 10-year annual return was 20.1 percent earned from 1949 to 1958, while the lowest 10-year annual return was -0.9 percent from 1929 to 1938. For 20-year calendar holding periods, the highest annual return was 16.9 percent earned in the period 1942-61, while the lowest annual return was 3.1 percent earned in the period 1929-48.

7. The forecast nominal returns for common stocks are substantially higher than the historical returns. This results directly from the high forecast inflation rates which are impounded into all asset returns. The compounded inflation rate is expected to be 5.4 percent over the period 1977-2000 compared to the historical average annual rate of 2.3 percent over the period 1926-1976. The expected compound return on common stocks for the period 1977-2000 is 12.5 percent per year.

8. Because stocks are very risky, realized returns may differ substantially from expectations. For the entire forecast period there is a 5 percent probability that stock returns will exceed 20.9 percent per year and likewise a 5 percent probability that they will be less than 5.1 percent per year.

9. Focusing on forecasts of average annual rates is potentially misleading as it tends to create the illusion of a reduction of uncertainty over time. The forecast of the cumulative wealth index guards against this pitfall. An investment of $1.00 at year-end 1976 is expected to be worth $27.04 by year-end 2000. But there is a 5 percent probability that it could be worth more than $95.91 and a 5 percent probability that it could be worth $3.27 or less.

10. In real terms, the simulation results are similar to historical results. Stocks are expected to have a compound return of 6.8 percent per year after adjusting for inflation. Despite high expected returns, there is a 10 percent chance that nominal stock returns will not be sufficient to offset inflation over the entire forecast period. In real terms, $1.00 invested in stocks at year-end 1976 is expected to be worth $8.82 at year-end 2000. But there is a 5 percent chance it will be worth $35.77 or more, and a 5 percent chance it will be worth $.71 or less.

B. *Long-Term U.S. Government Bonds*

1. Long-term U.S. government bonds returned 3.4 percent per year compounded annually over the period 1926-76. The entire period annual returns for both maturity premiums and inflation-adjusted long-term government bonds were 1.0 percent.

2. The arithmetic means of the annual nominal returns, maturity premiums, and real returns from long-term government bonds are 3.5 percent, 1.1 percent, and 1.3 percent, respectively. These annual return series are far less volatile than the common stock series. However, the maturity premiums and the real return series are quite volatile relative to their own historical means.

3. Long-term government bond returns were positive 38 out of the 51 years. Their annual returns ranged from 16.8 percent experienced in both 1932 and 1976 to -9.2 percent experienced in 1967.

4. Five-year annual calendar holding period returns for long-term government bonds ranged from a high of 7.7 percent during the period 1932-36 to a low of -2.1 percent during the period 1965-69. The highest 10-year annual return was 5.7 percent earned during 1932-41, while the lowest 10-year annual return was -0.1 percent earned during 1950-59. For 20-year calendar holding periods, the highest annual return was 4.7 percent earned during the period 1926-45, while the lowest annual return was 0.7 percent earned during the period 1950-69.

5. Returns from holding a constant 20-year maturity government bond portfolio are forecast to average 7.1 percent per year corresponding to the current yield to maturity on existing bonds.

6. Maintaining a constant 20-year maturity portfolio has some risk in that there is a 5 percent probability that the annual compound returns will exceed 8.9 percent per year and a 5 percent probability that they will be less than 5.3 percent per year over the entire forecast period 1977-2000.

C. *Long-Term Corporate Bonds*

1. Long-term corporate bonds returned 4.1 percent per year compounded annually over the period 1926–76. Default premiums returned 0.6 percent, while the inflation-adjusted corporate bond annual return was 1.7 percent.

2. The arithmetic means of the annual nominal returns, default premiums, and real returns resulting from long-term corporate bonds are 4.2 percent, 0.6 percent, and 2.0 percent, respectively. The volatility of long-term corporate bonds is similar to that of long-term government bonds. The default premiums and the real return

series are quite volatile relative to their historical means.

3. Long-term corporate bonds had positive returns in 41 out of the 51 years. Their returns ranged from 18.7 percent in 1976 to −8.1 percent in 1969.

4. Five-year annual calendar holding period returns for long-term corporate bonds ranged from a high of 10.3 percent during the period 1932–36 to a low of −2.2 percent during the period 1965–69. The highest 10-year annual return was 7.1 percent earned during 1926–35, while the lowest 10-year annual return was 1.0 percent earned during 1947–56. For 20-year calendar holding periods, the highest annual return was 5.5 percent earned during the period 1926–45, while the lowest annual return was 1.3 percent earned during the period 1950–69.

5. The forecast results for long-term corporate bonds show an expected nominal compounded return of 7.6 percent per year over the period 1977–2000.

6. Maintaining a long-term corporate bond portfolio is considerably less risky than investing in stocks. For the one-year forecast period, 1977, corporate bonds range from 17.1 percent (95th percentile) to −3.7 percent (5th percentile), while the corresponding range for stocks is 50.6 percent to −22.7 percent. Over the entire forecast period, long-term corporate bond returns have a 5 percent probability of exceeding 9.8 percent per year and a 5 percent probability of being less than 5.5 percent per year.

7. For the entire forecast period, real returns on corporate bonds are expected to be 2.0 percent compounded per year with a 5 percent chance that the real returns will be 6.0 percent per year or better and a 5 percent chance that real returns will be −2.3 percent per year or worse.

D. *U.S. Treasury Bills and Inflation*

1. During the entire 1926-1976 period, U.S. Treasury bills returned 2.4 percent compounded annually, a rate which was approximately equal to the inflation rate of 2.3 percent.

2. The entire period inflation-adjusted bill return was 0.0 percent. The inflation-adjusted bill return is a measure of the "real rate of interest." Our result of 0.0 percent is substantially different from the 3 to 4 percent often suggested by the Federal Reserve Bank of

St. Louis.[10] Note that we compute the net return difference between total returns and inflation rates. The St. Louis Federal Reserve Bank measured the difference between observed high-grade long-term corporate bond yields and lagged inflation rates. Yields measure promised returns rather than realized returns. The promise extends over the entire future life of the bond so that it should not be compared with either current or lagged inflation rates. Another problem with their methodology is that a long-term corporate bond yield incorporates both promised future maturity premiums and default premiums, as well as promised future real interest rates.

3. We can break the 1926-76 period U.S. Treasury bill returns and the inflation rates into five somewhat natural subperiods. During the deflationary period 1926-32, the annual rate of inflation was -4.4 percent while bills returned 2.7 percent annually. During the low inflationary period 1933-40, the annual rate of inflation was 0.9 percent while the annual bill return was a very low 0.1 percent. During the period 1941-51, Treasury bill rates were pegged to return only 0.6 percent while the annual rate of inflation was a high 5.9 percent. Both rates were low during the period 1952-65, with the annual inflation rate being 1.3 percent and the annual bill return being 2.4 percent. Inflation rates and bill returns were generally rising during the last subperiod (1966-76), with an annual inflation rate of 5.6 percent and a bill return of 5.6 percent. Thus, even though bill returns and inflation rates were often very related, the entire period real rate of interest of 0.0 percent varied substantially over the subperiods.

4. Five-year annual calendar period returns from holding 1-month bills ranged from a high of 5.9 percent during the period 1970-74 to a low of 0.1 percent during the period 1937-41. The highest 10-year annual return was the 5.6 percent earned during the most recent period, 1967-76, while the lowest 10-year annual return was 0.1 percent earned during 1933-42. For 20-year calendar holding periods, the highest annual return was 4.3 percent again earned during the most recent period, 1957-76, while the lowest annual return was 0.4 percent earned during the period 1931-50.

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[10]The Federal Reserve Bank of St. Louis began publishing a monthly series of expected "real" rates on corporate bonds with the study "Strong Total Demand, Rising Interest Rates, and Continued Availability of Credit," *Review* 48 (August 1966): 3, 4. Subsequent graphs and articles have frequently appeared, including William P. Yohe and Denis Karnosky, "Interest Rates and Price Level Changes, 1952–69," *Review* 51 (December 1969): 34–36.

5. Five-year annual calendar period inflation rates ranged from a high of 7.2 percent during the period 1972-76 to a low of -5.4 percent during the period 1928-32. The highest 10-year annual rate was 5.9 percent during both 1941-50, and 1967-76, while the lowest 10-year annual rate was -2.6 percent during 1926-35. For 20-year calendar periods, the highest annual rates were 3.8 percent during both the period 1941-60 and the period 1957-1976, while the lowest annual rate was 0.1 percent during the period 1926-45.

6. The forecast return for the period 1977-2000 from rolling over Treasury bills is expected to track inflation closely. The expected compounded return for Treasury bills is 5.5 percent per year and the expected compounded annual rate of change for inflation is 5.4 percent per year.

7. The forecast inflation rate as of December 31, 1976 is high by historical standards. The expected inflation rate for the year 1977 is 3.7 percent, and there is a 5 percent probability that the rate will be below -2.3 percent and a 5 percent probability that it will be above 9.5 percent. There is a 12 percent probability that the inflation rate for the entire year will be negative.

8. Over the entire forecast period, 1977-2000, the expected compounded inflation rate is 5.4 percent per year. There is a 5 percent chance that the compounded rate will average above 8.8 percent per year and a 5 percent chance that it will average below 2.6 percent per year. There is virtually no chance that we will experience deflation over the entire forecast period.

VII. QUESTIONS AND ANSWERS

Over the last several years, we have been asked numerous questions about our historical results, and especially about our future simulations. We include here some of the more frequently asked questions, along with our answers.

1. *Q.* Your historical results show that the stock market had a compounded annual return of 9.2% over the last 51 years. The yield on high quality corporate bonds is now nearly that high. What incentive is there to take the additional risk in buying stocks?
   A. Stocks have historically returned 6.7% in excess of Treasury bills and 5.1% in excess of long-term corporate bonds. We anticipate that the premiums for risk will continue into the future, so that we expect a compounded return of 12.5% for stocks over the next 24 years.
2. *Q.* The historical excess return from investing in common stocks rather than Treasury bills was 6.7%. Why do you think that this return is a good estimate of what will happen in the future?
   A. We assume that both the supply and demand equilibrium price for risk capital and the amount of risk in common stocks will not change over time.
3. *Q.* The variability of stock market returns does not seem to be constant over the historical period. It seems to be more variable during the depression and also perhaps more variable recently. Do you take this into account in your forecast?
   A. In principle it would be possible to take the changes in variability into account. However, this would make our forecasting procedures much more complicated with only limited benefits. We therefore choose to ignore the changes in variability.
4. *Q.* Much academic work suggests that the returns on common stocks follow a random walk, while you assume that instead equity risk premiums follow a random walk. Can they both follow a random walk?
   A. The returns on common stocks have been broken down into two components—the returns from holding a riskless security (Treasury bills) plus the return from the risk premium. We

have already demonstrated that the returns from holding Treasury bills do not follow a random walk. Thus equity risk premiums and common stock returns cannot both follow a random walk. We assume the expected return from taking risk (the equity risk premium) is constant through time, i.e., it is the risk premium that behaves randomly. It is very difficult for empirical work to differentiate between the returns from common stocks versus the returns from the equity risk premium, since so much of the variability of stocks comes from the variability of the risk premium. Thus the same data that suggest that equity risk premiums follow a random walk would also suggest that common stocks follow a random walk, even though they both cannot.

5. *Q.* You treat all years in the historical period equally. Would it not be better to emphasize recent events by weighting recent returns more heavily than distant returns?

   A. In the absence of any particular reason to weight particular years more heavily than others we believe it is appropriate to weight all of the historical years equally. In general our model attempts to maintain a spirit of neutrality or objectivity in the forecast it produces. Any particular weighting scheme runs the risk of imparting subjectivity and biases into the historical data.

6. *Q.* During the last 51 years there was a severe depression, three wars, a period of pegged interest rates, several periods of wage and price controls, etc. Are you suggesting that these events will happen in the future with the same frequency as they have in the past?

   A. We are not forecasting which specific events will occur in the future since we have no way of knowing what will happen. However, we do believe that historical events are not unrepresentative of the types of events that will occur in the future. Thus we expect the rate of return effects of these event-types to be experienced again.

7. *Q.* You have used the yield curve to forecast expected one year interest and inflation rates each year into the future. How well has this procedure worked in the past?

   A. Yield curve forecasts have not been very accurate in the past. However, after allowing for maturity premiums the interest rate forecasts have been unbiased. After removing real interest rates, the inflation forecasts have also been unbiased. Furthermore,

we know of no way to make more accurate forecasts. We can also estimate the degree of our forecasting error.

8. *Q.* During the last 51 years the rate of inflation has been only 2.3%, whereas you estimate the rate of inflation to be 5.4% into the future. How do different levels of inflation rates affect your estimates of returns on common stocks, long-term government bonds, and long-term corporate bonds?

   A. The forecast returns on stocks and bonds are in nominal terms and thus impound the different levels of expected inflation Since we project substantially higher inflation than we have experienced in the past, the expected returns on the various assets are also higher than the historical returns.

9. *Q.* You say that future nominal returns on common stocks will incorporate significantly higher expected inflation rates than have been realized historically. Yet recent experience—i.e., 1973–74—suggests just the opposite: that high inflation rates are accompanied by sharply negative stock market returns. How do you reconcile recent events with your forecasting procedure?

   A. When high inflation rates are anticipated—that is, reflected in today's yield curve—these higher rates tend to be impounded in the returns of common stocks. During some periods, such as 1973–74, unanticipated increases of inflation occur. There is some evidence that unanticipated inflation tends to be detrimental to stock returns since it generally happens during periods of great uncertainty. Since our model uses the yield curve to forecast inflation rates, only anticipated inflation rates are incorporated into our projected common stock returns. We admit that there is even some evidence that stock returns are negatively related to anticipated inflation. We ignore this evidence since it is counter to our efficient capital market assumption.

10. *Q.* The yield curve changes every day. Do your forecasts also change every day, and if so, what good are they?

    A. It is true that the yield curve changes every day, and it is also true that changes in the yield curve will change our forecasts every day. The yield curve reflects the changing anticipations of the market place, which continually revises its estimates. It is therefore necessary that we incorporate the latest yield curve into our forecasts. As a practical matter the yield curve changes are relatively small during short periods of time,

so that it is not necessary for us to make abrupt changes in our forcasts. Furthermore, our forecasts are very stable in real terms because it is the inflation rate component of the yield curve which is by far the most variable.

11. *Q.* You say that the real rate of interest has been historically 0.0% and you use the past series to estimate the future. How does this reconcile with the more conventional estimate that the real rate of interest is in the range of 3% to 4%?
A. These forecasts were obtained by comparing the yields on high grade corporate bonds to concurrent inflation rates. We have seen by our analysis that a long-term bond yield incorporates year by year expectations (forward rates) over the life of the bond. The components of these interest rates are the expected inflation rate, the expected real interest rate, the expected maturity premium, and for corporate bonds—the expected default premium. Thus, subtracting expected inflation rates from a corporate bond yield still leaves the default premium and the maturity premium as well as the real interest rate. Even more important, today's corporate yield reflects future anticipations of these three components and therefore should not be matched with concurrent inflation rates.
12. *Q.* Why do you choose a 51-year period over which to measure your historical results?
A. The 51-year period of time is itself arbitrary. We need a period long enough to include all types of events. We limit the period only because it is more difficult to obtain high quality data prior to 1926.
13. *Q.* Must your forecast stop at the year 2000?
A. Once again, stopping at the year 2000 is arbitrary. In principle we could forecast security returns as far out as there is a long-term bond available to be inserted into the yield curve.
14. *Q.* Some government bonds have much lower yields than others even though they have approximately the same maturity dates. Which bonds should we use to make up the yield curve?
A. Many of the government bonds trade at unusual prices because of their special tax status. For example, some bonds are called flower bonds and enable the holder to pay estate taxes by tendering the bond at par value. As these bonds are not traded primarily on a yield basis, they are not included in the yield curve.
15. *Q.* Most forecasts incorporate estimates of GNP, employment,

productivity, and other such macro-economic variables. You seem to ignore them completely. Why?

A. The various macro- and micro-economic variables determine the prices of securities. In fact the prices of securities are themselves forecasts of what goes on in the economy. Since we use the prices of securities as the inputs into our forecasting techniques, these economic variables are implicitly contained in our forecasts.

16. *Q.* We see many forecasts from economists, financial analysts, long range planners, etc. Is your forecast in any way superior to theirs, and if so how?

A. If our assumption of market efficiency is correct, then at the very least our forecasts are not inferior to theirs. In fact the forecasts of economists, financial analysts, long range planners, etc., help to determine the prices in the market. Since we use these prices, we are, once again, implicitly incorporating their forecasts into our forecasts. Since our forecasts are based on market efficiency our forecasts can be considered as a benchmark from which to judge other forecasts.

17. *Q.* Can we use your forecasts to make any money in the capital market?

A. Since our forecasts are based on the assumption of market efficiency one cannot use our forecasts to "beat the market." Our forecasts are useful, however, in evaluating the risks involved in various investment strategies and in determining the expected rewards from taking these risks.

18. *Q.* In what ways are your forecasts consistent with efficient capital markets?

A. Our forecasts employ the market efficiency assumption in two principal ways. First, we use the yield curve to forecast future expected interest and inflation rates. Since the prices of the bonds that make up the yield curve are market determined, our interest and inflation rate forecasts are market determined. Secondly, our forecasts of the three risk premiums are simply random drawings. Neither of the above procedures represents an attempt to outguess the market.

19. *Q.* The ranges of some of your forecasts seem to be far too wide to be of any practical value. What good are such wide forecasts?

A. Knowing the risk contained in the various asset categories over various periods of time in the future can be just as im-

portant and useful as knowing the expected returns for those assets. Wide forecasts simply reflect the large risks inherent in some of the assets, particularly common stocks. Forecasts that understate risks are not only useless but can lead to harmful investment decisions.

20. *Q.* In a world of ERISA where pension funds have to be actuarially funded, should your forecasts have any bearing on actuarial assumptions?

A. Any assumptions that affect the funding of pension plans should be based on realistic forecasts. In that regard our forecasts and our forecasting procedure have an obvious bearing on the assumptions used in pension planning.

21. *Q.* Most portfolios are made up of combinations of stocks, corporate bonds, government bonds, etc. How do you use your procedures to estimate returns of the various portfolio mixes?

A. Just as we estimate the returns from common stocks as the combination of the risk-free component plus a risk premium for stocks, we can compute the returns for a portfolio mix by adding the forecast returns given by our model for stocks, corporate bonds, and treasury bills, each weighted by their weights in the portfolio. Returns from selected portfolio mixes are printed in some of our tables. It is not possible to add sorted percentiles of components, since portfolios are more diversified than individual components.

22. *Q.* Your stock market total returns are from investing in Standard and Poor's Composite Index. Suppose an investor held a high-risk portfolio (beta greater than 1) or a low-risk portfolio (beta less than 1)—how would this affect his historical and future returns?

A. There is much empirical evidence that demonstrates that high beta portfolios outperform low beta portfolios on average. This has happened over the last 51 years and we would also anticipate that it would happen over the next 24 years. The expected reward is not without its cost, since higher beta portfolios have higher risks or wider distributions of returns.

23. *Q.* If an investor did not hold the market but rather held a highly undiversified portfolio, how would this have affected his historical and future returns?

A. On average, undiversified portfolios have neither outper-

formed nor underperformed diversified portfolios historically. However, the risks of undiversified portfolios are larger than the risks of a diversified portfolio. This will also be true in the future; that is, undiversified portfolios will have on average about the same expected return, but wider distributions of return or higher risk.

24. *Q.* Suppose that we have an undiversified portfolio that we strongly suspect can outperform the markets indicated in your work. Are your procedures of any use in estimating the possible returns from superior money managers?

    A. If we strongly suspect that a portfolio can outperform the market, then it is only necessary to insert the increased expectations into the model so that the expected return is increased by the amount that one expects the portfolio to outperform the market. The risks are also increased by the amount of the additional risk incurred as a result of holding something other than the market. However, excess performance is contrary to our efficient market assumption and is contradicted by most empirical evidence.

25. *Q.* Suppose an investor held neither short-term bills nor 20-year bonds but rather a mixed portfolio of various maturity bonds—what would have been the effect on historical and future returns?

    A. The returns from short-term bills do not reflect any maturity premium whereas the returns on a 20-year bond reflect a 20-year maturity premium. The historical returns of most intermediate-term bonds have been somewhere in between the returns of short-term bills and 20-year bonds. The expected returns of intermediate-term bonds reflect a partial maturity premium.

26. *Q.* If we were to hold lower quality bonds than the high quality long-term corporate bonds listed in your paper, how would this affect bondholder expected returns?

    A. Lower quality bonds have higher yields and higher default risks than high quality bonds. Since investors are paid a premium for taking default risk, holders of lower quality bonds in general have higher expected returns and higher variability than the holders of higher quality bonds.

27. *Q.* In valuation models, the value of a firm is the discounted stream of earnings. Can we use your techniques to estimate riskless and risky discount rates? And to what extent should

we incorporate your approaches in the estimation of earnings? *A.* The discount rates in valuation models should reflect the level of risk involved in the asset as well as real interest rate expectations. If the discount rates were nominal, they would also include inflation rate expectations. Our models can be used to determine both the anticipated inflation and real interest rates. Although, our models give a suggestion as to what the risk premium should be for a typical stock, this would have to be adjusted for the risk level of the asset being valued. The numerator of a valuation model gives the estimated earnings of the company. To be consistent, the numerator and the discount rates must both be either in nominal or in real terms.

APPENDIX A
RATES OF RETURN FOR ALL YEARLY HOLDING PERIODS FROM 1926 TO 1976

EXHIBIT A-1

COMMON STOCKS : TOTAL RETURNS

RATES OF RETURN FOR ALL YEARLY HOLDING PERIODS FROM 1926 TO 1976
(PERCENT PER ANNUM COMPOUNDED ANNUALLY)

TO THE END OF	FROM THE BEGINNING OF 1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
1926	11.6																
1927	23.9	37.5															
1928	30.1	40.5	43.6														
1929	19.2	21.8	14.7	-8.4													
1930	8.7	8.0	-0.4	-17.1	-24.9												
1931	-2.5	-5.1	-13.5	-27.0	-34.8	-43.3											
1932	-3.3	-5.6	-12.5	-22.7	-26.9	-27.9	-8.2										
1933	2.5	1.2	-3.8	-11.2	-11.9	-7.1	18.9	54.0									
1934	2.0	0.9	-3.5	-9.7	-9.9	-5.7	11.7	23.2	-1.4								
1935	5.9	5.2	1.8	-3.1	-2.2	3.1	19.8	30.9	20.6	47.7							
1936	8.1	7.8	4.9	0.9	2.3	7.7	22.5	31.6	24.9	40.6	33.9						
1937	3.7	3.0	0.0	-3.9	-3.3	0.2	10.2	14.3	6.1	8.7	-6.7	-35.0					
1938	5.5	5.1	2.5	-0.9	-0.0	3.6	13.0	16.9	10.7	13.9	4.5	-7.7	31.1				
1939	5.1	4.6	2.3	-0.8	-0.1	3.2	11.2	14.3	8.7	10.9	3.2	-5.3	14.3	-0.4			
1940	4.0	3.5	1.3	-1.6	-1.0	1.8	8.6	11.0	5.9	7.2	0.5	-6.5	5.6	-5.2	-9.8		
1941	3.0	2.4	0.3	-2.4	-1.9	0.5	6.4	8.2	3.5	4.3	-1.6	-7.5	1.0	-7.4	-10.7	-11.6	
1942	3.9	3.5	1.5	-1.0	-0.4	2.0	7.6	9.3	5.3	6.1	1.2	-3.4	4.6	-1.1	-1.4	3.1	20.3
1943	5.0	4.7	2.9	0.6	1.3	3.7	9.0	10.8	7.2	8.2	4.0	0.4	7.9	3.8	4.8	10.2	23.1
1944	5.8	5.5	3.8	1.7	2.5	4.8	9.8	11.5	8.3	9.3	5.7	2.6	9.5	6.3	7.7	12.5	22.0
1945	7.1	6.9	5.4	3.5	4.3	6.6	11.5	13.2	10.4	11.5	8.4	5.9	12.6	10.1	12.0	17.0	25.4
1946	6.4	6.1	4.7	2.8	3.5	5.6	10.1	11.6	8.8	9.7	6.8	4.4	10.1	7.7	8.9	12.4	17.9
1947	6.3	6.1	4.7	3.0	3.7	5.6	9.8	11.2	8.6	9.4	6.7	4.5	9.6	7.5	8.5	11.4	15.8
1948	6.3	6.1	4.7	3.1	3.8	5.6	9.6	10.8	8.4	9.1	6.6	4.6	9.2	7.3	8.2	10.6	14.2
1949	6.8	6.6	5.3	3.8	4.5	6.3	10.1	11.2	9.0	9.7	7.4	5.6	10.0	8.3	9.2	11.5	14.8
1950	7.7	7.5	6.4	4.9	5.6	7.4	11.1	12.3	10.2	11.0	8.9	7.3	11.5	10.0	11.0	13.4	16.6
1951	8.3	8.1	7.1	5.7	6.4	8.2	11.7	12.9	11.0	11.7	9.8	8.4	12.4	11.1	12.1	14.3	17.3
1952	8.6	8.5	7.5	6.2	6.9	8.6	12.0	13.2	11.3	12.1	10.3	9.0	12.8	11.6	12.5	14.6	17.4
1953	8.3	8.1	7.2	5.9	6.5	8.2	11.4	12.4	10.7	11.4	9.6	8.3	11.9	10.7	11.5	13.4	15.7
1954	9.6	9.5	8.6	7.4	8.1	9.7	12.9	14.0	12.4	13.1	11.6	10.4	13.9	12.9	13.9	15.8	18.2
1955	10.2	10.2	9.3	8.2	8.9	10.5	13.7	14.7	13.2	13.9	12.5	11.4	14.8	13.9	14.9	16.8	19.1
1956	10.1	10.1	9.2	8.2	8.8	10.4	13.4	14.4	12.9	13.6	12.2	11.2	14.4	13.5	14.4	16.1	18.2
1957	9.4	9.3	8.5	7.4	8.1	9.5	12.3	13.2	11.8	12.4	11.0	10.0	13.0	12.1	12.8	14.3	16.2
1958	10.3	10.2	9.5	8.5	9.1	10.6	13.3	14.3	12.9	13.6	12.3	11.4	14.3	13.5	14.3	15.8	17.6
1959	10.3	10.3	9.5	8.6	9.2	10.6	13.3	14.2	12.9	13.5	12.3	11.4	14.2	13.4	14.1	15.6	17.3
1960	10.0	10.0	9.3	8.3	8.9	10.3	12.8	13.7	12.4	13.0	11.8	10.9	13.5	12.8	13.5	14.8	16.4
1961	10.5	10.4	9.7	8.8	9.4	10.8	13.3	14.1	12.9	13.4	12.3	11.5	14.1	13.4	14.0	15.3	16.9
1962	9.9	9.9	9.2	8.3	8.8	10.1	12.5	13.2	12.1	12.6	11.4	10.7	13.0	12.3	12.9	14.1	15.5
1963	10.2	10.2	9.5	8.7	9.2	10.5	12.8	13.5	12.4	12.9	11.8	11.1	13.4	12.7	13.3	14.5	15.8
1964	10.4	10.4	9.7	8.9	9.4	10.6	12.9	13.6	12.5	13.0	12.0	11.3	13.5	12.9	13.5	14.5	15.8
1965	10.4	10.4	9.8	9.0	9.5	10.7	12.9	13.6	12.5	13.0	12.0	11.3	13.5	12.9	13.4	14.5	15.7
1966	9.9	9.8	9.2	8.4	8.9	10.1	12.2	12.8	11.8	12.2	11.2	10.5	12.6	12.0	12.4	13.4	14.5
1967	10.2	10.2	9.6	8.8	9.3	10.4	12.5	13.1	12.1	12.5	11.6	10.9	12.9	12.4	12.8	13.8	14.9
1968	10.2	10.2	9.6	8.9	9.3	10.4	12.4	13.1	12.1	12.5	11.6	10.9	12.9	12.3	12.8	13.7	14.7
1969	9.8	9.7	9.1	8.4	8.9	9.9	11.8	12.4	11.4	11.8	10.9	10.3	12.1	11.6	12.0	12.8	13.8
1970	9.6	9.6	9.0	8.3	8.7	9.7	11.6	12.2	11.2	11.6	10.7	10.1	11.9	11.3	11.7	12.5	13.5
1971	9.7	9.7	9.1	8.4	8.9	9.9	11.7	12.2	11.3	11.7	10.8	10.2	11.9	11.4	11.8	12.6	13.5
1972	9.9	9.9	9.3	8.7	9.1	10.1	11.9	12.4	11.5	11.9	11.0	10.5	12.1	11.6	12.0	12.8	13.7
1973	9.3	9.3	8.7	8.1	8.5	9.4	11.1	11.7	10.8	11.1	10.3	9.7	11.3	10.8	11.1	11.8	12.7
1974	8.5	8.4	7.8	7.2	7.5	8.4	10.1	10.6	9.7	10.0	9.1	8.5	10.1	9.5	9.8	10.5	11.2
1975	9.0	8.9	8.4	7.7	8.1	9.0	10.6	11.1	10.2	10.6	9.8	9.2	10.7	10.2	10.5	11.1	11.9
1976	9.2	9.2	8.7	8.0	8.4	9.3	10.9	11.4	10.5	10.9	10.1	9.5	11.0	10.5	10.8	11.5	12.2

EXHIBIT A-1 (cont.)

TO THE END OF	FROM THE BEGINNING OF 1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
1943	25.9																
1944	26.0	26.1															
1945	30.7	36.4	46.6														
1946	21.4	20.4	8.1	-29.7													
1947	18.4	16.9	5.8	-8.1	13.1												
1948	16.6	15.1	5.8	-1.2	9.0	5.5											
1949	16.9	15.6	7.5	1.1	9.4	7.7	9.9										
1950	18.1	16.9	9.3	3.4	10.6	9.2	12.1	14.3									
1951	18.9	17.8	10.4	4.8	11.4	10.2	12.8	14.5	14.7								
1952	19.1	18.0	10.8	5.3	11.6	10.5	13.0	14.5	14.5	14.3							
1953	17.9	16.8	9.8	4.2	10.5	9.3	11.6	12.8	12.5	11.7	9.1						
1954	20.4	19.5	12.2	7.3	13.5	12.5	15.1	16.7	17.0	17.2	16.8	24.9					
1955	21.4	20.5	13.2	8.3	14.4	13.4	16.0	17.5	17.8	18.0	17.6	22.5	20.1				
1956	20.3	19.4	12.4	7.5	13.4	12.4	14.8	16.2	16.3	16.3	15.6	18.9	15.4	10.9			
1957	18.6	17.6	11.0	6.0	11.8	10.7	12.9	14.1	14.1	13.9	13.0	15.1	11.8	7.4	3.8		
1958	19.4	18.4	11.9	7.0	12.7	11.7	13.9	15.1	15.1	15.0	14.2	16.5	13.5	10.1	8.4	13.1	
1959	19.0	18.1	11.7	6.9	12.5	11.6	13.7	14.9	14.9	14.8	14.0	16.1	13.3	10.1	8.4	13.1	13.1
1960	18.1	17.2	10.9	6.2	11.8	10.8	12.9	14.0	14.0	13.8	13.0	14.9	12.2	9.2	7.5	11.6	10.2
1961	18.1	17.2	11.0	6.3	11.8	10.9	12.9	14.0	14.0	13.9	13.1	14.9	12.4	9.5	7.8	11.8	10.5
1962	17.2	16.3	10.2	5.6	11.0	10.1	12.0	13.1	13.1	12.9	12.1	13.8	11.3	8.6	6.9	10.8	9.6
1963	17.2	16.4	10.3	5.7	11.0	10.1	12.0	13.1	13.1	12.9	12.2	13.8	11.4	8.8	7.1	10.9	9.8
1964	17.2	16.4	10.4	5.8	11.1	10.2	12.1	13.2	13.2	13.0	12.3	13.9	11.6	9.0	7.4	11.1	10.0
1965	17.2	16.4	10.4	5.8	11.1	10.2	12.1	13.2	13.2	13.0	12.3	13.9	11.6	9.0	7.4	11.1	10.0
1966	16.7	15.9	9.9	5.4	10.6	9.7	11.6	12.6	12.6	12.4	11.7	13.2	11.0	8.4	6.8	10.4	9.3
1967	16.9	16.1	10.1	5.5	10.7	9.8	11.7	12.7	12.7	12.5	11.8	13.3	11.1	8.5	6.9	10.5	9.4
1968	16.8	16.0	10.0	5.4	10.6	9.7	11.6	12.6	12.6	12.4	11.7	13.2	11.0	8.4	6.8	10.4	9.3
1969	16.4	15.6	9.7	5.2	10.3	9.4	11.3	12.3	12.3	12.1	11.4	12.9	10.8	8.2	6.6	10.2	9.1
1970	16.1	15.3	9.5	5.0	10.1	9.2	11.1	12.1	12.1	11.9	11.2	12.7	10.6	8.0	6.5	10.0	8.9
1971	16.1	15.3	9.5	5.0	10.1	9.2	11.1	12.1	12.1	11.9	11.2	12.7	10.6	8.0	6.5	10.0	8.9
1972	16.1	15.3	9.5	5.0	10.1	9.2	11.1	12.1	12.1	11.9	11.2	12.7	10.6	8.0	6.5	10.0	8.9
1973	15.6	14.8	9.1	4.6	9.6	8.7	10.6	11.6	11.6	11.4	10.7	12.2	10.1	7.6	6.0	9.5	8.4
1974	14.9	14.1	8.4	4.0	9.0	8.1	10.0	11.0	11.0	10.8	10.1	11.6	9.5	7.1	5.5	8.9	7.8
1975	15.2	14.4	8.7	4.3	9.2	8.3	10.2	11.2	11.2	11.0	10.3	11.8	9.7	7.3	5.7	9.1	8.0
1976	15.6	14.8	9.1	4.7	9.6	8.7	10.6	11.6	11.6	11.4	10.7	12.2	10.1	7.6	6.0	9.5	8.4

EXHIBIT A-1 (cont.)

TO THE END OF	FROM THE BEGINNING OF 1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
1943	25.9																
1944	22.8	19.8															
1945	27.2	27.8	36.4														
1946	17.3	14.5	12.0	-8.1													
1947	14.9	12.3	9.9	-1.4	5.7												
1948	13.2	10.9	8.8	0.8	5.6	5.5											
1949	14.0	12.2	10.7	5.1	9.8	11.9	18.8										
1950	16.1	14.8	13.9	9.9	14.9	18.2	25.1	31.7									
1951	16.9	15.9	15.3	12.1	16.7	19.6	24.7	27.8	24.0								
1952	17.1	16.1	15.7	13.0	17.0	19.4	23.1	24.6	21.2	18.4							
1953	15.3	14.3	13.7	11.2	14.2	15.7	17.9	17.6	13.3	8.3	-1.0						
1954	18.0	17.4	17.1	15.1	18.4	20.4	23.0	23.9	22.0	21.4	22.9	52.6					
1955	19.0	18.5	18.4	16.7	19.8	21.7	24.2	25.2	23.9	23.9	25.7	41.7	31.6				
1956	18.1	17.5	17.3	15.7	18.4	19.9	21.9	22.3	20.8	20.2	20.6	28.9	18.4	6.6			
1957	15.9	15.2	14.9	13.2	15.4	16.4	17.7	17.6	15.7	14.4	13.6	17.5	7.7	-2.5	-10.8		
1958	17.5	16.9	16.7	15.3	17.5	18.7	20.1	20.2	18.8	18.1	18.1	22.3	15.7	10.9	13.1	43.4	
1959	17.1	16.6	16.4	15.1	17.1	18.1	19.3	19.4	18.1	17.3	17.2	20.5	15.0	11.1	12.7	26.7	12.0
1960	16.1	15.6	15.3	14.0	15.8	16.6	17.6	17.5	16.2	15.3	14.9	17.4	12.4	8.9	9.5	17.3	6.1
1961	16.7	16.2	16.0	14.8	16.5	17.3	18.3	18.3	17.1	16.4	16.2	18.6	14.4	11.7	12.8	19.6	12.6
1962	15.3	14.7	14.4	13.3	14.8	15.4	16.1	15.9	14.7	13.9	13.4	15.2	11.2	8.5	8.9	13.3	6.8
1963	15.6	15.1	14.9	13.8	15.2	15.8	16.6	16.4	15.3	14.6	14.3	15.9	12.4	10.2	10.8	14.8	9.9
1964	15.6	15.2	14.9	13.9	15.3	15.9	16.6	16.4	15.4	14.7	14.4	16.0	12.8	10.9	11.5	15.1	10.9
1965	15.5	15.0	14.8	13.8	15.1	15.7	16.3	16.2	15.2	14.6	14.3	15.7	12.8	11.1	11.6	14.7	11.1
1966	14.3	13.8	13.6	12.6	13.7	14.2	14.7	14.4	13.4	12.7	12.4	13.4	10.7	9.0	9.2	11.7	8.2
1967	14.7	14.2	14.0	13.1	14.2	14.6	15.1	14.9	14.0	13.4	13.1	14.2	11.6	10.1	10.5	12.8	9.9
1968	14.5	14.1	13.9	13.0	14.0	14.5	14.9	14.7	13.8	13.3	13.0	14.0	11.6	10.2	10.5	12.7	10.0
1969	13.6	13.1	12.9	12.0	13.0	13.3	13.7	13.4	12.5	11.9	11.6	12.4	10.1	8.7	8.9	10.7	8.2
1970	13.2	12.8	12.5	11.7	12.6	12.9	13.2	13.0	12.1	11.5	11.1	11.9	9.7	8.4	8.6	10.2	7.8
1971	13.3	12.8	12.6	11.8	12.6	12.9	13.3	13.0	12.2	11.6	11.3	12.0	10.0	8.8	8.9	10.5	8.3
1972	13.5	13.0	12.8	12.0	12.9	13.2	13.5	13.3	12.5	12.0	11.7	12.4	10.5	9.4	9.5	11.0	9.0
1973	12.4	12.0	11.7	10.9	11.7	11.9	12.2	11.9	11.2	10.6	10.3	10.8	9.0	7.9	7.9	9.2	7.3
1974	10.9	10.5	10.2	9.4	10.1	10.2	10.4	10.1	9.3	8.7	8.2	8.7	6.9	5.7	5.7	6.7	4.8
1975	11.6	11.2	11.0	10.2	10.9	11.1	11.3	11.0	10.3	9.7	9.4	9.9	8.2	7.1	7.1	8.2	6.4
1976	12.0	11.6	11.3	10.6	11.3	11.5	11.7	11.5	10.8	10.3	9.9	10.4	8.8	7.8	7.9	9.0	7.3

TO THE END OF	FROM THE BEGINNING OF 1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
1960	0.5																
1961	12.9	26.9															
1962	5.2	7.6	-8.7														
1963	9.3	12.5	5.9	22.8													
1964	10.7	13.5	9.3	19.6	16.5												
1965	11.0	13.2	10.1	17.2	14.4	12.5											
1966	7.7	9.0	5.7	9.7	5.6	0.6	-10.1										
1967	9.6	11.0	8.6	12.4	9.9	7.8	5.6	24.0									
1968	9.8	11.0	8.9	12.2	10.2	8.6	7.4	17.3	11.1								
1969	7.8	8.7	6.6	9.0	6.8	5.0	3.2	8.0	0.8	-8.5							
1970	7.5	8.2	6.3	8.3	6.4	4.8	3.3	7.0	1.9	-2.4	4.0						
1971	8.0	8.7	7.1	9.0	7.4	6.1	5.1	8.4	4.8	2.8	9.0	14.3					
1972	8.8	9.5	8.1	9.9	8.6	7.6	7.0	10.1	7.5	6.7	12.3	16.6	19.0				
1973	6.9	7.5	6.0	7.4	6.0	4.9	4.0	6.2	3.5	2.0	4.8	5.1	0.8	-14.7			
1974	4.3	4.6	3.0	4.1	2.5	1.2	0.1	1.4	-1.5	-3.4	-2.4	-3.9	-9.3	-20.8	-26.5		
1975	6.1	6.5	5.2	6.3	5.1	4.1	3.3	4.9	2.7	1.6	3.3	3.2	0.6	-4.9	0.4	37.2	
1976	7.1	7.5	6.3	7.5	6.4	5.6	5.0	6.6	4.9	4.1	6.0	6.4	4.9	1.6	7.7	30.4	23.8

EXHIBIT A-2

LONG-TERM GOVERNMENT BONDS : TOTAL RETURNS

RATES OF RETURN FOR ALL YEARLY HOLDING PERIODS FROM 1926 TO 1976
(PERCENT PER ANNUM COMPOUNDED ANNUALLY)

TO THE END OF	FROM THE BEGINNING OF 1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
1926	7.8																
1927	8.3	8.9															
1928	5.5	4.4	0.1														
1929	5.0	4.1	1.7	3.4													
1930	4.9	4.2	2.7	4.0	4.7												
1931	3.1	2.2	0.6	0.8	-0.5	-5.3											
1932	5.0	4.5	3.7	4.6	5.0	5.2	16.8										
1933	4.4	3.9	3.1	3.7	3.7	3.4	8.1	-0.1									
1934	5.0	4.6	4.0	4.7	4.9	5.0	8.7	4.9	10.0								
1935	5.0	4.7	4.1	4.7	5.0	5.0	7.8	4.9	7.5	5.0							
1936	5.2	4.9	4.5	5.1	5.3	5.4	7.7	5.5	7.5	6.2	7.5						
1937	4.8	4.5	4.1	4.5	4.7	4.7	6.4	4.5	5.6	4.2	3.8	0.2					
1938	4.8	4.6	4.2	4.6	4.8	4.8	6.3	4.6	5.6	4.5	4.4	2.8	5.5				
1939	4.9	4.7	4.3	4.7	4.9	4.9	6.3	4.8	5.7	4.8	4.8	3.9	5.7	5.9			
1940	5.0	4.8	4.5	4.9	5.0	5.0	6.2	5.0	5.7	5.0	5.0	4.4	5.9	6.0	6.1		
1941	4.7	4.5	4.2	4.5	4.6	4.6	5.7	4.5	5.1	4.4	4.3	3.7	4.6	4.3	3.5	0.9	
1942	4.6	4.4	4.2	4.5	4.5	4.5	5.5	4.4	4.9	4.3	4.2	3.6	4.3	4.0	3.4	2.1	3.2
1943	4.5	4.3	4.0	4.3	4.4	4.3	5.2	4.2	4.6	4.0	3.9	3.4	3.9	3.6	3.1	2.1	2.6
1944	4.4	4.2	4.0	4.2	4.3	4.2	5.0	4.1	4.4	3.9	3.8	3.3	3.8	3.5	3.0	2.3	2.7
1945	4.7	4.6	4.3	4.6	4.6	4.6	5.4	4.6	5.0	4.5	4.5	4.1	4.6	4.5	4.3	3.9	4.7
1946	4.5	4.3	4.1	4.3	4.4	4.3	5.0	4.2	4.6	4.1	4.0	3.7	4.1	3.9	3.6	3.2	3.7
1947	4.1	4.0	3.7	3.9	4.0	3.9	4.5	3.8	4.0	3.6	3.5	3.1	3.4	3.2	2.8	2.4	2.6
1948	4.1	4.0	3.7	3.9	3.9	3.9	4.5	3.7	4.0	3.6	3.5	3.1	3.4	3.2	2.9	2.5	2.7
1949	4.2	4.1	3.8	4.0	4.1	4.0	4.6	3.9	4.1	3.8	3.7	3.4	3.6	3.5	3.2	2.9	3.2
1950	4.0	3.9	3.7	3.8	3.9	3.8	4.3	3.7	3.9	3.5	3.4	3.1	3.4	3.2	2.9	2.6	2.8
1951	3.7	3.6	3.3	3.5	3.5	3.4	3.9	3.3	3.4	3.1	3.0	2.7	2.8	2.6	2.4	2.0	2.1
1952	3.6	3.5	3.3	3.4	3.4	3.3	3.8	3.1	3.3	3.0	2.8	2.6	2.7	2.5	2.3	1.9	2.0
1953	3.6	3.5	3.3	3.4	3.4	3.3	3.8	3.2	3.3	3.0	2.9	2.6	2.8	2.6	2.4	2.1	2.2
1954	3.7	3.6	3.4	3.5	3.5	3.5	3.9	3.4	3.5	3.2	3.1	2.9	3.0	2.9	2.7	2.4	2.5
1955	3.6	3.4	3.2	3.4	3.4	3.3	3.7	3.1	3.3	3.0	2.9	2.6	2.8	2.6	2.4	2.2	2.3
1956	3.3	3.1	2.9	3.0	3.0	2.9	3.3	2.8	2.9	2.6	2.5	2.2	2.3	2.1	1.9	1.7	1.7
1957	3.4	3.3	3.1	3.2	3.2	3.1	3.5	2.9	3.1	2.8	2.7	2.5	2.6	2.4	2.2	2.0	2.1
1958	3.1	3.0	2.8	2.9	2.8	2.8	3.1	2.6	2.7	2.4	2.3	2.1	2.1	2.0	1.8	1.5	1.6
1959	2.9	2.8	2.6	2.7	2.7	2.6	2.9	2.4	2.5	2.2	2.1	1.9	1.9	1.8	1.6	1.3	1.4
1960	3.2	3.1	2.9	3.0	3.0	2.9	3.2	2.8	2.9	2.6	2.5	2.3	2.4	2.3	2.1	1.9	2.0
1961	3.2	3.0	2.9	3.0	2.9	2.9	3.2	2.7	2.8	2.6	2.5	2.3	2.4	2.2	2.1	1.9	1.9
1962	3.3	3.1	3.0	3.1	3.1	3.0	3.3	2.9	3.0	2.7	2.6	2.5	2.5	2.4	2.3	2.1	2.2
1963	3.2	3.1	2.9	3.0	3.0	2.9	3.2	2.8	2.9	2.7	2.6	2.4	2.5	2.4	2.2	2.1	2.1
1964	3.2	3.1	2.9	3.0	3.0	3.0	3.2	2.8	2.9	2.7	2.6	2.4	2.5	2.4	2.3	2.1	2.2
1965	3.2	3.0	2.9	3.0	2.9	2.9	3.2	2.8	2.9	2.6	2.6	2.4	2.5	2.4	2.2	2.1	2.1
1966	3.2	3.1	2.9	3.0	3.0	2.9	3.2	2.8	2.9	2.7	2.6	2.4	2.5	2.4	2.3	2.1	2.2
1967	2.9	2.7	2.6	2.6	2.6	2.6	2.8	2.4	2.5	2.3	2.2	2.0	2.1	2.0	1.8	1.7	1.7
1968	2.8	2.7	2.5	2.6	2.6	2.5	2.7	2.4	2.4	2.2	2.1	2.0	2.0	1.9	1.8	1.6	1.6
1969	2.6	2.5	2.3	2.4	2.4	2.3	2.5	2.1	2.2	2.0	1.9	1.7	1.8	1.7	1.5	1.4	1.4
1970	2.8	2.7	2.5	2.6	2.6	2.5	2.7	2.4	2.5	2.3	2.2	2.0	2.1	2.0	1.9	1.7	1.7
1971	3.0	2.9	2.8	2.8	2.8	2.8	3.0	2.7	2.7	2.5	2.5	2.3	2.4	2.3	2.2	2.1	2.1
1972	3.1	3.0	2.8	2.9	2.9	2.8	3.1	2.7	2.8	2.6	2.6	2.4	2.5	2.4	2.3	2.2	2.2
1973	3.0	2.9	2.8	2.8	2.8	2.8	3.0	2.6	2.7	2.5	2.5	2.3	2.4	2.3	2.2	2.1	2.1
1974	3.0	2.9	2.8	2.8	2.8	2.8	3.0	2.7	2.7	2.6	2.5	2.4	2.4	2.4	2.3	2.1	2.2
1975	3.1	3.0	2.9	3.0	3.0	2.9	3.1	2.8	2.9	2.7	2.7	2.5	2.6	2.5	2.4	2.3	2.4
1976	3.4	3.3	3.2	3.2	3.2	3.2	3.4	3.1	3.2	3.0	3.0	2.9	3.0	2.9	2.8	2.7	2.8

EXHIBIT A-2 (cont.)

EXHIBIT A-2 (cont.)

TO THE END OF	FROM THE BEGINNING OF 1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
1943	2.1																
1944	2.4	2.8															
1945	5.1	6.7	10.7														
1946	3.8	4.4	5.2	-0.1													
1947	2.5	2.6	2.5	-1.4	-2.6												
1948	2.6	2.7	2.7	0.2	0.3	3.4											
1949	3.2	3.4	3.5	1.7	2.3	4.9	6.4										
1950	2.8	2.9	2.9	1.4	1.8	3.3	3.2	0.1									
1951	2.0	2.0	1.9	0.5	0.6	1.4	0.8	-2.0	-3.9								
1952	1.9	1.9	1.8	0.6	0.7	1.4	0.9	-0.9	-1.4	1.2							
1953	2.1	2.1	2.0	1.0	1.1	1.7	1.4	0.2	0.2	2.4	3.6						
1954	2.5	2.5	2.5	1.6	1.8	2.5	2.4	1.6	1.9	4.0	5.4	7.2					
1955	2.2	2.2	2.2	1.3	1.5	2.0	1.8	1.1	1.3	2.6	3.1	2.9	-1.3				
1956	1.6	1.6	1.5	0.7	0.8	1.1	0.9	0.1	0.1	0.9	0.9	-0.0	-3.5	-5.6			
1957	2.0	2.0	1.9	1.2	1.4	1.8	1.6	1.0	1.1	2.0	2.2	1.8	0.0	0.7	7.5		
1958	1.5	1.4	1.3	0.6	0.7	1.0	0.8	0.2	0.2	0.8	0.7	0.2	-1.5	-1.6	0.5	-6.1	
1959	1.2	1.2	1.1	0.4	0.5	0.7	0.5	-0.1	-0.1	0.4	0.3	-0.3	-1.7	-1.8	-0.5	-4.2	-2.3
1960	1.9	1.9	1.8	1.3	1.4	1.7	1.5	1.1	1.2	1.8	1.9	1.6	0.7	1.2	2.9	1.5	5.5
1961	1.9	1.8	1.8	1.3	1.3	1.6	1.5	1.1	1.2	1.7	1.8	1.6	0.8	1.1	2.5	1.3	3.9
1962	2.1	2.1	2.1	1.6	1.7	2.0	1.9	1.5	1.7	2.2	2.3	2.1	1.5	1.9	3.2	2.4	4.7
1963	2.1	2.1	2.0	1.6	1.7	1.9	1.8	1.5	1.6	2.1	2.2	2.0	1.5	1.8	2.9	2.2	4.0
1964	2.1	2.1	2.1	1.7	1.8	2.0	1.9	1.6	1.8	2.2	2.3	2.2	1.7	2.0	3.0	2.4	3.9
1965	2.1	2.1	2.0	1.6	1.7	1.9	1.9	1.6	1.7	2.1	2.2	2.1	1.6	1.9	2.8	2.2	3.4
1966	2.1	2.1	2.1	1.7	1.8	2.0	2.0	1.7	1.8	2.2	2.3	2.2	1.8	2.1	2.8	2.3	3.5
1967	1.7	1.6	1.6	1.2	1.2	1.4	1.3	1.1	1.1	1.5	1.5	1.3	0.9	1.1	1.7	1.1	2.0
1968	1.6	1.6	1.5	1.1	1.2	1.4	1.3	1.0	1.0	1.3	1.4	1.2	0.8	1.0	1.5	1.0	1.7
1969	1.3	1.3	1.2	0.9	0.9	1.1	1.0	0.7	0.7	1.0	1.0	0.8	0.4	0.5	1.0	0.5	1.1
1970	1.7	1.7	1.6	1.3	1.3	1.5	1.4	1.2	1.3	1.5	1.6	1.4	1.1	1.3	1.8	1.3	2.0
1971	2.1	2.1	2.0	1.7	1.8	2.0	1.9	1.7	1.8	2.1	2.1	2.1	1.8	2.0	2.5	2.1	2.8
1972	2.2	2.2	2.2	1.9	1.9	2.1	2.1	1.9	2.0	2.3	2.3	2.2	2.0	2.2	2.7	2.4	3.0
1973	2.1	2.1	2.1	1.8	1.8	2.0	1.9	1.8	1.8	2.1	2.2	2.1	1.8	2.0	2.5	2.2	2.7
1974	2.1	2.1	2.1	1.8	1.9	2.1	2.0	1.9	1.9	2.2	2.2	2.2	1.9	2.1	2.6	2.3	2.8
1975	2.4	2.4	2.3	2.1	2.2	2.3	2.3	2.1	2.2	2.5	2.5	2.5	2.3	2.5	2.9	2.7	3.2
1976	2.8	2.8	2.8	2.5	2.6	2.8	2.8	2.6	2.7	3.0	3.1	3.1	2.9	3.1	3.6	3.3	3.9

TO THE END OF	FROM THE BEGINNING OF 1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
1960	13.8																
1961	7.2	1.0															
1962	7.1	3.9	6.9														
1963	5.6	3.0	4.0	1.2													
1964	5.2	3.1	3.8	2.4	3.5												
1965	4.4	2.6	3.0	1.8	2.1	0.7											
1966	4.3	2.8	3.2	2.3	2.6	2.2	3.6										
1967	2.5	1.0	1.0	-0.1	-0.5	-1.8	-3.0	-9.2									
1968	2.2	0.8	0.8	-0.2	-0.4	-1.4	-2.1	-4.8	-0.3								
1969	1.4	0.2	0.1	-0.9	-1.2	-2.1	-2.8	-4.9	-2.7	-5.1							
1970	2.4	1.3	1.3	0.7	0.6	0.1	-0.0	-0.9	2.0	3.2	12.1						
1971	3.2	2.3	2.5	2.0	2.1	1.9	2.1	1.8	4.7	6.4	12.7	13.2					
1972	3.4	2.6	2.8	2.3	2.5	2.3	2.6	2.4	4.9	6.2	10.3	9.4	5.7				
1973	3.1	2.3	2.4	2.0	2.1	2.0	2.1	1.9	3.9	4.7	7.3	5.8	2.2	-1.1			
1974	3.2	2.5	2.6	2.2	2.3	2.2	2.4	2.2	3.9	4.7	6.7	5.4	2.9	1.6	4.4		
1975	3.5	2.9	3.0	2.7	2.9	2.8	3.0	3.0	4.6	5.3	7.1	6.2	4.5	4.1	6.7	9.2	
1976	4.3	3.7	3.9	3.7	3.9	3.9	4.2	4.3	5.9	6.7	8.5	7.9	6.8	7.1	10.0	12.9	16.8

EXHIBIT A-3

LONG-TERM CORPORATE BONDS : TOTAL RETURNS

RATES OF RETURN FOR ALL YEARLY HOLDING PERIODS FROM 1926 TO 1976
(PERCENT PER ANNUM COMPOUNDED ANNUALLY)

TO THE END OF	FROM THE BEGINNING OF 1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
1926	7.4																
1927	7.4	7.4															
1928	5.9	5.1	2.8														
1929	5.2	4.5	3.1	3.3													
1930	5.8	5.4	4.7	5.6	8.0												
1931	4.4	3.9	3.0	3.1	2.9	-1.9											
1932	5.3	5.0	4.5	4.9	5.5	4.3	10.8										
1933	6.0	5.8	5.5	6.0	6.7	6.3	10.6	10.4									
1934	6.8	6.7	6.6	7.3	8.1	8.1	11.7	12.1	13.8								
1935	7.1	7.0	7.0	7.6	8.3	8.4	11.2	11.3	11.7	9.6							
1936	7.1	7.0	7.0	7.5	8.1	8.1	10.3	10.1	10.0	8.2	6.7						
1937	6.7	6.6	6.5	7.0	7.4	7.4	9.0	8.6	8.2	6.3	4.7	2.7					
1938	6.6	6.6	6.5	6.9	7.3	7.2	8.6	8.2	7.8	6.3	5.2	4.4	6.1				
1939	6.4	6.4	6.3	6.6	6.9	6.8	8.0	7.6	7.1	5.8	4.9	4.3	5.0	4.0			
1940	6.2	6.2	6.1	6.3	6.6	6.5	7.5	7.0	6.6	5.4	4.6	4.1	4.5	3.7	3.4		
1941	6.0	5.9	5.8	6.1	6.3	6.1	7.0	6.6	6.1	5.0	4.3	3.8	4.0	3.4	3.1	2.7	
1942	5.8	5.7	5.6	5.8	6.0	5.8	6.6	6.2	5.7	4.7	4.0	3.6	3.8	3.2	2.9	2.7	2.6
1943	5.6	5.5	5.4	5.6	5.8	5.6	6.3	5.8	5.4	4.5	3.9	3.5	3.6	3.1	2.9	2.7	2.7
1944	5.6	5.5	5.4	5.5	5.7	5.5	6.1	5.8	5.3	4.5	4.0	3.6	3.8	3.4	3.3	3.2	3.4
1945	5.5	5.4	5.3	5.5	5.6	5.4	6.0	5.6	5.2	4.5	4.0	3.7	3.8	3.5	3.4	3.4	3.6
1946	5.3	5.2	5.1	5.3	5.4	5.2	5.7	5.3	5.0	4.3	3.8	3.5	3.6	3.3	3.2	3.1	3.2
1947	5.0	4.9	4.7	4.8	4.9	4.7	5.2	4.8	4.4	3.7	3.3	2.9	3.0	2.6	2.4	2.3	2.2
1948	4.9	4.8	4.7	4.8	4.9	4.7	5.1	4.8	4.4	3.8	3.3	3.0	3.1	2.8	2.6	2.5	2.5
1949	4.9	4.8	4.6	4.7	4.8	4.6	5.0	4.7	4.3	3.7	3.3	3.1	3.1	2.8	2.7	2.6	2.6
1950	4.8	4.7	4.5	4.6	4.7	4.5	4.9	4.5	4.2	3.6	3.2	3.0	3.0	2.8	2.6	2.6	2.6
1951	4.5	4.3	4.2	4.3	4.3	4.2	4.5	4.1	3.8	3.2	2.9	2.6	2.6	2.3	2.2	2.1	2.0
1952	4.4	4.3	4.2	4.2	4.3	4.1	4.4	4.1	3.8	3.3	2.9	2.7	2.7	2.4	2.3	2.2	2.2
1953	4.4	4.3	4.2	4.2	4.3	4.1	4.4	4.1	3.8	3.3	2.9	2.7	2.7	2.5	2.4	2.3	2.3
1954	4.4	4.3	4.2	4.3	4.3	4.2	4.4	4.1	3.8	3.4	3.1	2.9	2.9	2.7	2.6	2.5	2.5
1955	4.3	4.2	4.1	4.1	4.2	4.0	4.3	4.0	3.7	3.2	2.9	2.7	2.7	2.5	2.4	2.4	2.4
1956	3.9	3.8	3.7	3.7	3.7	3.6	3.8	3.5	3.2	2.8	2.4	2.2	2.2	2.0	1.9	1.8	1.7
1957	4.1	4.0	3.8	3.9	3.9	3.7	4.0	3.7	3.4	3.0	2.7	2.5	2.5	2.3	2.2	2.2	2.1
1958	3.9	3.8	3.6	3.7	3.7	3.5	3.7	3.5	3.2	2.8	2.5	2.3	2.3	2.1	2.0	1.9	1.9
1959	3.7	3.6	3.5	3.5	3.5	3.4	3.6	3.3	3.0	2.6	2.3	2.2	2.1	1.9	1.8	1.8	1.7
1960	3.9	3.8	3.7	3.7	3.7	3.6	3.7	3.5	3.3	2.9	2.6	2.4	2.4	2.3	2.2	2.1	2.1
1961	3.9	3.8	3.7	3.7	3.7	3.6	3.8	3.5	3.3	2.9	2.7	2.5	2.5	2.4	2.3	2.2	2.2
1962	4.0	3.9	3.8	3.8	3.9	3.7	3.9	3.7	3.5	3.1	2.9	2.7	2.7	2.6	2.5	2.5	2.5
1963	4.0	3.9	3.8	3.8	3.8	3.7	3.9	3.6	3.4	3.1	2.9	2.7	2.7	2.6	2.5	2.5	2.5
1964	4.0	3.9	3.8	3.8	3.8	3.7	3.9	3.7	3.5	3.1	2.9	2.8	2.8	2.7	2.6	2.6	2.6
1965	3.9	3.8	3.7	3.7	3.7	3.6	3.8	3.6	3.3	3.0	2.8	2.7	2.7	2.5	2.5	2.5	2.4
1966	3.8	3.7	3.6	3.6	3.6	3.5	3.7	3.5	3.2	2.9	2.7	2.6	2.6	2.5	2.4	2.4	2.4
1967	3.6	3.5	3.4	3.4	3.4	3.3	3.4	3.2	3.0	2.7	2.5	2.3	2.3	2.2	2.1	2.1	2.1
1968	3.5	3.4	3.3	3.4	3.4	3.2	3.4	3.2	3.0	2.7	2.5	2.3	2.3	2.2	2.2	2.1	2.1
1969	3.3	3.2	3.1	3.1	3.1	2.9	3.1	2.9	2.7	2.4	2.2	2.0	2.0	1.9	1.8	1.7	1.7
1970	3.6	3.5	3.4	3.4	3.4	3.3	3.4	3.2	3.1	2.8	2.6	2.5	2.5	2.3	2.3	2.3	2.2
1971	3.7	3.6	3.6	3.6	3.6	3.5	3.6	3.4	3.3	3.0	2.8	2.7	2.7	2.6	2.6	2.5	2.5
1972	3.8	3.7	3.6	3.7	3.7	3.6	3.7	3.5	3.4	3.1	2.9	2.8	2.8	2.7	2.7	2.7	2.7
1973	3.7	3.7	3.6	3.6	3.6	3.5	3.6	3.5	3.3	3.0	2.9	2.8	2.8	2.7	2.6	2.6	2.6
1974	3.6	3.5	3.4	3.4	3.5	3.4	3.5	3.3	3.1	2.9	2.7	2.6	2.6	2.5	2.5	2.4	2.4
1975	3.8	3.7	3.7	3.7	3.7	3.6	3.7	3.6	3.4	3.2	3.0	2.9	2.9	2.8	2.8	2.8	2.8
1976	4.1	4.0	3.9	4.0	4.0	3.9	4.0	3.9	3.7	3.5	3.4	3.3	3.3	3.2	3.2	3.2	3.2

EXHIBIT A-3 (cont.)

TO THE END OF	FROM THE BEGINNING OF 1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
1943	2.6																

EXHIBIT A-3 (cont.)

TO THE END OF	FROM THE BEGINNING OF 1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
1943	2.8																
1944	3.8	4.7															
1945	3.9	4.4	4.1														
1946	3.3	3.5	2.9	1.7													
1947	2.2	2.0	1.1	-0.3	-2.3												
1948	2.5	2.4	1.9	1.1	0.8	4.1											
1949	2.6	2.6	2.2	1.7	1.7	3.7	3.3										
1950	2.6	2.5	2.1	1.8	1.8	3.2	2.7	2.1									
1951	2.0	1.8	1.4	1.0	0.9	1.7	0.9	-0.3	-2.7								
1952	2.1	2.0	1.7	1.4	1.3	2.0	1.5	0.9	0.4	3.5							
1953	2.2	2.2	1.9	1.6	1.6	2.3	1.9	1.6	1.4	3.5	3.4						
1954	2.5	2.5	2.2	2.0	2.1	2.7	2.5	2.3	2.4	4.1	4.4	5.4					
1955	2.3	2.3	2.1	1.9	1.9	2.4	2.2	2.0	2.0	3.2	3.1	2.9	0.5				
1956	1.8	1.6	1.3	1.1	1.0	1.4	1.0	0.7	0.5	1.1	0.5	-0.4	-3.2	-6.8			
1957	2.1	2.1	1.9	1.7	1.7	2.1	1.8	1.7	1.6	2.3	2.1	1.8	0.6	0.7	8.7		
1958	1.8	1.8	1.6	1.4	1.3	1.7	1.4	1.2	1.1	1.7	1.4	1.0	-0.1	-0.3	3.1	-2.2	
1959	1.7	1.6	1.4	1.2	1.2	1.5	1.2	1.0	0.9	1.3	1.0	0.6	-0.3	-0.5	1.7	-1.6	-1.0
1960	2.1	2.0	1.8	1.7	1.7	2.0	1.8	1.7	1.7	2.2	2.0	1.8	1.2	1.4	3.5	1.8	3.9
1961	2.2	2.2	2.0	1.9	1.9	2.2	2.1	2.0	2.0	2.4	2.3	2.2	1.7	1.9	3.8	2.6	4.2
1962	2.5	2.5	2.3	2.2	2.3	2.6	2.5	2.4	2.4	2.9	2.9	2.8	2.5	2.8	4.5	3.6	5.1
1963	2.5	2.5	2.3	2.2	2.3	2.6	2.5	2.4	2.4	2.9	2.8	2.7	2.4	2.7	4.1	3.4	4.5
1964	2.6	2.6	2.5	2.4	2.4	2.7	2.6	2.6	2.6	3.0	3.0	2.9	2.7	2.9	4.2	3.6	4.6
1965	2.4	2.4	2.3	2.2	2.3	2.5	2.4	2.4	2.4	2.8	2.7	2.6	2.4	2.6	3.7	3.1	3.8
1966	2.3	2.3	2.2	2.1	2.1	2.4	2.3	2.2	2.2	2.6	2.5	2.4	2.2	2.4	3.3	2.7	3.4
1967	2.0	2.0	1.9	1.8	1.8	2.0	1.9	1.8	1.8	2.1	2.0	1.9	1.6	1.7	2.5	1.9	2.4
1968	2.1	2.0	1.9	1.8	1.8	2.0	1.9	1.9	1.8	2.1	2.0	1.9	1.7	1.8	2.5	2.0	2.4
1969	1.7	1.6	1.5	1.4	1.4	1.6	1.4	1.3	1.3	1.5	1.4	1.3	1.0	1.1	1.7	1.1	1.4
1970	2.2	2.2	2.1	2.0	2.0	2.2	2.1	2.1	2.1	2.3	2.3	2.2	2.0	2.1	2.8	2.4	2.7
1971	2.5	2.5	2.4	2.4	2.4	2.6	2.5	2.5	2.5	2.8	2.7	2.7	2.5	2.7	3.3	3.0	3.4
1972	2.7	2.7	2.6	2.5	2.6	2.8	2.7	2.7	2.7	3.0	2.9	2.9	2.8	2.9	3.6	3.2	3.6
1973	2.6	2.6	2.5	2.5	2.5	2.7	2.6	2.6	2.6	2.9	2.9	2.8	2.7	2.8	3.4	3.1	3.5
1974	2.4	2.4	2.3	2.3	2.3	2.5	2.4	2.4	2.4	2.6	2.6	2.5	2.4	2.5	3.1	2.7	3.0
1975	2.8	2.8	2.7	2.7	2.7	2.9	2.9	2.8	2.9	3.1	3.1	3.1	3.0	3.1	3.6	3.4	3.7
1976	3.2	3.2	3.2	3.2	3.2	3.4	3.4	3.4	3.4	3.7	3.7	3.7	3.6	3.8	4.3	4.1	4.5

TO THE END OF	FROM THE BEGINNING OF 1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
1960	9.1																
1961	6.9	4.8															
1962	7.3	6.4	7.9														
1963	6.0	5.0	5.0	2.2													
1964	5.7	4.9	4.9	3.5	4.8												
1965	4.7	3.8	3.6	2.1	2.1	-0.5											
1966	4.0	3.2	2.9	1.7	1.5	-0.1	0.2										
1967	2.9	2.0	1.5	0.3	-0.2	-1.8	-2.4	-5.0									
1968	2.8	2.1	1.7	0.7	0.4	-0.7	-0.8	-1.3	2.6								
1969	1.7	0.9	0.4	-0.6	-1.1	-2.2	-2.7	-3.6	-2.9	-8.1							
1970	3.1	2.5	2.3	1.6	1.5	0.9	1.2	1.5	3.7	4.3	18.4						
1971	3.7	3.3	3.1	2.6	2.6	2.3	2.8	3.3	5.5	6.5	14.6	11.0					
1972	4.0	3.6	3.5	3.0	3.1	2.9	3.4	4.0	5.8	6.7	12.1	9.1	7.3				
1973	3.8	3.4	3.3	2.9	2.9	2.7	3.1	3.6	5.0	5.6	9.3	6.4	4.2	1.1			
1974	3.3	2.9	2.8	2.4	2.4	2.1	2.4	2.7	3.9	4.1	6.7	3.9	1.7	-1.0	-3.1		
1975	4.0	3.7	3.6	3.3	3.3	3.2	3.6	4.0	5.1	5.5	8.0	6.0	4.8	4.0	5.4	14.6	
1976	4.6	4.5	4.5	4.3	4.4	4.4	4.9	5.4	6.6	7.1	9.4	8.0	7.4	7.5	9.7	16.6	18.6

EXHIBIT A-4

U.S. TREASURY BILLS : TOTAL RETURNS

RATES OF RETURN FOR ALL YEARLY HOLDING PERIODS FROM 1926 TO 1976
(PERCENT PER ANNUM COMPOUNDED ANNUALLY)

TO THE END OF	FROM THE BEGINNING OF 1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
1926	3.3																
1927	3.2	3.1															
1928	3.2	3.2	3.2														
1929	3.6	3.7	4.0	4.7													
1930	3.4	3.4	3.5	3.6	2.4												
1931	3.0	2.9	2.9	2.7	1.7	1.1											
1932	2.7	2.6	2.5	2.3	1.5	1.0	1.0										
1933	2.4	2.3	2.1	1.9	1.2	0.8	0.6	0.3									
1934	2.1	2.0	1.8	1.6	1.0	0.6	0.5	0.2	0.2								
1935	1.9	1.8	1.6	1.4	0.8	0.5	0.4	0.2	0.2	0.2							
1936	1.8	1.6	1.5	1.2	0.7	0.5	0.4	0.2	0.2	0.2	0.2						
1937	1.7	1.5	1.3	1.1	0.7	0.4	0.3	0.2	0.2	0.2	0.2	0.3					
1938	1.5	1.4	1.2	1.0	0.6	0.4	0.3	0.2	0.2	0.2	0.2	0.1	-0.0				
1939	1.4	1.3	1.1	0.9	0.6	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0			
1940	1.3	1.2	1.0	0.9	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0		
1941	1.2	1.1	1.0	0.8	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	
1942	1.2	1.1	0.9	0.8	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3
1943	1.1	1.0	0.9	0.7	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3
1944	1.1	1.0	0.8	0.7	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.3
1945	1.1	0.9	0.8	0.7	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
1946	1.0	0.9	0.8	0.7	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
1947	1.0	0.9	0.8	0.7	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4
1948	1.0	0.9	0.8	0.7	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4
1949	1.0	0.9	0.8	0.7	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5
1950	1.0	0.9	0.8	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6
1951	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.7
1952	1.0	1.0	0.9	0.8	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.8
1953	1.1	1.0	0.9	0.8	0.7	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.8
1954	1.1	1.0	0.9	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9
1955	1.1	1.0	0.9	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.9
1956	1.1	1.1	1.0	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9	0.9	1.0
1957	1.2	1.1	1.1	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.1	1.1
1958	1.2	1.1	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.2
1959	1.3	1.2	1.1	1.1	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.2	1.3
1960	1.3	1.2	1.2	1.1	1.0	1.0	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3
1961	1.3	1.3	1.2	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.3	1.3	1.4
1962	1.4	1.3	1.2	1.2	1.1	1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4
1963	1.4	1.3	1.3	1.2	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.5
1964	1.5	1.4	1.4	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.6
1965	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7
1966	1.6	1.5	1.5	1.5	1.4	1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8
1967	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9
1968	1.7	1.7	1.7	1.6	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.8	1.8	1.9	2.0	2.0
1969	1.8	1.8	1.8	1.7	1.7	1.6	1.7	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.2
1970	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.3	2.3
1971	2.0	2.0	1.9	1.9	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.3	2.3	2.4
1972	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.4	2.4
1973	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.4	2.4	2.5	2.6
1974	2.3	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.6	2.7	2.7
1975	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.7	2.8	2.8
1976	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.7	2.7	2.8	2.9

EXHIBIT A-4 (cont.)

TO THE END OF	FROM THE BEGINNING OF 1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
1943	0.3																
1944	0.3	0.3															
1945	0.3	0.3	0.3														
1946	0.3	0.3	0.3	0.4													
1947	0.4	0.4	0.4	0.4	0.5												
1948	0.4	0.5	0.5	0.6	0.7	0.8											
1949	0.5	0.6	0.6	0.7	0.8	1.0	1.1										
1950	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.2									
1951	0.7	0.8	0.8	0.9	1.0	1.2	1.3	1.3	1.5								
1952	0.8	0.9	0.9	1.0	1.1	1.3	1.4	1.4	1.6	1.7							
1953	0.9	1.0	1.0	1.1	1.2	1.3	1.5	1.5	1.7	1.7	1.8						
1954	0.9	0.9	1.0	1.1	1.2	1.3	1.4	1.4	1.5	1.4	1.3	0.9					
1955	1.0	1.0	1.1	1.1	1.2	1.3	1.4	1.4	1.5	1.5	1.4	1.2	1.6				
1956	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.7	1.6	2.0	2.5			
1957	1.2	1.3	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.9	2.0	2.0	2.4	2.8	3.1		
1958	1.2	1.3	1.3	1.4	1.5	1.6	1.7	1.7	1.8	1.9	1.9	1.9	2.2	2.4	2.3	1.5	
1959	1.3	1.4	1.4	1.5	1.6	1.7	1.8	1.9	1.9	2.0	2.0	2.1	2.3	2.5	2.5	2.2	3.0
1960	1.4	1.5	1.5	1.6	1.7	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.4	2.5	2.6	2.4	2.8
1961	1.4	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.0	2.1	2.1	2.2	2.3	2.5	2.5	2.3	2.6
1962	1.5	1.6	1.6	1.7	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.2	2.4	2.5	2.5	2.4	2.6
1963	1.6	1.6	1.7	1.8	1.9	2.0	2.0	2.1	2.2	2.2	2.3	2.3	2.5	2.6	2.6	2.5	2.7
1964	1.7	1.7	1.8	1.9	2.0	2.0	2.1	2.2	2.3	2.3	2.4	2.4	2.6	2.7	2.7	2.7	2.9
1965	1.8	1.8	1.9	2.0	2.1	2.1	2.2	2.3	2.4	2.4	2.5	2.5	2.7	2.8	2.9	2.8	3.0
1966	1.9	1.9	2.0	2.1	2.2	2.3	2.4	2.4	2.5	2.6	2.7	2.7	2.9	3.0	3.0	3.0	3.2
1967	2.0	2.0	2.1	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.8	2.8	3.0	3.1	3.2	3.2	3.3
1968	2.1	2.2	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.8	2.9	3.0	3.1	3.3	3.3	3.3	3.5
1969	2.3	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.0	3.1	3.2	3.4	3.5	3.6	3.6	3.8
1970	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.0	3.1	3.2	3.3	3.4	3.6	3.7	3.8	3.8	4.0
1971	2.5	2.6	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.4	3.6	3.7	3.8	3.9	4.0
1972	2.5	2.6	2.7	2.8	2.9	3.0	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
1973	2.7	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.6	3.8	3.9	4.0	4.1	4.2
1974	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.8	4.0	4.1	4.2	4.3	4.5
1975	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.7	3.8	3.9	4.1	4.2	4.3	4.4	4.5
1976	3.0	3.1	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.6

TO THE END OF	FROM THE BEGINNING OF 1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
1960	2.7																
1961	2.4	2.1															
1962	2.5	2.4	2.7														
1963	2.7	2.7	2.9	3.1													
1964	2.8	2.9	3.1	3.3	3.5												
1965	3.0	3.1	3.3	3.5	3.7	3.9											
1966	3.3	3.4	3.6	3.8	4.1	4.3	4.8										
1967	3.4	3.5	3.7	3.9	4.1	4.3	4.5	4.2									
1968	3.6	3.7	3.9	4.1	4.3	4.5	4.7	4.7	5.2								
1969	3.9	4.0	4.3	4.5	4.7	4.9	5.2	5.3	5.9	6.6							
1970	4.1	4.3	4.5	4.7	5.0	5.2	5.5	5.6	6.1	6.6	6.5						
1971	4.1	4.3	4.5	4.7	4.9	5.1	5.3	5.4	5.7	5.8	5.5	4.4					
1972	4.1	4.2	4.4	4.6	4.8	4.9	5.1	5.1	5.3	5.3	4.9	4.1	3.8				
1973	4.3	4.4	4.6	4.8	5.0	5.1	5.3	5.4	5.6	5.6	5.4	5.0	5.4	6.9			
1974	4.6	4.7	4.9	5.1	5.3	5.4	5.6	5.7	5.9	6.0	5.9	5.8	6.2	7.5	8.0		
1975	4.6	4.8	5.0	5.1	5.3	5.5	5.6	5.7	5.9	6.0	5.9	5.8	6.1	6.9	6.9	5.8	
1976	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.6	5.8	5.9	5.8	5.7	5.9	6.4	6.3	5.4	5.1

EXHIBIT A-5

CONSUMER PRICE INDEX : INFLATION RATES

RATES OF RETURN FOR ALL YEARLY HOLDING PERIODS FROM 1926 TO 1976
(PERCENT PER ANNUM COMPOUNDED ANNUALLY)

TO THE END OF	FROM THE BEGINNING OF 1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
1926	-1.5																
1927	-1.8	-2.1															
1928	-1.5	-1.5	-1.0														
1929	-1.1	-1.0	-0.4	0.2													
1930	-2.1	-2.2	-2.3	-3.0	-6.0												
1931	-3.4	-3.7	-4.2	-5.2	-7.8	-9.5											
1932	-4.4	-4.9	-5.4	-6.5	-8.6	-9.9	-10.3										
1933	-3.8	-4.1	-4.5	-5.1	-6.4	-6.6	-5.0	0.5									
1934	-3.2	-3.4	-3.6	-4.0	-4.8	-4.5	-2.7	1.3	2.0								
1935	-2.6	-2.7	-2.8	-3.0	-3.5	-3.0	-1.3	1.8	2.5	3.0							
1936	-2.2	-2.3	-2.3	-2.5	-2.9	-2.3	-0.8	1.7	2.1	2.1	1.2						
1937	-1.8	-1.8	-1.8	-1.9	-2.1	-1.6	-0.2	2.0	2.3	2.4	2.2	3.1					
1938	-1.9	-1.9	-1.9	-2.0	-2.2	-1.7	-0.6	1.2	1.3	1.1	0.5	0.1	-2.8				
1939	-1.8	-1.8	-1.8	-1.8	-2.0	-1.6	-0.6	0.9	1.0	0.8	0.2	-0.1	-1.6	-0.5			
1940	-1.6	-1.6	-1.6	-1.6	-1.8	-1.3	-0.4	0.9	1.0	0.8	0.4	0.2	-0.8	0.2	1.0		
1941	-0.9	-0.9	-0.8	-0.8	-0.9	-0.4	0.6	1.9	2.0	2.0	1.9	2.0	1.7	3.3	5.2	9.7	
1942	-0.3	-0.3	-0.2	-0.1	-0.1	0.4	1.3	2.6	2.8	2.9	2.9	3.2	3.2	4.8	6.6	9.5	9.3
1943	-0.2	-0.1	0.0	0.1	0.1	0.6	1.5	2.6	2.9	2.9	2.9	3.2	3.2	4.4	5.7	7.3	6.2
1944	-0.0	0.0	0.2	0.2	0.2	0.7	1.5	2.6	2.8	2.9	2.8	3.1	3.0	4.1	5.0	6.0	4.8
1945	0.1	0.2	0.3	0.4	0.4	0.8	1.6	2.6	2.7	2.8	2.8	3.0	2.9	3.8	4.5	5.2	4.2
1946	0.9	1.0	1.2	1.3	1.3	1.8	2.6	3.6	3.9	4.0	4.1	4.4	4.5	5.5	6.4	7.3	6.8
1947	1.2	1.4	1.5	1.7	1.7	2.2	3.0	4.0	4.2	4.4	4.5	4.8	5.0	5.9	6.7	7.5	7.2
1948	1.3	1.4	1.6	1.7	1.8	2.3	3.0	3.9	4.1	4.3	4.4	4.6	4.8	5.6	6.2	6.9	6.5
1949	1.2	1.3	1.4	1.5	1.6	2.0	2.7	3.5	3.7	3.8	3.9	4.1	4.2	4.9	5.4	5.9	5.5
1950	1.3	1.5	1.6	1.7	1.8	2.2	2.9	3.7	3.9	4.0	4.0	4.2	4.3	4.9	5.4	5.9	5.5
1951	1.5	1.6	1.8	1.9	2.0	2.4	3.0	3.8	4.0	4.1	4.1	4.3	4.4	5.0	5.5	5.9	5.5
1952	1.5	1.6	1.8	1.9	1.9	2.3	2.9	3.6	3.8	3.9	4.0	4.1	4.2	4.7	5.1	5.5	5.1
1953	1.5	1.6	1.7	1.8	1.9	2.2	2.8	3.5	3.6	3.7	3.8	3.9	4.0	4.4	4.8	5.1	4.7
1954	1.4	1.5	1.6	1.7	1.8	2.1	2.7	3.3	3.4	3.5	3.5	3.7	3.7	4.1	4.4	4.7	4.3
1955	1.4	1.5	1.6	1.7	1.7	2.1	2.6	3.2	3.3	3.4	3.4	3.5	3.5	3.9	4.2	4.4	4.0
1956	1.4	1.5	1.6	1.7	1.8	2.1	2.6	3.2	3.3	3.3	3.3	3.5	3.5	3.8	4.1	4.3	3.9
1957	1.5	1.5	1.7	1.8	1.8	2.1	2.6	3.2	3.3	3.3	3.3	3.4	3.5	3.8	4.0	4.2	3.9
1958	1.5	1.6	1.7	1.8	1.8	2.1	2.6	3.1	3.2	3.3	3.3	3.4	3.4	3.7	3.9	4.1	3.8
1959	1.5	1.6	1.7	1.8	1.8	2.1	2.5	3.0	3.1	3.2	3.2	3.3	3.3	3.6	3.8	3.9	3.6
1960	1.5	1.6	1.7	1.7	1.8	2.1	2.5	3.0	3.1	3.1	3.1	3.2	3.2	3.5	3.7	3.8	3.5
1961	1.4	1.5	1.6	1.7	1.8	2.0	2.4	2.9	3.0	3.0	3.0	3.1	3.1	3.4	3.5	3.7	3.4
1962	1.4	1.5	1.6	1.7	1.7	2.0	2.4	2.8	2.9	3.0	3.0	3.0	3.0	3.3	3.4	3.6	3.3
1963	1.4	1.5	1.6	1.7	1.7	2.0	2.4	2.8	2.9	2.9	2.9	3.0	3.0	3.2	3.4	3.5	3.2
1964	1.4	1.5	1.6	1.7	1.7	2.0	2.3	2.8	2.8	2.9	2.9	2.9	2.9	3.1	3.3	3.4	3.1
1965	1.4	1.5	1.6	1.7	1.7	2.0	2.3	2.7	2.8	2.8	2.8	2.9	2.9	3.1	3.2	3.3	3.1
1966	1.5	1.6	1.7	1.7	1.8	2.0	2.4	2.8	2.8	2.8	2.8	2.9	2.9	3.1	3.2	3.3	3.1
1967	1.5	1.6	1.7	1.8	1.8	2.0	2.4	2.8	2.8	2.8	2.8	2.9	2.9	3.1	3.2	3.3	3.1
1968	1.6	1.7	1.8	1.8	1.9	2.1	2.4	2.8	2.9	2.9	2.9	3.0	3.0	3.1	3.3	3.4	3.1
1969	1.7	1.8	1.9	1.9	2.0	2.2	2.5	2.9	3.0	3.0	3.0	3.0	3.0	3.2	3.4	3.5	3.2
1970	1.8	1.9	2.0	2.0	2.1	2.3	2.6	3.0	3.0	3.1	3.1	3.1	3.1	3.3	3.4	3.5	3.3
1971	1.8	1.9	2.0	2.1	2.1	2.3	2.6	3.0	3.0	3.1	3.1	3.1	3.1	3.3	3.4	3.5	3.3
1972	1.9	1.9	2.0	2.1	2.1	2.3	2.6	3.0	3.1	3.1	3.1	3.1	3.1	3.3	3.4	3.5	3.3
1973	2.0	2.1	2.2	2.2	2.3	2.5	2.8	3.1	3.2	3.2	3.2	3.3	3.3	3.5	3.6	3.7	3.5
1974	2.2	2.3	2.4	2.4	2.5	2.7	3.0	3.3	3.4	3.4	3.4	3.5	3.5	3.7	3.8	3.9	3.7
1975	2.3	2.4	2.5	2.5	2.6	2.8	3.1	3.4	3.5	3.5	3.5	3.6	3.6	3.8	3.9	4.0	3.8
1976	2.3	2.4	2.5	2.6	2.6	2.8	3.1	3.4	3.5	3.6	3.6	3.6	3.6	3.8	3.9	4.0	3.9

EXHIBIT A-5 (cont.)

EXHIBIT A-5 (cont.)

TO THE END OF	FROM THE BEGINNING OF 1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
1943	3.2																
1944	2.6	2.1															
1945	2.5	2.2	2.3														
1946	6.2	7.3	9.9	18.2													
1947	6.8	7.7	9.6	13.5	9.0												
1948	6.1	6.7	7.8	9.8	5.8	2.7											
1949	4.9	5.2	5.8	6.8	3.2	0.4	-1.8										
1950	5.0	5.3	5.8	6.6	3.8	2.2	1.9	5.8									
1951	5.1	5.4	5.8	6.5	4.3	3.1	3.2	5.8	5.9								
1952	4.7	4.9	5.2	5.6	3.7	2.6	2.6	4.2	3.3	0.9							
1953	4.3	4.4	4.7	5.0	3.2	2.3	2.2	3.3	2.4	0.8	0.6						
1954	3.9	4.0	4.2	4.4	2.8	1.9	1.8	2.5	1.7	0.3	0.1	-0.5					
1955	3.6	3.7	3.8	4.0	2.5	1.7	1.6	2.1	1.4	0.3	0.2	-0.1	0.4				
1956	3.6	3.6	3.7	3.9	2.5	1.8	1.7	2.2	1.7	0.8	0.8	0.9	1.6	2.9			
1957	3.5	3.6	3.7	3.8	2.6	2.0	1.9	2.3	1.9	1.2	1.3	1.4	2.1	2.9	3.0		
1958	3.4	3.4	3.5	3.6	2.5	1.9	1.9	2.3	1.8	1.3	1.3	1.5	2.0	2.5	2.4	1.8	
1959	3.3	3.3	3.4	3.5	2.4	1.9	1.8	2.2	1.8	1.3	1.4	1.5	1.9	2.3	2.1	1.6	1.5
1960	3.2	3.2	3.3	3.3	2.4	1.9	1.8	2.1	1.8	1.3	1.4	1.5	1.8	2.1	1.9	1.6	1.5
1961	3.1	3.1	3.1	3.2	2.2	1.8	1.7	2.0	1.7	1.3	1.3	1.4	1.7	1.9	1.7	1.4	1.2
1962	3.0	3.0	3.0	3.1	2.2	1.7	1.7	1.9	1.6	1.3	1.3	1.4	1.6	1.8	1.6	1.3	1.2
1963	2.9	2.9	2.9	3.0	2.2	1.7	1.7	1.9	1.6	1.3	1.3	1.4	1.6	1.8	1.6	1.4	1.3
1964	2.8	2.8	2.9	2.9	2.1	1.7	1.6	1.9	1.6	1.3	1.3	1.4	1.6	1.7	1.6	1.4	1.3
1965	2.8	2.8	2.8	2.8	2.1	1.7	1.7	1.9	1.6	1.3	1.4	1.4	1.6	1.7	1.6	1.4	1.4
1966	2.8	2.8	2.8	2.9	2.2	1.8	1.8	2.0	1.7	1.5	1.5	1.6	1.7	1.9	1.8	1.6	1.6
1967	2.8	2.8	2.8	2.9	2.2	1.9	1.8	2.0	1.8	1.6	1.6	1.7	1.8	2.0	1.9	1.8	1.8
1968	2.9	2.9	2.9	3.0	2.3	2.0	2.0	2.2	2.0	1.7	1.8	1.9	2.0	2.2	2.1	2.0	2.1
1969	3.0	3.0	3.0	3.1	2.5	2.2	2.2	2.4	2.2	2.0	2.0	2.1	2.3	2.5	2.4	2.4	2.4
1970	3.1	3.1	3.1	3.2	2.6	2.3	2.3	2.5	2.3	2.2	2.2	2.3	2.5	2.7	2.6	2.6	2.7
1971	3.1	3.1	3.1	3.2	2.6	2.4	2.4	2.5	2.4	2.2	2.3	2.4	2.6	2.7	2.7	2.7	2.7
1972	3.1	3.1	3.2	3.2	2.7	2.4	2.4	2.6	2.4	2.3	2.3	2.4	2.6	2.7	2.7	2.7	2.8
1973	3.3	3.3	3.3	3.4	2.9	2.6	2.6	2.8	2.7	2.6	2.6	2.8	2.9	3.1	3.1	3.1	3.2
1974	3.6	3.6	3.6	3.7	3.2	3.0	3.0	3.2	3.1	3.0	3.1	3.2	3.4	3.5	3.6	3.6	3.7
1975	3.7	3.7	3.7	3.8	3.3	3.1	3.1	3.3	3.2	3.1	3.2	3.4	3.5	3.7	3.7	3.8	3.9
1976	3.7	3.7	3.8	3.8	3.4	3.2	3.2	3.4	3.3	3.2	3.3	3.4	3.6	3.8	3.8	3.8	4.0

TO THE END OF	FROM THE BEGINNING OF 1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
1960	1.5																
1961	1.1	0.7															
1962	1.1	0.9	1.2														
1963	1.3	1.2	1.4	1.6													
1964	1.2	1.2	1.4	1.4	1.2												
1965	1.4	1.3	1.5	1.6	1.6	1.9											
1966	1.6	1.7	1.9	2.0	2.2	2.6	3.4										
1967	1.8	1.9	2.1	2.2	2.4	2.8	3.2	3.0									
1968	2.1	2.2	2.4	2.6	2.8	3.3	3.7	3.9	4.7								
1969	2.5	2.6	2.9	3.1	3.4	3.8	4.3	4.6	5.4	6.1							
1970	2.8	2.9	3.2	3.4	3.7	4.1	4.5	4.8	5.4	5.8	5.5						
1971	2.8	3.0	3.2	3.4	3.6	4.0	4.3	4.5	4.9	5.0	4.4	3.4					
1972	2.9	3.0	3.2	3.4	3.6	3.9	4.2	4.3	4.6	4.6	4.1	3.4	3.4				
1973	3.3	3.4	3.7	3.9	4.1	4.4	4.8	5.0	5.3	5.4	5.2	5.2	6.1	8.8			
1974	3.9	4.0	4.3	4.6	4.8	5.2	5.6	5.9	6.3	6.5	6.6	6.9	8.1	10.5	12.2		
1975	4.1	4.2	4.5	4.7	5.0	5.4	5.7	6.0	6.4	6.6	6.7	6.9	7.8	9.3	9.6	7.0	
1976	4.1	4.3	4.5	4.8	5.0	5.3	5.6	5.9	6.2	6.4	6.4	6.6	7.2	8.2	8.0	5.9	4.8

APPENDIX B
MONTHLY RETURNS AND CUMULATIVE WEALTH INDICES, JANUARY 1926 TO DECEMBER 1976

EXHIBIT B-1

JAN 1926 - DEC 1976 COMMON STOCKS : TOTAL RETURNS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	-0.0000	-0.0385	-0.0575	0.0253	0.0179	0.0457	0.0479	0.0248	0.0252	-0.0284	0.0347	0.0196	1926	0.1162
1927	-0.0193	0.0537	0.0087	0.0201	0.0607	-0.0067	0.0670	0.0515	0.0450	-0.0502	0.0721	0.0279	1927	0.3749
1928	-0.0040	-0.0125	0.1111	0.0345	0.0197	-0.0385	0.0141	0.0803	0.0259	0.0168	0.1292	0.0049	1928	0.4361
1929	0.0583	-0.0019	-0.0012	0.0176	-0.0362	0.1140	0.0471	0.1028	-0.0476	-0.1973	-0.1246	0.0282	1929	-0.0842
1930	0.0639	0.0259	0.0612	-0.0080	-0.0096	-0.1625	0.0386	0.0141	-0.1282	-0.0855	-0.0089	-0.0706	1930	-0.2490
1931	0.0502	0.1193	-0.0675	-0.0935	-0.1279	0.1421	-0.0722	0.0182	-0.2973	0.0896	-0.0798	-0.1400	1931	-0.4334
1932	-0.0271	0.0570	-0.1158	-0.1997	-0.2196	-0.0022	0.3815	0.3869	-0.0346	-0.1349	-0.0417	0.0565	1932	-0.0819
1933	0.0087	-0.1772	0.0353	0.4256	0.1683	0.1338	-0.0862	0.1206	-0.1118	-0.0855	0.1127	0.0253	1933	0.5399
1934	0.1069	-0.0322	-0.0000	-0.0251	-0.0736	0.0229	-0.1131	0.0611	-0.0033	-0.0286	0.0942	-0.0010	1934	-0.0144
1935	-0.0411	-0.0341	-0.0286	0.0980	0.0409	0.0699	0.0850	0.0280	0.0256	0.0777	0.0474	0.0394	1935	0.4767
1936	0.0670	0.0224	0.0268	-0.0751	0.0545	0.0333	0.0701	0.0151	0.0031	0.0775	0.0134	-0.0029	1936	0.3392
1937	0.0390	0.0191	-0.0677	-0.0809	-0.0024	-0.0504	0.1045	-0.0483	-0.1403	-0.0981	-0.0866	-0.0459	1937	-0.3503
1938	0.0152	0.0674	-0.2487	0.1447	-0.0330	0.2503	0.0744	-0.0226	0.0166	0.0776	-0.0273	0.0401	1938	0.3112
1939	-0.0674	0.0390	-0.1339	-0.0027	0.0733	-0.0612	0.1105	-0.0648	0.1673	-0.0123	-0.0398	0.0270	1939	-0.0041
1940	-0.0336	0.0133	0.0124	-0.0024	-0.2289	0.0809	0.0341	0.0350	0.0123	0.0422	-0.0316	0.0009	1940	-0.0978
1941	-0.0463	-0.0060	0.0071	-0.0612	0.0183	0.0578	0.0579	0.0010	-0.0068	-0.0657	-0.0284	-0.0407	1941	-0.1159
1942	0.0161	-0.0159	-0.0652	-0.0400	0.0796	0.0221	0.0337	0.0164	0.0290	0.0678	-0.0021	0.0549	1942	0.2034
1943	0.0737	0.0583	0.0545	0.0035	0.0552	0.0223	-0.0526	0.0171	0.0263	-0.0108	-0.0654	0.0617	1943	0.2590
1944	0.0171	0.0042	0.0195	-0.0100	0.0505	0.0543	-0.0193	0.0157	-0.0008	0.0023	0.0133	0.0374	1944	0.1975
1945	0.0158	0.0683	-0.0441	0.0902	0.0195	-0.0007	-0.0180	0.0641	0.0438	0.0322	0.0396	0.0116	1945	0.3644
1946	0.0714	-0.0641	0.0480	0.0393	0.0288	-0.0370	-0.0239	-0.0674	-0.0997	-0.0060	-0.0027	0.0457	1946	-0.0807
1947	0.0255	-0.0077	-0.0149	-0.0363	0.0014	0.0554	0.0381	-0.0203	-0.0111	0.0238	-0.0175	0.0233	1947	0.0571
1948	-0.0379	-0.0388	0.0793	0.0292	0.0879	0.0054	-0.0508	0.0158	-0.0276	0.0710	-0.0961	0.0346	1948	0.0550
1949	0.0039	-0.0296	0.0328	-0.0179	-0.0258	0.0014	0.0650	0.0219	0.0263	0.0340	0.0175	0.0486	1949	0.1879
1950	0.0197	0.0199	0.0070	0.0486	0.0509	-0.0548	0.0119	0.0443	0.0592	0.0093	0.0169	0.0513	1950	0.3171
1951	0.0637	0.0157	-0.0156	0.0509	-0.0299	-0.0228	0.0711	0.0478	0.0013	-0.0103	0.0096	0.0424	1951	0.2402
1952	0.0181	-0.0282	0.0503	-0.0402	0.0343	0.0490	0.0196	-0.0071	-0.0176	0.0020	0.0571	0.0382	1952	0.1837
1953	-0.0049	-0.0106	-0.0212	-0.0237	0.0077	-0.0134	0.0273	-0.0501	0.0034	0.0540	0.0204	0.0053	1953	-0.0099
1954	0.0536	0.0111	0.0325	0.0516	0.0418	0.0031	0.0589	-0.0275	0.0851	-0.0167	0.0909	0.0534	1954	0.5262
1955	0.0197	0.0098	-0.0030	0.0396	0.0055	0.0841	0.0621	-0.0025	0.0130	-0.0284	0.0827	0.0015	1955	0.3156
1956	-0.0347	0.0413	0.0710	-0.0004	-0.0593	0.0409	0.0530	-0.0328	-0.0440	0.0066	-0.0050	0.0370	1956	0.0656
1957	-0.0401	-0.0264	0.0215	0.0388	0.0437	0.0004	0.0131	-0.0505	-0.0602	-0.0302	0.0231	-0.0395	1957	-0.1078
1958	0.0445	-0.0141	0.0326	0.0337	0.0212	0.0279	0.0449	0.0176	0.0501	0.0270	0.0284	0.0535	1958	0.4336
1959	0.0053	0.0049	0.0020	0.0402	0.0240	-0.0022	0.0363	-0.0102	-0.0443	0.0128	0.0186	0.0292	1959	0.1195
1960	-0.0700	0.0147	-0.0123	-0.0161	0.0326	0.0211	-0.0234	0.0317	-0.0590	-0.0007	0.0465	0.0479	1960	0.0047
1961	0.0645	0.0319	0.0270	0.0051	0.0239	-0.0275	0.0342	0.0243	-0.0184	0.0298	0.0447	0.0046	1961	0.2689
1962	-0.0366	0.0209	-0.0046	-0.0607	-0.0811	-0.0803	0.0652	0.0208	-0.0465	0.0064	0.1086	0.0153	1962	-0.0873
1963	0.0506	-0.0239	0.0370	0.0500	0.0193	-0.0188	-0.0022	0.0535	-0.0097	0.0339	-0.0046	0.0262	1963	0.2280
1964	0.0283	0.0147	0.0165	0.0075	0.0162	0.0178	0.0195	-0.0118	0.0301	0.0096	0.0005	0.0056	1964	0.1648
1965	0.0345	0.0031	-0.0133	0.0356	-0.0030	-0.0473	0.0147	0.0272	0.0334	0.0289	-0.0031	0.0106	1965	0.1245
1966	0.0062	-0.0131	-0.0205	0.0220	-0.0492	-0.0146	-0.0120	-0.0725	-0.0053	0.0494	0.0095	0.0002	1966	-0.1006
1967	0.0798	0.0072	0.0409	0.0437	-0.0477	0.0190	0.0468	-0.0070	0.0342	-0.0276	0.0065	0.0278	1967	0.2398
1968	-0.0425	-0.0261	0.0110	0.0834	0.0161	0.0105	-0.0172	0.0164	0.0400	0.0087	0.0531	-0.0402	1968	0.1106
1969	-0.0068	-0.0426	0.0359	0.0229	0.0026	-0.0542	-0.0587	0.0454	-0.0236	0.0459	-0.0297	-0.0177	1969	-0.0850
1970	-0.0743	0.0586	0.0030	-0.0889	-0.0547	-0.0482	0.0752	0.0509	0.0347	-0.0097	0.0536	0.0584	1970	0.0401
1971	0.0419	0.0141	0.0382	0.0377	-0.0367	0.0021	-0.0399	0.0412	-0.0056	-0.0404	0.0027	0.0877	1971	0.1431
1972	0.0194	0.0299	0.0072	0.0057	0.0219	-0.0205	0.0036	0.0391	-0.0036	0.0107	0.0505	0.0131	1972	0.1898
1973	-0.0159	-0.0333	-0.0002	-0.0395	-0.0139	-0.0051	0.0354	-0.0318	0.0415	0.0003	-0.1082	0.0183	1973	-0.1466
1974	-0.0995	0.0019	-0.0217	-0.0373	-0.0272	0.1017	-0.1722	-0.0828	-0.1170	0.1657	-0.0448	-0.0177	1974	-0.2648
1975	0.1251	0.0674	0.0237	0.0493	0.0509	0.0462	-0.0659	-0.0144	-0.0328	0.0637	0.0313	-0.0096	1975	0.3720
1976	0.1199	-0.0058	0.0326	-0.0099	-0.0073	0.0427	-0.0068	0.0014	0.0247	-0.0206	-0.0009	0.0540	1976	0.2384

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-2

JAN 1926 - DEC 1976 COMMON STOCKS : INCOME

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	0.0016	0.0055	0.0016	0.0026	0.0102	0.0025	0.0024	0.0078	0.0023	0.0030	0.0123	0.0030	1926	0.0562
1927	0.0015	0.0061	0.0022	0.0029	0.0085	0.0027	0.0020	0.0070	0.0018	0.0029	0.0105	0.0029	1927	0.0520
1928	0.0011	0.0051	0.0017	0.0021	0.0071	0.0020	0.0016	0.0062	0.0019	0.0023	0.0092	0.0021	1928	0.0432
1929	0.0012	0.0039	0.0012	0.0016	0.0066	0.0016	0.0014	0.0048	0.0013	0.0020	0.0091	0.0029	1929	0.0382
1930	0.0014	0.0044	0.0013	0.0016	0.0068	0.0020	0.0020	0.0066	0.0019	0.0032	0.0130	0.0036	1930	0.0488
1931	0.0013	0.0050	0.0017	0.0024	0.0093	0.0031	0.0020	0.0087	0.0022	0.0051	0.0180	0.0053	1931	0.0659
1932	0.0012	0.0063	0.0024	0.0027	0.0137	0.0067	0.0045	0.0115	0.0024	0.0037	0.0172	0.0046	1932	0.0797
1933	0.0015	0.0072	0.0018	0.0034	0.0096	0.0021	0.0018	0.0060	0.0018	0.0031	0.0100	0.0030	1933	0.0525
1934	0.0010	0.0045	0.0009	0.0019	0.0076	0.0021	0.0020	0.0069	0.0022	0.0033	0.0114	0.0031	1934	0.0479
1935	0.0011	0.0055	0.0023	0.0024	0.0086	0.0021	0.0020	0.0063	0.0018	0.0026	0.0080	0.0023	1935	0.0458
1936	0.0015	0.0056	0.0014	0.0020	0.0087	0.0028	0.0020	0.0063	0.0019	0.0025	0.0093	0.0029	1936	0.0478
1937	0.0012	0.0045	0.0017	0.0022	0.0079	0.0025	0.0019	0.0071	0.0019	0.0036	0.0146	0.0045	1937	0.0547
1938	0.0019	0.0065	0.0018	0.0035	0.0113	0.0032	0.0017	0.0048	0.0017	0.0016	0.0061	0.0024	1938	0.0476
1939	0.0015	0.0065	0.0016	0.0027	0.0110	0.0026	0.0018	0.0066	0.0027	0.0023	0.0094	0.0033	1939	0.0532
1940	0.0016	0.0066	0.0025	0.0024	0.0107	0.0043	0.0030	0.0087	0.0028	0.0028	0.0108	0.0038	1940	0.0618
1941	0.0019	0.0069	0.0030	0.0040	0.0140	0.0043	0.0030	0.0096	0.0029	0.0029	0.0137	0.0044	1941	0.0751
1942	0.0023	0.0091	0.0023	0.0037	0.0157	0.0037	0.0024	0.0093	0.0023	0.0034	0.0117	0.0032	1942	0.0713
1943	0.0020	0.0076	0.0018	0.0026	0.0104	0.0025	0.0016	0.0068	0.0025	0.0025	0.0101	0.0027	1943	0.0545
1944	0.0017	0.0068	0.0025	0.0025	0.0101	0.0032	0.0015	0.0071	0.0023	0.0023	0.0094	0.0023	1944	0.0531
1945	0.0015	0.0067	0.0021	0.0022	0.0081	0.0027	0.0020	0.0061	0.0019	0.0019	0.0072	0.0017	1945	0.0450
1946	0.0017	0.0054	0.0017	0.0017	0.0064	0.0021	0.0016	0.0056	0.0018	0.0020	0.0088	0.0027	1946	0.0422
1947	0.0020	0.0070	0.0019	0.0026	0.0103	0.0028	0.0020	0.0076	0.0026	0.0026	0.0110	0.0027	1947	0.0565
1948	0.0020	0.0082	0.0021	0.0027	0.0097	0.0024	0.0024	0.0082	0.0025	0.0032	0.0121	0.0041	1948	0.0611
1949	0.0020	0.0099	0.0027	0.0033	0.0115	0.0035	0.0028	0.0100	0.0026	0.0045	0.0162	0.0050	1949	0.0772
1950	0.0024	0.0100	0.0029	0.0035	0.0116	0.0032	0.0034	0.0118	0.0033	0.0051	0.0179	0.0051	1950	0.0830
1951	0.0024	0.0092	0.0028	0.0028	0.0107	0.0033	0.0024	0.0085	0.0021	0.0034	0.0122	0.0035	1951	0.0651
1952	0.0025	0.0083	0.0026	0.0029	0.0111	0.0029	0.0020	0.0075	0.0020	0.0029	0.0106	0.0027	1952	0.0595
1953	0.0023	0.0076	0.0023	0.0028	0.0110	0.0029	0.0021	0.0077	0.0021	0.0030	0.0114	0.0032	1953	0.0598
1954	0.0024	0.0084	0.0023	0.0026	0.0088	0.0024	0.0017	0.0065	0.0020	0.0028	0.0101	0.0026	1954	0.0539
1955	0.0017	0.0063	0.0019	0.0019	0.0068	0.0018	0.0015	0.0053	0.0016	0.0021	0.0078	0.0022	1955	0.0416
1956	0.0018	0.0066	0.0018	0.0017	0.0064	0.0018	0.0015	0.0053	0.0015	0.0015	0.0059	0.0018	1956	0.0381
1957	0.0017	0.0063	0.0018	0.0018	0.0068	0.0017	0.0017	0.0056	0.0018	0.0019	0.0071	0.0019	1957	0.0406
1958	0.0018	0.0065	0.0020	0.0019	0.0062	0.0018	0.0018	0.0057	0.0017	0.0016	0.0060	0.0015	1958	0.0391
1959	0.0014	0.0051	0.0014	0.0014	0.0050	0.0014	0.0014	0.0048	0.0013	0.0016	0.0054	0.0015	1959	0.0323
1960	0.0015	0.0056	0.0016	0.0014	0.0057	0.0016	0.0014	0.0056	0.0014	0.0017	0.0062	0.0016	1960	0.0359
1961	0.0014	0.0050	0.0014	0.0012	0.0047	0.0014	0.0014	0.0046	0.0013	0.0015	0.0054	0.0014	1961	0.0312
1962	0.0013	0.0046	0.0013	0.0013	0.0049	0.0015	0.0016	0.0055	0.0017	0.0020	0.0071	0.0018	1962	0.0351
1963	0.0014	0.0050	0.0016	0.0015	0.0050	0.0014	0.0013	0.0048	0.0014	0.0017	0.0059	0.0018	1963	0.0332
1964	0.0013	0.0048	0.0013	0.0014	0.0048	0.0014	0.0012	0.0044	0.0013	0.0015	0.0057	0.0017	1964	0.0313
1965	0.0013	0.0046	0.0013	0.0014	0.0047	0.0014	0.0013	0.0047	0.0014	0.0016	0.0056	0.0016	1965	0.0312
1966	0.0013	0.0047	0.0013	0.0015	0.0049	0.0015	0.0014	0.0053	0.0017	0.0018	0.0064	0.0017	1966	0.0341
1967	0.0016	0.0052	0.0015	0.0014	0.0048	0.0015	0.0014	0.0047	0.0014	0.0014	0.0054	0.0015	1967	0.0324
1968	0.0013	0.0051	0.0016	0.0014	0.0049	0.0014	0.0013	0.0049	0.0014	0.0015	0.0051	0.0014	1968	0.0318
1969	0.0013	0.0048	0.0014	0.0014	0.0048	0.0014	0.0014	0.0053	0.0015	0.0016	0.0056	0.0016	1969	0.0325
1970	0.0015	0.0059	0.0016	0.0016	0.0063	0.0018	0.0019	0.0064	0.0017	0.0017	0.0061	0.0016	1970	0.0387
1971	0.0014	0.0050	0.0014	0.0014	0.0048	0.0014	0.0014	0.0051	0.0014	0.0014	0.0052	0.0015	1971	0.0320
1972	0.0013	0.0046	0.0013	0.0013	0.0046	0.0013	0.0013	0.0047	0.0013	0.0014	0.0048	0.0013	1972	0.0295
1973	0.0012	0.0042	0.0013	0.0013	0.0050	0.0014	0.0014	0.0049	0.0014	0.0016	0.0056	0.0018	1973	0.0316
1974	0.0015	0.0055	0.0016	0.0017	0.0063	0.0018	0.0017	0.0074	0.0024	0.0027	0.0084	0.0024	1974	0.0442
1975	0.0023	0.0075	0.0020	0.0020	0.0068	0.0019	0.0018	0.0066	0.0018	0.0020	0.0066	0.0019	1975	0.0441
1976	0.0015	0.0056	0.0019	0.0011	0.0071	0.0018	0.0012	0.0065	0.0020	0.0017	0.0069	0.0015	1976	0.0395

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-3

JAN 1926 - DEC 1976 COMMON STOCKS : CAPITAL APPRECIATION

EXHIBIT B-3

JAN 1926 - DEC 1976 COMMON STOCKS : CAPITAL APPRECIATION

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	-0.0016	-0.0440	-0.0591	0.0227	0.0077	0.0432	0.0455	0.0171	0.0229	-0.0313	0.0223	0.0166	1926	0.0572
1927	-0.0208	0.0477	0.0065	0.0172	0.0522	-0.0094	0.0650	0.0445	0.0432	-0.0531	0.0616	0.0250	1927	0.3091
1928	-0.0051	-0.0176	0.1083	0.0324	0.0127	-0.0405	0.0125	0.0741	0.0240	0.0145	0.1199	0.0029	1928	0.3788
1929	0.0571	-0.0058	-0.0023	0.0161	-0.0428	0.1124	0.0456	0.0980	-0.0489	-0.1993	-0.1337	0.0253	1929	-0.1191
1930	0.0625	0.0215	0.0799	-0.0095	-0.0165	-0.1646	0.0367	0.0075	-0.1301	-0.0888	-0.0218	-0.0742	1930	-0.2848
1931	0.0489	0.1144	-0.0692	-0.0959	-0.1372	0.1390	-0.0742	0.0095	-0.2994	0.0844	-0.0978	-0.1453	1931	-0.4707
1932	-0.0283	0.0507	-0.1182	-0.2025	-0.2333	-0.0087	0.3770	0.3754	-0.0369	-0.1386	-0.0589	0.0519	1932	-0.1515
1933	0.0073	-0.1844	0.0336	0.4222	0.1587	0.1317	-0.0880	0.1146	-0.1136	-0.0885	0.1027	0.0223	1933	0.4659
1934	0.1059	-0.0367	-0.0009	-0.0270	-0.0813	0.0208	-0.1152	0.0541	-0.0055	-0.0319	0.0829	-0.0042	1934	-0.0594
1935	-0.0421	-0.0396	-0.0309	0.0956	0.0323	0.0678	0.0831	0.0217	0.0239	0.0751	0.0393	0.0371	1935	0.4137
1936	0.0655	0.0168	0.0254	-0.0771	0.0458	0.0306	0.0681	0.0088	0.0013	0.0750	0.0041	-0.0058	1936	0.2792
1937	0.0378	0.0146	-0.0094	-0.0831	-0.0103	-0.0529	0.1026	-0.0554	-0.1421	-0.1017	-0.1011	-0.0504	1937	-0.3859
1938	0.0133	0.0608	-0.2504	0.1412	-0.0443	0.2470	0.0727	-0.0274	0.0149	0.0760	-0.0334	0.0377	1938	0.2521
1939	-0.0689	0.0325	-0.1354	-0.0055	0.0623	-0.0638	0.1087	-0.0714	0.1646	-0.0146	-0.0491	0.0238	1939	-0.0545
1940	-0.0352	0.0066	0.0099	-0.0049	-0.2395	0.0766	0.0311	0.0262	0.0095	0.0394	-0.0424	-0.0028	1940	-0.1529
1941	-0.0482	-0.0149	0.0040	-0.0653	0.0043	0.0535	0.0548	-0.0087	-0.0097	-0.0686	-0.0421	-0.0451	1941	-0.1786
1942	0.0138	-0.0250	-0.0675	-0.0437	0.0640	0.0184	0.0313	0.0070	0.0267	0.0644	-0.0138	0.0517	1942	0.1243
1943	0.0715	0.0506	0.0527	0.0009	0.0449	0.0198	-0.0543	0.0103	0.0237	-0.0132	-0.0755	0.0590	1943	0.1945
1944	0.0154	-0.0025	0.0169	-0.0125	0.0404	0.0510	-0.0208	0.0087	-0.0031	0.0	0.0039	0.0351	1944	0.1380
1945	0.0143	0.0616	-0.0462	0.0880	0.0115	-0.0033	-0.0201	0.0580	0.0419	0.0303	0.0324	0.0099	1945	0.3072
1946	0.0697	-0.0695	0.0463	0.0376	0.0224	-0.0391	-0.0255	-0.0729	-0.1015	-0.0080	-0.0115	0.0429	1946	-0.1187
1947	0.0235	-0.0147	-0.0169	-0.0389	-0.0089	0.0526	0.0362	-0.0279	-0.0137	0.0212	-0.0285	0.0207	1947	-0.0000
1948	-0.0399	-0.0470	0.0771	0.0265	0.0782	0.0030	-0.0532	0.0076	-0.0301	0.0678	-0.1082	0.0305	1948	-0.0065
1949	0.0013	-0.0394	0.0301	-0.0212	-0.0373	-0.0021	0.0621	0.0120	0.0237	0.0295	0.0012	0.0436	1949	0.1026
1950	0.0173	0.0100	0.0041	0.0451	0.0393	-0.0580	0.0085	0.0325	0.0559	0.0041	-0.0010	0.0461	1950	0.2178
1951	0.0612	0.0065	-0.0183	0.0481	-0.0406	-0.0260	0.0687	0.0393	-0.0009	-0.0138	-0.0026	0.0389	1951	0.1646
1952	0.0156	-0.0365	0.0477	-0.0431	0.0232	0.0461	0.0176	-0.0146	-0.0196	-0.0008	0.0465	0.0355	1952	0.1178
1953	-0.0072	-0.0182	-0.0236	-0.0265	-0.0032	-0.0163	0.0253	-0.0578	0.0013	0.0510	0.0090	0.0020	1953	-0.0662
1954	0.0512	0.0027	0.0302	0.0490	0.0329	0.0007	0.0572	-0.0340	0.0831	-0.0195	0.0808	0.0508	1954	0.4502
1955	0.0181	0.0035	-0.0049	0.0377	-0.0013	0.0823	0.0607	-0.0078	0.0113	-0.0305	0.0749	-0.0007	1955	0.2640
1956	-0.0365	0.0347	0.0693	-0.0021	-0.0657	0.0392	0.0515	-0.0381	-0.0455	0.0051	-0.0110	0.0353	1956	0.0262
1957	-0.0418	-0.0326	0.0196	0.0370	0.0369	-0.0013	0.0114	-0.0561	-0.0619	-0.0321	0.0161	-0.0415	1957	-0.1431
1958	0.0428	-0.0206	0.0309	0.0318	0.0150	0.0261	0.0431	0.0119	0.0484	0.0254	0.0224	0.0520	1958	0.3806
1959	0.0038	-0.0002	0.0005	0.0388	0.0189	-0.0036	0.0349	-0.0150	-0.0456	0.0113	0.0132	0.0276	1959	0.0848
1960	-0.0715	0.0092	-0.0139	-0.0175	0.0269	0.0195	-0.0248	0.0261	-0.0604	-0.0024	0.0403	0.0463	1960	-0.0297
1961	0.0632	0.0269	0.0255	0.0038	0.0191	-0.0288	0.0328	0.0196	-0.0197	0.0283	0.0393	0.0032	1961	0.2313
1962	-0.0379	0.0163	-0.0059	-0.0620	-0.0860	-0.0818	0.0636	0.0153	-0.0482	0.0044	0.1016	0.0135	1962	-0.1181
1963	0.0491	-0.0289	0.0355	0.0485	0.0143	-0.0202	-0.0035	0.0487	-0.0110	0.0322	-0.0105	0.0244	1963	0.1889
1964	0.0269	0.0099	0.0152	0.0061	0.0115	0.0164	0.0182	-0.0162	0.0287	0.0081	-0.0052	0.0039	1964	0.1297
1965	0.0332	-0.0015	-0.0145	0.0342	-0.0077	-0.0486	0.0134	0.0225	0.0320	0.0273	-0.0088	0.0090	1965	0.0906
1966	0.0049	-0.0179	-0.0218	0.0205	-0.0541	-0.0161	-0.0135	-0.0778	-0.0070	0.0475	0.0031	-0.0015	1966	-0.1309
1967	0.0782	0.0020	0.0394	0.0422	-0.0524	0.0175	0.0453	-0.0117	0.0328	-0.0291	0.0011	0.0263	1967	0.2009
1968	-0.0438	-0.0312	0.0094	0.0819	0.0112	0.0091	-0.0185	0.0115	0.0385	0.0072	0.0480	-0.0416	1968	0.0766
1969	-0.0082	-0.0474	0.0344	0.0215	-0.0022	-0.0556	-0.0602	0.0401	-0.0250	0.0442	-0.0353	-0.0193	1969	-0.1142
1970	-0.0759	0.0527	0.0015	-0.0905	-0.0610	-0.0500	0.0733	0.0445	0.0330	-0.0114	0.0474	0.0568	1970	0.0016
1971	0.0405	0.0091	0.0368	0.0363	-0.0416	0.0007	-0.0413	0.0361	-0.0070	-0.0418	-0.0025	0.0862	1971	0.1079
1972	0.0181	0.0253	0.0059	0.0044	0.0173	-0.0218	0.0023	0.0345	-0.0049	0.0093	0.0456	0.0118	1972	0.1563
1973	-0.0171	-0.0375	-0.0014	-0.0408	-0.0189	-0.0066	0.0380	-0.0367	0.0401	-0.0013	-0.1139	0.0166	1973	-0.1737
1974	-0.0100	-0.0036	-0.0233	-0.0391	-0.0336	0.0999	-0.1739	-0.0903	-0.1193	0.1630	-0.0532	-0.0202	1974	-0.2972
1975	0.1228	0.0599	0.0217	0.0473	0.0441	0.0443	-0.0677	-0.0211	-0.0346	0.0616	0.0247	-0.0115	1975	0.3155
1976	0.1183	-0.0114	0.0307	-0.0110	-0.0144	0.0409	-0.0081	-0.0051	0.0226	-0.0222	-0.0078	0.0525	1976	0.1915

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-4

JAN 1926 - DEC 1976 LONG-TERM GOVERNMENT BONDS : TOTAL RETURNS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	0.0138	0.0063	0.0041	0.0076	0.0014	0.0038	0.0004	0.0000	0.0038	0.0102	0.0160	0.0078	1926	0.0777
1927	0.0075	0.0088	0.0253	-0.0005	0.0109	-0.0069	0.0050	0.0076	0.0018	0.0099	0.0097	0.0072	1927	0.0893
1928	-0.0035	0.0061	0.0045	-0.0004	-0.0077	0.0041	-0.0217	0.0076	-0.0041	0.0158	0.0003	0.0004	1928	0.0010
1929	-0.0090	-0.0157	-0.0144	0.0275	-0.0196	0.0145	-0.0000	-0.0034	0.0028	0.0382	0.0236	-0.0089	1929	0.0342
1930	-0.0057	0.0129	0.0083	-0.0016	0.0140	0.0051	0.0034	0.0013	0.0074	0.0035	0.0042	-0.0070	1930	0.0466
1931	-0.0121	0.0085	0.0104	0.0086	0.0145	0.0004	-0.0042	0.0012	-0.0281	-0.0330	0.0027	-0.0220	1931	-0.0531
1932	0.0034	0.0413	-0.0018	0.0604	-0.0497	0.0392	0.0481	0.0003	0.0057	-0.0017	0.0032	0.0131	1932	0.1684
1933	0.0148	-0.0258	0.0097	-0.0032	0.0303	0.0050	-0.0017	0.0044	0.0023	-0.0091	-0.0149	-0.0113	1933	-0.0008
1934	0.0257	0.0081	0.0197	0.0126	0.0131	0.0067	0.0040	-0.0118	-0.0146	0.0182	0.0037	0.0112	1934	0.1002
1935	0.0182	0.0092	0.0041	0.0079	-0.0057	0.0092	0.0046	-0.0133	0.0009	0.0061	0.0010	0.0070	1935	0.0498
1936	0.0055	0.0081	0.0106	0.0035	0.0040	0.0021	0.0060	0.0111	-0.0031	0.0006	0.0205	0.0038	1936	0.0751
1937	-0.0013	0.0086	-0.0412	0.0039	0.0053	-0.0018	0.0138	-0.0104	0.0045	0.0042	0.0096	0.0082	1937	0.0023
1938	0.0057	0.0052	-0.0037	0.0210	0.0044	0.0004	0.0043	0.0000	0.0022	0.0087	-0.0022	0.0080	1938	0.0553
1939	0.0059	0.0080	0.0125	0.0118	0.0171	-0.0027	0.0113	-0.0201	-0.0545	0.0410	0.0162	0.0145	1939	0.0594
1940	-0.0017	0.0027	0.0177	-0.0035	-0.0299	0.0258	0.0052	0.0028	0.0110	0.0031	0.0205	0.0067	1940	0.0609
1941	-0.0201	0.0020	0.0096	0.0129	0.0027	0.0066	0.0022	0.0018	-0.0012	0.0140	-0.0029	-0.0177	1941	0.0093
1942	0.0069	0.0011	0.0092	-0.0029	0.0075	0.0003	0.0018	0.0038	0.0003	0.0024	-0.0035	0.0049	1942	0.0322
1943	0.0033	-0.0006	0.0009	0.0048	0.0050	0.0018	-0.0001	0.0021	0.0011	0.0005	-0.0001	0.0018	1943	0.0208
1944	0.0021	0.0032	0.0021	0.0013	0.0028	0.0008	0.0036	0.0027	0.0014	0.0012	0.0024	0.0042	1944	0.0281
1945	0.0127	0.0077	0.0021	0.0160	0.0056	0.0169	-0.0086	0.0026	0.0054	0.0104	0.0125	0.0194	1945	0.1073
1946	0.0025	0.0032	0.0010	-0.0135	-0.0012	0.0070	-0.0040	-0.0112	-0.0009	0.0074	-0.0054	0.0145	1946	-0.0010
1947	-0.0006	0.0021	0.0020	-0.0037	0.0033	0.0010	0.0063	0.0081	-0.0044	-0.0037	-0.0174	-0.0192	1947	-0.0263
1948	0.0020	0.0046	0.0034	0.0045	0.0141	-0.0084	-0.0021	0.0001	0.0014	0.0007	0.0076	0.0056	1948	0.0340
1949	0.0082	0.0049	0.0074	0.0011	0.0019	0.0167	0.0033	0.0111	-0.0011	0.0019	0.0021	0.0052	1949	0.0645
1950	-0.0061	0.0021	0.0008	0.0030	0.0033	-0.0025	0.0055	0.0014	-0.0072	-0.0048	0.0035	0.0016	1950	0.0006
1951	0.0058	-0.0074	-0.0157	-0.0063	-0.0069	-0.0062	0.0138	0.0099	-0.0080	0.0010	-0.0136	-0.0061	1951	-0.0394
1952	0.0028	0.0014	0.0111	0.0171	-0.0034	0.0003	-0.0020	-0.0070	-0.0130	0.0148	-0.0015	-0.0086	1952	0.0116
1953	0.0012	-0.0087	-0.0088	-0.0105	-0.0148	0.0223	0.0039	-0.0008	0.0299	0.0074	-0.0049	0.0206	1953	0.0363
1954	0.0089	0.0240	0.0058	0.0104	-0.0087	0.0163	0.0134	-0.0036	-0.0010	0.0006	-0.0025	0.0064	1954	0.0719
1955	-0.0241	-0.0078	0.0087	0.0001	0.0073	-0.0076	-0.0102	0.0004	0.0073	0.0144	-0.0045	0.0037	1955	-0.0130
1956	0.0083	-0.0002	-0.0149	-0.0113	0.0225	0.0027	-0.0209	-0.0186	0.0050	-0.0054	-0.0057	-0.0179	1956	-0.0559
1957	0.0346	0.0025	-0.0024	-0.0222	-0.0023	-0.0180	-0.0041	0.0002	0.0076	-0.0050	0.0533	0.0307	1957	0.0745
1958	-0.0084	0.0100	0.0102	0.0186	0.0001	-0.0160	-0.0278	-0.0436	-0.0117	0.0139	0.0120	-0.0181	1958	-0.0610
1959	-0.0080	0.0117	0.0017	-0.0117	-0.0005	0.0010	0.0060	-0.0041	-0.0057	0.0150	-0.0119	-0.0159	1959	-0.0226
1960	0.0112	0.0204	0.0282	-0.0170	0.0152	0.0173	0.0368	-0.0067	0.0075	-0.0028	-0.0066	0.0279	1960	0.1378
1961	-0.0107	0.0200	-0.0038	0.0115	-0.0046	-0.0075	0.0035	-0.0038	0.0129	0.0071	-0.0020	-0.0125	1961	0.0097
1962	-0.0014	0.0103	0.0253	0.0082	0.0046	-0.0076	-0.0109	0.0187	0.0061	0.0084	0.0021	0.0035	1962	0.0689
1963	-0.0001	0.0008	0.0009	-0.0012	0.0023	0.0019	0.0031	0.0021	0.0004	-0.0026	0.0051	-0.0006	1963	0.0121
1964	-0.0014	-0.0011	0.0037	0.0047	0.0050	0.0069	0.0008	0.0020	0.0050	0.0043	0.0017	0.0030	1964	0.0351
1965	0.0040	0.0014	0.0054	0.0036	0.0018	0.0047	0.0022	-0.0013	-0.0034	0.0027	-0.0062	-0.0078	1965	0.0071
1966	-0.0104	-0.0250	0.0296	-0.0063	-0.0059	-0.0016	-0.0037	-0.0206	0.0332	0.0228	-0.0148	0.0413	1966	0.0365
1967	0.0154	-0.0221	0.0198	-0.0291	-0.0039	-0.0312	0.0068	-0.0084	-0.0005	-0.0400	-0.0197	0.0192	1967	-0.0919
1968	0.0328	-0.0033	-0.0212	0.0227	0.0043	0.0230	0.0289	-0.0003	-0.0102	-0.0132	-0.0269	-0.0363	1968	-0.0026
1969	-0.0206	0.0042	0.0010	0.0427	-0.0490	0.0214	0.0079	-0.0069	-0.0531	0.0365	-0.0243	-0.0068	1969	-0.0508
1970	-0.0021	0.0587	-0.0068	-0.0413	-0.0468	0.0486	0.0319	-0.0019	0.0228	-0.0109	0.0791	-0.0084	1970	0.1210
1971	0.0506	-0.0163	0.0526	-0.0283	-0.0006	-0.0159	0.0030	0.0471	0.0204	0.0167	-0.0047	0.0044	1971	0.1323
1972	-0.0064	0.0088	-0.0082	0.0027	0.0270	-0.0065	0.0216	0.0029	-0.0083	0.0234	0.0226	-0.0229	1972	0.0568
1973	-0.0321	0.0014	0.0082	0.0046	-0.0105	-0.0021	-0.0433	0.0391	0.0318	-0.0130	0.0161	-0.0082	1973	-0.0111
1974	-0.0083	-0.0024	-0.0292	-0.0253	0.0123	0.0045	-0.0029	-0.0232	0.0247	0.0489	0.0296	0.0171	1974	0.0435
1975	0.0225	0.0131	-0.0267	-0.0182	0.0212	0.0292	-0.0087	-0.0068	-0.0098	0.0475	-0.0109	0.0390	1975	0.0919
1976	0.0090	0.0062	0.0166	0.0018	-0.0158	0.0208	0.0078	0.0211	0.0145	0.0084	0.0339	0.0327	1976	0.1675

SCURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-5

JAN 1926 - DEC 1976 LONG-TERM GOVERNMENT BONDS : INCOME

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	0.0031	0.0028	0.0032	0.0030	0.0028	0.0033	0.0031	0.0031	0.0030	0.0030	0.0031	0.0030	1926	0.0373
1927	0.0030	0.0027	0.0029	0.0027	0.0028	0.0027	0.0027	0.0029	0.0027	0.0028	0.0027	0.0027	1927	0.0337
1928	0.0027	0.0025	0.0027	0.0026	0.0027	0.0027	0.0027	0.0029	0.0027	0.0030	0.0027	0.0029	1928	0.0332
1929	0.0029	0.0027	0.0028	0.0034	0.0030	0.0030	0.0032	0.0030	0.0032	0.0031	0.0026	0.0031	1929	0.0363
1930	0.0029	0.0026	0.0029	0.0027	0.0027	0.0029	0.0028	0.0026	0.0029	0.0027	0.0026	0.0028	1930	0.0334
1931	0.0028	0.0026	0.0029	0.0027	0.0026	0.0028	0.0027	0.0027	0.0027	0.0029	0.0031	0.0032	1931	0.0342
1932	0.0032	0.0032	0.0031	0.0030	0.0028	0.0030	0.0028	0.0028	0.0026	0.0027	0.0026	0.0027	1932	0.0351
1933	0.0027	0.0023	0.0027	0.0025	0.0028	0.0025	0.0026	0.0026	0.0025	0.0026	0.0025	0.0028	1933	0.0316
1934	0.0029	0.0024	0.0027	0.0025	0.0025	0.0024	0.0024	0.0024	0.0023	0.0027	0.0025	0.0025	1934	0.0308
1935	0.0026	0.0021	0.0022	0.0023	0.0023	0.0022	0.0024	0.0023	0.0023	0.0023	0.0024	0.0024	1935	0.0279
1936	0.0024	0.0023	0.0024	0.0022	0.0022	0.0024	0.0023	0.0023	0.0021	0.0023	0.0022	0.0022	1936	0.0275
1937	0.0021	0.0020	0.0022	0.0023	0.0022	0.0025	0.0024	0.0023	0.0023	0.0023	0.0024	0.0023	1937	0.0277
1938	0.0023	0.0021	0.0023	0.0022	0.0022	0.0021	0.0021	0.0022	0.0021	0.0022	0.0021	0.0022	1938	0.0263
1939	0.0021	0.0019	0.0021	0.0019	0.0020	0.0018	0.0019	0.0018	0.0019	0.0023	0.0020	0.0019	1939	0.0238
1940	0.0020	0.0018	0.0019	0.0018	0.0019	0.0019	0.0020	0.0019	0.0018	0.0018	0.0018	0.0017	1940	0.0224
1941	0.0016	0.0016	0.0018	0.0017	0.0017	0.0016	0.0016	0.0016	0.0016	0.0016	0.0014	0.0016	1941	0.0197
1942	0.0021	0.0019	0.0021	0.0020	0.0019	0.0021	0.0021	0.0021	0.0020	0.0021	0.0020	0.0021	1942	0.0247
1943	0.0020	0.0019	0.0021	0.0020	0.0019	0.0021	0.0021	0.0021	0.0020	0.0020	0.0021	0.0021	1943	0.0247
1944	0.0021	0.0020	0.0021	0.0021	0.0022	0.0020	0.0021	0.0021	0.0020	0.0021	0.0020	0.0020	1944	0.0249
1945	0.0021	0.0018	0.0020	0.0019	0.0019	0.0019	0.0018	0.0019	0.0018	0.0019	0.0018	0.0018	1945	0.0229
1946	0.0017	0.0015	0.0016	0.0017	0.0018	0.0016	0.0019	0.0017	0.0018	0.0019	0.0018	0.0019	1946	0.0209
1947	0.0018	0.0016	0.0018	0.0017	0.0017	0.0019	0.0018	0.0017	0.0018	0.0018	0.0017	0.0021	1947	0.0216
1948	0.0020	0.0019	0.0022	0.0020	0.0018	0.0021	0.0019	0.0021	0.0020	0.0019	0.0021	0.0020	1948	0.0242
1949	0.0020	0.0018	0.0019	0.0018	0.0020	0.0019	0.0017	0.0019	0.0017	0.0018	0.0017	0.0017	1949	0.0222
1950	0.0018	0.0016	0.0018	0.0016	0.0019	0.0017	0.0018	0.0018	0.0017	0.0019	0.0018	0.0018	1950	0.0216
1951	0.0020	0.0017	0.0019	0.0020	0.0021	0.0020	0.0023	0.0021	0.0019	0.0023	0.0021	0.0022	1951	0.0248
1952	0.0023	0.0021	0.0023	0.0022	0.0020	0.0022	0.0022	0.0021	0.0023	0.0023	0.0021	0.0024	1952	0.0268
1953	0.0023	0.0021	0.0025	0.0024	0.0024	0.0027	0.0025	0.0025	0.0025	0.0023	0.0024	0.0024	1953	0.0295
1954	0.0023	0.0022	0.0025	0.0022	0.0020	0.0024	0.0022	0.0023	0.0021	0.0021	0.0023	0.0023	1954	0.0273
1955	0.0022	0.0022	0.0024	0.0022	0.0025	0.0023	0.0023	0.0027	0.0024	0.0025	0.0024	0.0024	1955	0.0288
1956	0.0025	0.0023	0.0023	0.0026	0.0026	0.0023	0.0026	0.0026	0.0025	0.0029	0.0027	0.0028	1956	0.0311
1957	0.0029	0.0025	0.0026	0.0029	0.0029	0.0025	0.0033	0.0030	0.0031	0.0031	0.0029	0.0029	1957	0.0352
1958	0.0027	0.0025	0.0027	0.0026	0.0024	0.0027	0.0027	0.0027	0.0032	0.0032	0.0028	0.0033	1958	0.0343
1959	0.0031	0.0031	0.0035	0.0033	0.0033	0.0036	0.0035	0.0035	0.0034	0.0035	0.0035	0.0036	1959	0.0418
1960	0.0035	0.0037	0.0036	0.0032	0.0037	0.0034	0.0032	0.0034	0.0032	0.0033	0.0032	0.0033	1960	0.0414
1961	0.0033	0.0030	0.0031	0.0031	0.0034	0.0032	0.0033	0.0033	0.0032	0.0034	0.0032	0.0031	1961	0.0393
1962	0.0037	0.0032	0.0033	0.0033	0.0032	0.0030	0.0034	0.0034	0.0030	0.0035	0.0031	0.0032	1962	0.0400
1963	0.0032	0.0029	0.0031	0.0034	0.0033	0.0030	0.0036	0.0033	0.0034	0.0034	0.0032	0.0036	1963	0.0401
1964	0.0035	0.0032	0.0037	0.0035	0.0032	0.0038	0.0035	0.0035	0.0034	0.0034	0.0035	0.0035	1964	0.0425
1965	0.0033	0.0032	0.0038	0.0033	0.0033	0.0038	0.0034	0.0037	0.0035	0.0034	0.0037	0.0037	1965	0.0430
1966	0.0038	0.0034	0.0040	0.0036	0.0041	0.0039	0.0038	0.0043	0.0041	0.0040	0.0038	0.0039	1966	0.0476
1967	0.0040	0.0034	0.0039	0.0035	0.0043	0.0039	0.0043	0.0042	0.0040	0.0045	0.0045	0.0044	1967	0.0499
1968	0.0050	0.0042	0.0043	0.0049	0.0046	0.0042	0.0048	0.0042	0.0044	0.0045	0.0043	0.0049	1968	0.0553
1969	0.0050	0.0046	0.0047	0.0055	0.0047	0.0055	0.0052	0.0048	0.0055	0.0057	0.0049	0.0060	1969	0.0639
1970	0.0056	0.0052	0.0056	0.0054	0.0055	0.0064	0.0059	0.0057	0.0056	0.0055	0.0058	0.0053	1970	0.0696
1971	0.0051	0.0046	0.0050	0.0049	0.0047	0.0056	0.0052	0.0055	0.0049	0.0047	0.0051	0.0050	1971	0.0625
1972	0.0050	0.0047	0.0049	0.0048	0.0055	0.0049	0.0051	0.0049	0.0047	0.0052	0.0048	0.0045	1972	0.0606
1973	0.0054	0.0051	0.0056	0.0057	0.0058	0.0055	0.0061	0.0062	0.0055	0.0063	0.0058	0.0060	1973	0.0712
1974	0.0061	0.0055	0.0059	0.0068	0.0068	0.0061	0.0072	0.0065	0.0071	0.0070	0.0062	0.0067	1974	0.0807
1975	0.0068	0.0060	0.0066	0.0067	0.0067	0.0070	0.0068	0.0065	0.0073	0.0072	0.0061	0.0075	1975	0.0841
1976	0.0065	0.0061	0.0071	0.0064	0.0059	0.0073	0.0065	0.0069	0.0064	0.0061	0.0066	0.0063	1976	0.0810

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-6

JAN 1926 - DEC 1976 LONG-TERM GOVERNMENT BONDS : CAPITAL APPRECIATION

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	0.0106	0.0035	0.0009	0.0046	-0.0014	0.0005	-0.0027	-0.0031	0.0007	0.0072	0.0129	0.0048	1926	0.0391
1927	0.0045	0.0061	0.0224	-0.0032	0.0081	-0.0096	0.0022	0.0047	-0.0009	0.0071	0.0071	0.0045	1927	0.0539
1928	-0.0063	0.0036	0.0019	-0.0029	-0.0104	0.0015	-0.0245	0.0047	-0.0067	0.0128	-0.0024	-0.0024	1928	-0.0313
1929	-0.0119	-0.0184	-0.0171	0.0242	-0.0226	0.0116	-0.0032	-0.0064	-0.0004	0.0351	0.0211	-0.0120	1929	-0.0021
1930	-0.0085	0.0102	0.0055	-0.0043	0.0113	0.0022	0.0007	-0.0013	0.0045	0.0008	0.0017	-0.0098	1930	0.0128
1931	-0.0149	0.0059	0.0076	0.0059	0.0119	-0.0024	-0.0069	-0.0015	-0.0307	-0.0360	-0.0004	-0.0252	1931	-0.0847
1932	0.0002	0.0382	-0.0049	0.0574	-0.0525	0.0362	0.0453	-0.0025	0.0031	-0.0044	0.0006	0.0104	1932	0.1292
1933	0.0122	-0.0282	0.0070	-0.0057	0.0274	0.0025	-0.0043	0.0018	-0.0002	-0.0117	-0.0174	-0.0140	1933	-0.0314
1934	0.0228	0.0057	0.0170	0.0101	0.0106	0.0043	0.0016	-0.0143	-0.0169	0.0155	0.0013	0.0087	1934	0.0676
1935	0.0157	0.0070	0.0019	0.0056	-0.0079	0.0070	0.0022	-0.0156	-0.0014	0.0038	-0.0014	0.0047	1935	0.0214
1936	0.0031	0.0059	0.0063	0.0013	0.0019	-0.0002	0.0037	0.0088	-0.0053	-0.0017	0.0183	0.0017	1936	0.0464
1937	-0.0034	0.0067	-0.0434	0.0016	0.0031	-0.0043	0.0114	-0.0128	0.0022	0.0019	0.0072	0.0059	1937	-0.0248
1938	0.0034	0.0031	-0.0059	0.0187	0.0022	-0.0017	0.0022	-0.0022	0.0001	0.0065	-0.0043	0.0059	1938	0.0283
1939	0.0038	0.0061	0.0105	0.0099	0.0151	-0.0045	0.0095	-0.0219	-0.0564	0.0386	0.0142	0.0125	1939	0.0348
1940	-0.0037	0.0009	0.0158	-0.0053	-0.0318	0.0239	0.0032	0.0009	0.0092	0.0013	0.0187	0.0050	1940	0.0377
1941	-0.0217	0.0004	0.0078	0.0112	0.0011	0.0050	0.0005	0.0002	-0.0028	0.0124	-0.0044	-0.0194	1941	-0.0102
1942	0.0046	-0.0007	0.0071	-0.0049	0.0056	-0.0018	-0.0003	0.0017	-0.0017	0.0004	-0.0055	0.0028	1942	0.0073
1943	0.0013	-0.0024	-0.0012	0.0028	0.0031	-0.0003	-0.0021	-0.0000	-0.0009	-0.0015	-0.0021	-0.0003	1943	-0.0038
1944	0.0000	0.0012	0.0000	-0.0006	0.0006	-0.0012	0.0015	0.0006	-0.0006	-0.0009	0.0003	0.0022	1944	0.0032
1945	0.0105	0.0058	0.0001	0.0141	0.0037	0.0150	-0.0104	0.0007	0.0037	0.0085	0.0108	0.0177	1945	0.0827
1946	0.0008	0.0017	-0.0006	-0.0152	-0.0030	0.0054	-0.0058	-0.0129	-0.0028	0.0055	-0.0072	0.0126	1946	-0.0215
1947	-0.0024	0.0005	0.0002	-0.0054	0.0016	-0.0009	0.0044	0.0064	-0.0062	-0.0055	-0.0191	-0.0213	1947	-0.0470
1948	0.0000	0.0028	0.0013	0.0025	0.0123	-0.0105	-0.0041	-0.0020	-0.0006	-0.0012	0.0055	0.0036	1948	0.0096
1949	0.0062	0.0031	0.0055	-0.0006	-0.0000	0.0148	0.0016	0.0092	-0.0029	0.0001	0.0004	0.0035	1949	0.0414
1950	-0.0080	0.0005	-0.0010	0.0014	0.0014	-0.0042	0.0037	-0.0004	-0.0089	-0.0067	0.0017	-0.0001	1950	-0.0207
1951	0.0036	-0.0091	-0.0176	-0.0083	-0.0090	-0.0082	0.0116	0.0077	-0.0098	-0.0013	-0.0157	-0.0083	1951	-0.0627
1952	0.0005	-0.0007	0.0088	0.0149	-0.0054	-0.0019	-0.0042	-0.0091	-0.0153	0.0124	-0.0036	-0.0110	1952	-0.0148
1953	-0.0011	-0.0108	-0.0113	-0.0129	-0.0171	0.0195	0.0014	-0.0033	0.0275	0.0051	-0.0073	0.0182	1953	0.0067
1954	0.0066	0.0218	0.0034	0.0081	-0.0107	0.0138	0.0113	-0.0059	-0.0031	-0.0015	-0.0048	0.0042	1954	0.0435
1955	-0.0264	-0.0100	0.0063	-0.0022	0.0048	-0.0099	-0.0125	-0.0023	0.0049	0.0119	-0.0069	0.0013	1955	-0.0407
1956	0.0056	-0.0025	-0.0172	-0.0139	0.0199	0.0004	-0.0234	-0.0213	0.0025	-0.0084	-0.0084	-0.0207	1956	-0.0846
1957	0.0317	0.0000	-0.0050	-0.0250	-0.0052	-0.0206	-0.0074	-0.0028	0.0045	-0.0081	0.0504	0.0277	1957	0.0381
1958	-0.0112	0.0075	0.0075	0.0160	-0.0024	-0.0187	-0.0306	-0.0463	-0.0149	0.0106	0.0092	-0.0213	1958	-0.0923
1959	-0.0111	0.0087	-0.0018	-0.0150	-0.0038	-0.0026	0.0025	-0.0076	-0.0091	0.0115	-0.0154	-0.0195	1959	-0.0620
1960	0.0077	0.0167	0.0246	-0.0202	0.0115	0.0139	0.0335	-0.0101	0.0043	-0.0061	-0.0098	0.0247	1960	0.0929
1961	-0.0140	0.0170	-0.0069	0.0085	-0.0080	-0.0106	0.0001	-0.0071	0.0097	0.0037	-0.0052	-0.0156	1961	-0.0286
1962	-0.0051	0.0071	0.0220	0.0049	0.0014	-0.0106	-0.0143	0.0153	0.0031	0.0049	-0.0010	0.0003	1962	0.0278
1963	-0.0033	-0.0022	-0.0022	-0.0046	-0.0011	-0.0011	-0.0005	-0.0011	-0.0029	-0.0060	0.0019	-0.0042	1963	-0.0270
1964	-0.0048	-0.0043	0.0000	0.0012	0.0018	0.0031	-0.0028	-0.0015	0.0015	0.0009	-0.0018	-0.0005	1964	-0.0072
1965	0.0007	-0.0018	0.0016	0.0003	-0.0015	0.0009	-0.0012	-0.0050	-0.0069	-0.0007	-0.0100	-0.0115	1965	-0.0345
1966	-0.0142	-0.0284	0.0256	-0.0099	-0.0100	-0.0054	-0.0074	-0.0249	0.0292	0.0188	-0.0187	0.0374	1966	-0.0106
1967	0.0115	-0.0255	0.0159	-0.0326	-0.0082	-0.0351	0.0026	-0.0126	-0.0045	-0.0445	-0.0241	0.0148	1967	-0.1355
1968	0.0278	-0.0075	-0.0254	0.0178	-0.0003	0.0188	0.0241	-0.0045	-0.0146	-0.0177	-0.0312	-0.0412	1968	-0.0551
1969	-0.0256	-0.0004	-0.0030	0.0371	-0.0537	0.0159	0.0027	-0.0117	-0.0586	0.0309	-0.0293	-0.0129	1969	-0.1083
1970	-0.0077	0.0535	-0.0124	-0.0467	-0.0523	0.0422	0.0260	-0.0076	0.0172	-0.0164	0.0733	-0.0137	1970	0.0484
1971	0.0455	-0.0209	0.0470	-0.0331	-0.0053	-0.0214	-0.0022	0.0416	0.0154	0.0120	-0.0098	-0.0006	1971	0.0660
1972	-0.0114	0.0041	-0.0131	-0.0021	0.0215	-0.0113	0.0165	-0.0021	-0.0129	0.0182	0.0178	-0.0275	1972	-0.0035
1973	-0.0375	-0.0037	0.0026	-0.0012	-0.0162	-0.0076	-0.0495	0.0329	0.0263	-0.0192	0.0102	-0.0142	1973	-0.0773
1974	-0.0144	-0.0079	-0.0350	-0.0320	0.0055	-0.0016	-0.0101	-0.0298	0.0176	0.0419	0.0233	0.0105	1974	-0.0346
1975	0.0157	0.0071	-0.0333	-0.0249	0.0145	0.0222	-0.0155	-0.0133	-0.0171	0.0403	-0.0170	0.0316	1975	0.0073
1976	0.0025	0.0001	0.0094	-0.0046	-0.0217	0.0135	0.0013	0.0142	0.0081	0.0023	0.0273	0.0265	1976	0.0807

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-7

JAN 1926 - DEC 1976 LONG-TERM CORPORATE BONDS : TOTAL RETURNS

EXHIBIT B-7

JAN 1926 - DEC 1976 LONG-TERM CORPORATE BONDS : TOTAL RETURNS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	0.0072	0.0045	0.0084	0.0097	0.0044	0.0004	0.0057	0.0044	0.0057	0.0097	0.0057	0.0056	1926	0.0737
1927	0.0056	0.0069	0.0083	0.0055	-0.0011	0.0043	0.0003	0.0083	0.0149	0.0055	0.0068	0.0068	1927	0.0744
1928	0.0027	0.0068	0.0041	0.0014	-0.0078	-0.0024	-0.0010	0.0083	0.0030	0.0083	-0.0036	0.0084	1928	0.0284
1929	0.0043	0.0030	-0.0087	0.0019	0.0045	-0.0046	0.0020	0.0020	0.0034	0.0073	-0.0018	0.0192	1929	0.0327
1930	0.0059	0.0072	0.0138	0.0084	0.0057	0.0110	0.0056	0.0136	0.0108	0.0054	-0.0012	-0.0090	1930	0.0798
1931	0.0203	0.0068	0.0094	0.0067	0.0134	0.0052	0.0012	-0.0014	-0.0363	-0.0189	-0.0286	1931	-0.0185	
1932	-0.0052	-0.0238	0.0356	-0.0176	0.0107	-0.0009	0.0043	0.0436	0.0301	0.0074	0.0073	0.0139	1932	0.1082
1933	0.0547	-0.0523	0.0047	-0.0095	0.0588	0.0190	0.0161	0.0093	-0.0014	0.0040	-0.0248	0.0257	1933	0.1038
1934	0.0257	0.0146	0.0187	0.0104	0.0090	0.0158	0.0047	0.0047	-0.0061	0.0102	0.0129	0.0101	1934	0.1384
1935	0.0211	0.0141	0.0043	0.0112	0.0042	0.0112	0.0111	-0.0042	0.0	0.0042	0.0069	0.0083	1935	0.0961
1936	0.0082	0.0054	0.0082	0.0026	0.0040	0.0082	0.0011	0.0067	0.0067	0.0025	0.0109	0.0010	1936	0.0674
1937	0.0024	-0.0046	-0.0114	0.0068	0.0040	0.0053	0.0039	-0.0017	0.0025	0.0067	0.0067	0.0067	1937	0.0275
1938	0.0038	0.0010	-0.0087	0.0138	0.0010	0.0095	0.0066	-0.0019	0.0109	0.0080	0.0037	0.0122	1938	0.0613
1939	0.0022	0.0064	0.0022	0.0064	0.0049	0.0035	-0.0007	-0.0392	0.0151	0.0237	0.0079	0.0078	1939	0.0397
1940	0.0049	0.0021	0.0049	-0.0092	-0.0021	0.0121	0.0021	0.0007	0.0092	0.0049	0.0063	-0.0023	1940	0.0339
1941	0.0006	0.0006	-0.0022	0.0078	0.0049	0.0063	0.0063	0.0034	0.0048	0.0034	-0.0094	0.0006	1941	0.0273
1942	0.0006	-0.0008	0.0063	0.0006	0.0020	0.0034	0.0020	0.0035	0.0020	0.0006	0.0006	0.0049	1942	0.0260
1943	0.0049	0.0006	0.0020	0.0049	0.0048	0.0048	0.0019	0.0019	0.0005	-0.0009	-0.0023	0.0049	1943	0.0283
1944	0.0020	0.0034	0.0048	0.0034	0.0005	0.0020	0.0034	0.0034	0.0019	0.0019	0.0048	0.0149	1944	0.0473
1945	0.0076	0.0046	0.0018	0.0018	-0.0011	0.0032	-0.0011	0.0004	0.0032	0.0032	0.0032	0.0133	1945	0.0408
1946	0.0128	0.0034	0.0034	-0.0043	0.0019	0.0019	-0.0012	-0.0088	-0.0026	0.0020	-0.0025	0.0113	1946	0.0172
1947	0.0005	0.0005	0.0067	0.0020	0.0020	0.0004	0.0020	-0.0071	-0.0131	-0.0099	-0.0098	0.0024	1947	-0.0234
1948	0.0024	0.0039	0.0115	0.0038	0.0008	-0.0083	-0.0052	0.0055	0.0024	0.0024	0.0085	0.0131	1948	0.0414
1949	0.0038	0.0038	0.0007	0.0023	0.0038	0.0084	0.0099	0.0037	0.0021	0.0067	0.0021	-0.0145	1949	0.0331
1950	0.0037	0.0007	0.0022	-0.0008	-0.0008	0.0023	0.0069	0.0038	-0.0039	-0.0008	0.0054	0.0023	1950	0.0212
1951	0.0019	-0.0044	-0.0237	-0.0009	-0.0015	-0.0093	0.0205	0.0114	-0.0057	-0.0145	-0.0061	0.0058	1951	-0.0269
1952	0.0199	-0.0085	0.0076	-0.0004	0.0031	0.0016	0.0016	0.0063	-0.0018	0.0039	0.0108	-0.0091	1952	0.0352
1953	-0.0080	-0.0040	-0.0033	-0.0248	-0.0030	0.0109	0.0177	-0.0085	0.0253	0.0227	-0.0073	0.0172	1953	0.0341
1954	0.0124	0.0198	0.0039	-0.0034	-0.0042	0.0063	0.0040	0.0018	0.0040	0.0040	0.0025	0.0017	1954	0.0539
1955	-0.0097	-0.0063	0.0092	-0.0001	-0.0018	0.0029	-0.0041	-0.0038	0.0076	0.0078	-0.0030	0.0063	1955	0.0048
1956	0.0104	0.0026	-0.0146	-0.0115	0.0052	-0.0018	-0.0093	-0.0208	0.0012	-0.0105	-0.0126	-0.0082	1956	-0.0681
1957	0.0197	0.0093	0.0050	-0.0066	-0.0075	-0.0322	-0.0110	-0.0009	0.0095	0.0023	0.0311	0.0685	1957	0.0871
1958	0.0099	-0.0008	-0.0046	0.0163	0.0031	-0.0038	-0.0153	-0.0320	-0.0096	0.0107	0.0105	-0.0058	1958	-0.0222
1959	-0.0028	0.0126	-0.0083	-0.0172	-0.0114	0.0044	0.0089	-0.0068	-0.0088	0.0165	0.0135	-0.0096	1959	-0.0097
1960	0.0107	0.0128	0.0191	-0.0022	-0.0021	0.0141	0.0257	0.0117	-0.0063	0.0008	-0.0070	0.0104	1960	0.0907
1961	0.0148	0.0210	-0.0029	-0.0116	0.0049	-0.0080	0.0040	-0.0018	0.0144	0.0127	0.0028	-0.0026	1961	0.0482
1962	0.0080	0.0052	0.0151	0.0142	0.0	-0.0026	-0.0015	0.0143	0.0089	0.0068	0.0062	0.0023	1962	0.0795
1963	0.0059	0.0023	0.0026	-0.0051	0.0048	0.0043	0.0028	0.0035	-0.0023	0.0049	0.0015	-0.0034	1963	0.0219
1964	0.0087	0.0054	-0.0062	0.0040	0.0057	0.0048	0.0052	0.0037	0.0021	0.0050	-0.0004	0.0088	1964	0.0477
1965	0.0081	0.0009	0.0012	0.0021	-0.0008	0.0003	0.0019	-0.0006	-0.0015	0.0046	-0.0057	-0.0149	1965	-0.0046
1966	0.0022	-0.0113	-0.0059	0.0013	-0.0026	0.0030	-0.0098	-0.0259	0.0078	0.0261	-0.0020	0.0201	1966	0.0020
1967	0.0450	-0.0201	0.0117	-0.0071	-0.0254	-0.0223	0.0041	-0.0007	0.0094	-0.0281	-0.0272	0.0127	1967	-0.0495
1968	0.0361	0.0037	-0.0197	0.0048	0.0032	0.0122	0.0341	0.0206	-0.0053	-0.0160	-0.0226	-0.0233	1968	0.0257
1969	0.0139	-0.0160	-0.0200	0.0335	-0.0227	0.0035	0.0005	-0.0020	-0.0244	0.0127	-0.0471	-0.0134	1969	-0.0809
1970	0.0141	0.0401	-0.0045	-0.0250	-0.0163	0.0001	0.0556	0.0100	0.0139	-0.0096	0.0584	0.0372	1970	0.1837
1971	0.0532	-0.0366	0.0258	-0.0236	-0.0161	0.0107	-0.0025	0.0554	-0.0102	0.0282	0.0029	0.0223	1971	0.1101
1972	-0.0033	0.0107	0.0024	0.0035	0.0163	-0.0068	0.0030	0.0072	0.0031	0.0101	0.0249	-0.0004	1972	0.0726
1973	-0.0054	0.0023	0.0045	0.0061	-0.0039	-0.0056	-0.0476	0.0356	0.0356	-0.0066	0.0078	-0.0089	1973	0.0114
1974	-0.0053	0.0009	-0.0307	-0.0341	0.0105	-0.0285	-0.0211	-0.0268	0.0174	0.0885	0.0117	-0.0075	1974	-0.0306
1975	0.0595	0.0137	-0.0247	-0.0052	0.0106	0.0304	-0.0030	-0.0175	-0.0126	0.0553	-0.0088	0.0442	1975	0.1464
1976	0.0188	0.0061	0.0167	-0.0015	-0.0103	0.0150	0.0149	0.0231	0.0167	0.0070	0.0319	0.0347	1976	0.1865

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-8

JAN 1926 - DEC 1976 U.S. TREASURY BILLS : TOTAL RETURNS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	0.0034	0.0027	0.0030	0.0034	0.0001	0.0035	0.0022	0.0025	0.0023	0.0032	0.0031	0.0028	1926	0.0327
1927	0.0025	0.0026	0.0030	0.0025	0.0030	0.0026	0.0030	0.0028	0.0021	0.0025	0.0021	0.0022	1927	0.0312
1928	0.0025	0.0033	0.0029	0.0022	0.0032	0.0031	0.0032	0.0032	0.0027	0.0041	0.0038	-0.0024	1928	0.0324
1929	0.0034	0.0036	0.0034	0.0036	0.0044	0.0052	0.0033	0.0040	0.0035	0.0046	0.0037	0.0037	1929	0.0475
1930	0.0014	0.0030	0.0035	0.0021	0.0026	0.0027	0.0020	0.0009	0.0022	0.0009	0.0013	0.0014	1930	0.0241
1931	0.0015	0.0004	0.0013	0.0008	0.0009	0.0008	0.0006	0.0003	0.0003	0.0010	0.0017	0.0012	1931	0.0107
1932	0.0023	0.0023	0.0016	0.0011	0.0006	0.0002	0.0003	0.0003	0.0003	0.0002	0.0002	0.0001	1932	0.0096
1933	0.0001	-0.0003	0.0004	0.0010	0.0004	0.0002	0.0002	0.0003	0.0002	0.0001	0.0002	0.0002	1933	0.0030
1934	0.0005	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	1934	0.0016
1935	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	1935	0.0017
1936	0.0001	0.0001	0.0002	0.0002	0.0002	0.0003	0.0001	0.0002	0.0001	0.0002	0.0001	0.0000	1936	0.0018
1937	0.0001	0.0002	0.0001	0.0003	0.0006	0.0003	0.0003	0.0002	0.0004	0.0002	0.0002	0.0000	1937	0.0031
1938	0.0000	0.0000	-0.0001	0.0001	0.0000	0.0000	-0.0001	0.0000	0.0002	0.0001	-0.0006	0.0000	1938	-0.0002
1939	-0.0001	0.0001	-0.0001	-0.0000	0.0001	0.0001	0.0000	-0.0001	0.0001	0.0000	0.0000	0.0000	1939	0.0002
1940	0.0000	0.0000	0.0	0.0000	-0.0002	0.0000	0.0001	-0.0001	0.0000	0.0000	0.0000	0.0000	1940	0.0000
1941	-0.0001	-0.0001	0.0001	-0.0001	0.0000	0.0000	0.0003	0.0001	0.0001	0.0000	0.0000	0.0001	1941	0.0006
1942	0.0002	0.0001	0.0001	0.0001	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	1942	0.0027
1943	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	1943	0.0035
1944	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.0002	1944	0.0033
1945	0.0003	0.0002	0.0002	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	1945	0.0033
1946	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	1946	0.0035
1947	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0006	0.0006	0.0006	0.0008	1947	0.0050
1948	0.0007	0.0007	0.0009	0.0008	0.0008	0.0009	0.0008	0.0009	0.0004	0.0004	0.0004	0.0004	1948	0.0081
1949	0.0010	0.0009	0.0010	0.0009	0.0010	0.0010	0.0009	0.0009	0.0009	0.0009	0.0008	0.0009	1949	0.0110
1950	0.0009	0.0009	0.0010	0.0009	0.0010	0.0010	0.0010	0.0010	0.0010	0.0012	0.0011	0.0011	1950	0.0120
1951	0.0013	0.0010	0.0011	0.0013	0.0012	0.0012	0.0013	0.0013	0.0012	0.0016	0.0011	0.0012	1951	0.0149
1952	0.0015	0.0012	0.0011	0.0012	0.0013	0.0015	0.0015	0.0015	0.0016	0.0014	0.0010	0.0016	1952	0.0166
1953	0.0016	0.0014	0.0018	0.0016	0.0017	0.0018	0.0015	0.0017	0.0016	0.0013	0.0008	0.0013	1953	0.0182
1954	0.0011	0.0007	0.0008	0.0009	0.0005	0.0006	0.0005	0.0005	0.0009	0.0007	0.0006	0.0008	1954	0.0086
1955	0.0008	0.0009	0.0010	0.0010	0.0014	0.0010	0.0010	0.0016	0.0016	0.0018	0.0017	0.0018	1955	0.0157
1956	0.0022	0.0019	0.0015	0.0019	0.0023	0.0020	0.0022	0.0017	0.0018	0.0025	0.0020	0.0024	1956	0.0246
1957	0.0027	0.0024	0.0023	0.0025	0.0026	0.0024	0.0030	0.0025	0.0026	0.0029	0.0028	0.0024	1957	0.0314
1958	0.0028	0.0012	0.0009	0.0008	0.0011	0.0003	0.0007	0.0004	0.0019	0.0018	0.0011	0.0022	1958	0.0154
1959	0.0021	0.0019	0.0022	0.0020	0.0022	0.0024	0.0025	0.0019	0.0031	0.0030	0.0026	0.0034	1959	0.0295
1960	0.0033	0.0029	0.0035	0.0019	0.0027	0.0024	0.0013	0.0017	0.0016	0.0022	0.0013	0.0016	1960	0.0266
1961	0.0019	0.0014	0.0020	0.0017	0.0018	0.0020	0.0018	0.0014	0.0017	0.0019	0.0015	0.0019	1961	0.0213
1962	0.0024	0.0020	0.0020	0.0022	0.0024	0.0020	0.0027	0.0023	0.0021	0.0025	0.0020	0.0023	1962	0.0273
1963	0.0025	0.0023	0.0023	0.0025	0.0024	0.0023	0.0027	0.0025	0.0027	0.0029	0.0027	0.0029	1963	0.0312
1964	0.0030	0.0026	0.0031	0.0029	0.0026	0.0030	0.0030	0.0028	0.0028	0.0029	0.0029	0.0031	1964	0.0354
1965	0.0028	0.0030	0.0036	0.0031	0.0031	0.0035	0.0031	0.0033	0.0031	0.0031	0.0035	0.0033	1965	0.0393
1966	0.0033	0.0035	0.0038	0.0034	0.0041	0.0038	0.0035	0.0041	0.0040	0.0045	0.0040	0.0040	1966	0.0476
1967	0.0043	0.0036	0.0039	0.0032	0.0033	0.0027	0.0031	0.0031	0.0032	0.0039	0.0036	0.0033	1967	0.0421
1968	0.0040	0.0039	0.0038	0.0043	0.0045	0.0043	0.0048	0.0042	0.0043	0.0044	0.0042	0.0043	1968	0.0521
1969	0.0053	0.0046	0.0046	0.0053	0.0048	0.0051	0.0053	0.0050	0.0062	0.0060	0.0052	0.0064	1969	0.0658
1970	0.0060	0.0062	0.0057	0.0050	0.0053	0.0058	0.0052	0.0053	0.0054	0.0046	0.0046	0.0042	1970	0.0653
1971	0.0038	0.0033	0.0030	0.0028	0.0029	0.0037	0.0040	0.0047	0.0037	0.0037	0.0037	0.0037	1971	0.0439
1972	0.0029	0.0025	0.0027	0.0029	0.0030	0.0029	0.0031	0.0029	0.0034	0.0040	0.0037	0.0037	1972	0.0384
1973	0.0044	0.0041	0.0046	0.0052	0.0051	0.0051	0.0064	0.0070	0.0068	0.0065	0.0056	0.0064	1973	0.0693
1974	0.0063	0.0058	0.0056	0.0075	0.0075	0.0060	0.0070	0.0060	0.0081	0.0051	0.0054	0.0070	1974	0.0800
1975	0.0058	0.0043	0.0041	0.0044	0.0044	0.0041	0.0048	0.0048	0.0053	0.0056	0.0041	0.0048	1975	0.0580
1976	0.0047	0.0034	0.0040	0.0042	0.0037	0.0043	0.0047	0.0042	0.0044	0.0041	0.0040	0.0040	1976	0.0508

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-9

JAN 1926 - DEC 1976 CONSUMER PRICE INDEX : INFLATION RATES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	0.0	-0.0037	-0.0056	0.0094	-0.0056	-0.0075	-0.0094	-0.0057	0.0057	0.0038	0.0038	0.0	1926	-0.0149
1927	-0.0076	-0.0076	-0.0056	0.0	0.0077	0.0096	-0.0190	-0.0058	0.0058	0.0058	-0.0019	-0.0019	1927	-0.0208
1928	-0.0019	-0.0097	0.0	0.0020	0.0058	-0.0078	0.0	0.0020	0.0078	-0.0019	-0.0019	-0.0039	1928	-0.0097
1929	-0.0019	-0.0020	-0.0039	-0.0039	0.0059	0.0039	0.0098	0.0039	-0.0019	0.0	-0.0019	-0.0058	1929	0.0019
1930	-0.0039	-0.0039	-0.0059	0.0059	-0.0059	-0.0059	-0.0139	-0.0060	0.0061	-0.0060	-0.0081	-0.0143	1930	-0.0603
1931	-0.0145	-0.0147	-0.0064	-0.0064	-0.0108	-0.0109	-0.0022	-0.0022	-0.0044	-0.0067	-0.0112	-0.0091	1931	-0.0952
1932	-0.0206	-0.0140	-0.0047	-0.0071	-0.0144	-0.0073	0.0	-0.0123	-0.0050	-0.0075	-0.0050	-0.0101	1932	-0.1030
1933	-0.0153	-0.0155	-0.0079	-0.0027	0.0027	0.0106	0.0289	0.0102	0.0	0.0	0.0	-0.0051	1933	0.0051
1934	0.0051	0.0076	0.0	-0.0025	0.0025	0.0025	0.0	0.0025	0.0150	-0.0074	-0.0025	-0.0025	1934	0.0203
1935	0.0149	0.0074	-0.0024	0.0098	-0.0048	-0.0024	-0.0049	0.0	0.0049	0.0	0.0049	0.0024	1935	0.0299
1936	0.0	-0.0048	-0.0049	0.0	0.0	0.0098	0.0048	0.0072	0.0024	-0.0024	0.0	0.0	1936	0.0121
1937	0.0072	0.0024	0.0071	0.0047	0.0047	0.0023	0.0046	0.0023	0.0092	-0.0046	-0.0069	-0.0023	1937	0.0310
1938	-0.0139	-0.0094	0.0	0.0047	-0.0047	0.0	0.0024	-0.0024	0.0	-0.0047	-0.0024	0.0024	1938	-0.0278
1939	-0.0048	-0.0048	-0.0024	-0.0024	0.0	0.0	0.0	0.0	0.0193	-0.0047	0.0	-0.0048	1939	-0.0048
1940	-0.0024	0.0072	-0.0024	0.0	0.0024	0.0024	-0.0024	-0.0024	0.0024	0.0	0.0	0.0048	1940	0.0096
1941	0.0	0.0	0.0047	0.0094	0.0070	0.0186	0.0046	0.0091	0.0180	0.0110	0.0087	0.0022	1941	0.0972
1942	0.0130	0.0085	0.0127	0.0063	0.0104	0.0021	0.0041	0.0061	0.0020	0.0101	0.0060	0.0080	1942	0.0929
1943	0.0	0.0020	0.0158	0.0117	0.0077	-0.0019	-0.0076	-0.0038	0.0039	0.0038	-0.0019	0.0019	1943	0.0316
1944	-0.0019	-0.0019	0.0	0.0058	0.0038	0.0019	0.0057	0.0038	0.0	0.0	0.0	0.0038	1944	0.0211
1945	0.0	-0.0019	0.0	0.0019	0.0075	0.0093	0.0018	0.0	-0.0037	0.0	0.0037	0.0037	1945	0.0225
1946	0.0	-0.0037	0.0074	0.0055	0.0055	0.0108	0.0590	0.0220	0.0116	0.0196	0.0240	0.0078	1946	0.1817
1947	0.0	-0.0016	0.0218	0.0	-0.0030	0.0076	0.0091	0.0105	0.0238	0.0	0.0058	0.0130	1947	0.0901
1948	0.0114	-0.0085	-0.0028	0.0142	0.0070	0.0070	0.0125	0.0041	0.0	-0.0041	-0.0068	-0.0069	1948	0.0271
1949	-0.0014	-0.0111	0.0028	0.0014	-0.0014	0.0014	-0.0070	0.0028	0.0042	-0.0056	0.0014	-0.0056	1949	-0.0180
1950	-0.0042	-0.0028	0.0043	0.0014	0.0042	0.0056	0.0098	0.0083	0.0069	0.0055	0.0041	0.0135	1950	0.0579
1951	0.0150	0.0118	0.0039	0.0013	0.0039	-0.0013	0.0013	0.0	0.0064	0.0051	0.0051	0.0038	1951	0.0587
1952	0.0	-0.0063	0.0	0.0038	0.0013	0.0025	0.0076	0.0012	-0.0012	0.0012	0.0	-0.0012	1952	0.0088
1953	-0.0025	-0.0050	0.0025	0.0013	0.0025	0.0038	0.0025	0.0025	0.0012	0.0025	-0.0037	-0.0012	1953	0.0062
1954	0.0025	-0.0012	-0.0012	-0.0025	0.0037	0.0012	0.0	-0.0012	-0.0025	-0.0025	0.0012	-0.0025	1954	-0.0050
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0037	-0.0025	0.0037	0.0	0.0012	-0.0025	1955	0.0037
1956	-0.0012	0.0	0.0012	0.0012	0.0050	0.0062	0.0074	-0.0012	0.0012	0.0061	0.0	0.0024	1956	0.0286
1957	0.0012	0.0036	0.0024	0.0036	0.0024	0.0060	0.0047	0.0012	0.0012	0.0	0.0035	0.0	1957	0.0302
1958	0.0059	0.0012	0.0070	0.0023	0.0	0.0012	0.0012	-0.0012	0.0	0.0	0.0012	-0.0012	1958	0.0176
1959	0.0012	-0.0012	0.0	0.0012	0.0012	0.0046	0.0023	-0.0011	0.0034	0.0034	0.0	0.0	1959	0.0150
1960	-0.0011	0.0011	0.0	0.0057	0.0	0.0023	0.0	0.0	0.0011	0.0045	0.0011	0.0	1960	0.0148
1961	0.0	0.0	0.0	0.0	0.0	0.0011	0.0045	-0.0011	0.0022	0.0	0.0	0.0	1961	0.0067
1962	0.0	0.0022	0.0022	0.0022	0.0	0.0	0.0022	0.0	0.0055	-0.0011	0.0	-0.0011	1962	0.0122
1963	0.0011	0.0011	0.0011	0.0	0.0	0.0044	0.0044	0.0	0.0	0.0011	0.0011	0.0022	1963	0.0165
1964	0.0011	-0.0011	0.0011	0.0011	0.0	0.0022	0.0022	-0.0011	0.0022	0.0011	0.0021	0.0011	1964	0.0119
1965	0.0	0.0	0.0011	0.0032	0.0021	0.0053	0.0011	-0.0021	0.0021	0.0011	0.0021	0.0032	1965	0.0192
1966	0.0	0.0063	0.0031	0.0042	0.0010	0.0031	0.0031	0.0051	0.0020	0.0041	0.0	0.0010	1966	0.0335
1967	0.0	0.0010	0.0020	0.0020	0.0030	0.0030	0.0050	0.0030	0.0020	0.0030	0.0030	0.0030	1967	0.0304
1968	0.0039	0.0029	0.0049	0.0029	0.0029	0.0058	0.0048	0.0029	0.0029	0.0057	0.0038	0.0028	1968	0.0472
1969	0.0028	0.0037	0.0084	0.0065	0.0028	0.0064	0.0046	0.0045	0.0045	0.0036	0.0054	0.0062	1969	0.0611
1970	0.0035	0.0053	0.0053	0.0061	0.0043	0.0052	0.0034	0.0017	0.0051	0.0051	0.0034	0.0051	1970	0.0549
1971	0.0008	0.0017	0.0034	0.0033	0.0050	0.0058	0.0025	0.0025	0.0008	0.0016	0.0016	0.0041	1971	0.0336
1972	0.0008	0.0049	0.0016	0.0024	0.0032	0.0024	0.0040	0.0016	0.0040	0.0032	0.0024	0.0032	1972	0.0341
1973	0.0031	0.0070	0.0093	0.0069	0.0061	0.0068	0.0023	0.0181	0.0030	0.0081	0.0073	0.0065	1973	0.0880
1974	0.0087	0.0129	0.0113	0.0056	0.0111	0.0096	0.0075	0.0128	0.0120	0.0086	0.0085	0.0071	1974	0.1220
1975	0.0045	0.0070	0.0038	0.0051	0.0044	0.0082	0.0106	0.0031	0.0049	0.0061	0.0061	0.0042	1975	0.0701
1976	0.0024	0.0024	0.0024	0.0042	0.0059	0.0053	0.0059	0.0047	0.0041	0.0041	0.0029	0.0029	1976	0.0481

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION:
THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-10

JAN 1926 - DEC 1976 COMMON STOCKS : INFLATION ADJUSTED TOTAL RETURNS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	-0.0000	-0.0347	-0.0519	0.0159	0.0235	0.0532	0.0573	0.0306	0.0194	-0.0322	0.0309	0.0196	1926	0.1325
1927	-0.0117	0.0614	0.0144	0.0201	0.0530	-0.0163	0.0860	0.0573	0.0392	-0.0560	0.0740	0.0298	1927	0.4008
1928	-0.0020	-0.0029	0.1101	0.0325	0.0139	-0.0307	0.0141	0.0783	0.0181	0.0188	0.1311	0.0088	1928	0.4507
1929	0.0603	0.0000	0.0027	0.0216	-0.0422	0.1101	0.0373	0.0990	-0.0457	-0.1973	-0.1227	0.0340	1929	-0.0852
1930	0.0678	0.0298	0.0871	-0.0139	-0.0038	-0.1566	0.0525	0.0202	-0.1343	-0.0795	-0.0008	-0.0563	1930	-0.2009
1931	0.0647	0.1340	-0.0611	-0.0870	-0.1171	0.1530	-0.0699	0.0204	-0.2928	0.0963	-0.0686	-0.1309	1931	-0.3725
1932	-0.0065	0.0711	-0.1111	-0.1926	-0.2052	0.0051	0.3815	0.3991	-0.0296	-0.1274	-0.0366	0.0666	1932	0.0260
1933	0.0240	-0.1617	0.0432	0.4283	0.1656	0.1232	-0.1150	0.1104	-0.1118	-0.0855	0.1127	0.0304	1933	0.5325
1934	0.1019	-0.0398	-0.0000	-0.0226	-0.0761	0.0204	-0.1131	0.0586	-0.0182	-0.0212	0.0967	0.0014	1934	-0.0342
1935	-0.0560	-0.0414	-0.0262	0.0882	0.0458	0.0724	0.0899	0.0280	0.0207	0.0777	0.0425	0.0370	1935	0.4328
1936	0.0670	0.0272	0.0317	-0.0751	0.0545	0.0236	0.0652	0.0079	0.0007	0.0798	0.0134	-0.0029	1936	0.3234
1937	0.0318	0.0167	-0.0148	-0.0856	-0.0071	-0.0528	0.0999	-0.0506	-0.1495	-0.0935	-0.0797	-0.0436	1937	-0.3702
1938	0.0291	0.0767	-0.2487	0.1400	-0.0283	0.2503	0.0720	-0.0202	0.0166	0.0824	-0.0250	0.0377	1938	0.3482
1939	-0.0626	0.0438	-0.1315	-0.0003	0.0733	-0.0612	0.1105	-0.0648	0.1479	-0.0075	-0.0398	0.0318	1939	0.0035
1940	-0.0312	0.0061	0.0147	-0.0024	-0.2313	0.0785	0.0364	0.0374	0.0099	0.0422	-0.0316	-0.0038	1940	-0.1070
1941	-0.0463	-0.0060	0.0023	-0.0707	0.0113	0.0392	0.0533	-0.0081	-0.0248	-0.0767	-0.0372	-0.0428	1941	-0.1955
1942	0.0032	-0.0244	-0.0779	-0.0462	0.0693	0.0200	0.0296	0.0102	0.0270	0.0577	-0.0081	0.0469	1942	0.1014
1943	0.0737	0.0563	0.0388	-0.0082	0.0475	0.0242	-0.0450	0.0210	0.0224	-0.0146	-0.0635	0.0598	1943	0.2222
1944	0.0191	0.0061	0.0195	-0.0158	0.0467	0.0523	-0.0250	0.0120	-0.0008	0.0023	0.0133	0.0336	1944	0.1730
1945	0.0158	0.0702	-0.0441	0.0883	0.0120	-0.0100	-0.0199	0.0641	0.0475	0.0322	0.0359	0.0080	1945	0.3343
1946	0.0714	-0.0604	0.0407	0.0338	0.0233	-0.0479	-0.0829	-0.0893	-0.1113	-0.0256	-0.0267	0.0378	1946	-0.2291
1947	0.0255	-0.0061	-0.0367	-0.0363	0.0044	0.0477	0.0290	-0.0308	-0.0349	0.0238	-0.0233	0.0104	1947	-0.0316
1948	-0.0493	-0.0304	0.0821	0.0149	0.0808	-0.0016	-0.0632	0.0117	-0.0276	0.0751	-0.0893	0.0415	1948	0.0267
1949	0.0053	-0.0185	0.0300	-0.0193	-0.0244	0.0000	0.0720	0.0191	0.0221	0.0396	0.0160	0.0542	1949	0.2091
1950	0.0239	0.0228	0.0027	0.0472	0.0467	-0.0605	0.0021	0.0360	0.0523	0.0038	0.0128	0.0377	1950	0.2462
1951	0.0477	0.0039	-0.0195	0.0496	-0.0337	-0.0215	0.0698	0.0478	-0.0051	-0.0154	0.0045	0.0386	1951	0.1723
1952	0.0181	-0.0219	0.0503	-0.0440	0.0330	0.0465	0.0121	-0.0083	-0.0163	0.0008	0.0571	0.0394	1952	0.1735
1953	-0.0024	-0.0056	-0.0238	-0.0250	0.0052	-0.0172	0.0248	-0.0526	0.0022	0.0515	0.0241	0.0065	1953	-0.0162
1954	0.0511	0.0124	0.0337	0.0541	0.0380	0.0018	0.0589	-0.0263	0.0876	-0.0142	0.0897	0.0559	1954	0.5337
1955	0.0197	0.0098	-0.0030	0.0396	0.0055	0.0841	0.0584	-0.0000	0.0092	-0.0284	0.0814	0.0040	1955	0.3111
1956	-0.0335	0.0413	0.0698	-0.0017	-0.0643	0.0347	0.0456	-0.0316	-0.0452	0.0005	-0.0050	0.0346	1956	0.0363
1957	-0.0413	-0.0300	0.0191	0.0352	0.0413	-0.0055	0.0083	-0.0517	-0.0613	-0.0302	0.0196	-0.0395	1957	-0.1340
1958	0.0386	-0.0153	0.0258	0.0314	0.0212	0.0267	0.0437	0.0187	0.0501	0.0270	0.0273	0.0547	1958	0.4095
1959	0.0041	0.0060	0.0020	0.0391	0.0228	-0.0068	0.0340	-0.0091	-0.0477	0.0094	0.0186	0.0292	1959	0.1030
1960	-0.0688	0.0136	-0.0123	-0.0218	0.0326	0.0189	-0.0234	0.0317	-0.0601	-0.0053	0.0453	0.0479	1960	-0.0100
1961	0.0645	0.0319	0.0270	0.0051	0.0239	-0.0286	0.0297	0.0254	-0.0206	0.0298	0.0447	0.0046	1961	0.2604
1962	-0.0366	0.0187	-0.0068	-0.0629	-0.0811	-0.0803	0.0630	0.0208	-0.0520	0.0075	0.1086	0.0164	1962	-0.0986
1963	0.0495	-0.0250	0.0359	0.0500	0.0193	-0.0232	-0.0065	0.0535	-0.0097	0.0328	-0.0057	0.0241	1963	0.2081
1964	0.0272	0.0157	0.0154	0.0064	0.0162	0.0156	0.0173	-0.0107	0.0279	0.0085	-0.0017	0.0045	1964	0.1514
1965	0.0345	0.0031	-0.0143	0.0324	-0.0052	-0.0526	0.0137	0.0293	0.0313	0.0278	-0.0052	0.0074	1965	0.1031
1966	0.0062	-0.0194	-0.0236	0.0178	-0.0502	-0.0177	-0.0151	-0.0776	-0.0074	0.0453	0.0095	-0.0008	1966	-0.1303
1967	0.0798	0.0061	0.0389	0.0417	-0.0507	0.0160	0.0418	-0.0100	0.0322	-0.0306	0.0035	0.0248	1967	0.2035
1968	-0.0464	-0.0291	0.0061	0.0805	0.0132	0.0047	-0.0220	0.0135	0.0371	0.0030	0.0493	-0.0431	1968	0.0507
1969	-0.0097	-0.0464	0.0275	0.0164	-0.0002	-0.0606	-0.0633	0.0409	-0.0281	0.0423	-0.0351	-0.0239	1969	-0.1384
1970	-0.0779	0.0533	-0.0023	-0.0950	-0.0591	-0.0534	0.0718	0.0492	0.0296	-0.0148	0.0502	0.0533	1970	-0.0145
1971	0.0410	0.0124	0.0349	0.0343	-0.0417	-0.0037	-0.0424	0.0388	-0.0064	-0.0420	0.0010	0.0836	1971	0.1063
1972	0.0185	0.0251	0.0056	0.0033	0.0187	-0.0229	-0.0004	0.0375	-0.0076	0.0075	0.0481	0.0100	1972	0.1509
1973	-0.0191	-0.0403	-0.0095	-0.0464	-0.0201	-0.0120	0.0372	-0.0499	0.0386	-0.0078	-0.1155	0.0118	1973	-0.2177
1974	-0.0172	-0.0110	-0.0330	-0.0429	-0.0384	0.0921	-0.1797	-0.0957	-0.1290	0.1572	-0.0533	-0.0249	1974	-0.3479
1975	0.1206	0.0604	0.0198	0.0442	0.0464	0.0380	-0.0765	-0.0175	-0.0377	0.0576	0.0253	-0.0139	1975	0.2833
1976	0.1175	-0.0082	0.0302	-0.0141	-0.0133	0.0374	-0.0127	-0.0033	0.0206	-0.0246	-0.0038	0.0511	1976	0.1820

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-11

JAN 1926 - DEC 1976 LONG-TERM GOVERNMENT BONDS : INFLATION ADJUSTED TOTAL RETURNS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	0.0138	0.0100	0.0097	-0.0018	0.0070	0.0113	0.0099	0.0057	-0.0020	0.0064	0.0122	0.0078	1926	0.0937
1927	0.0150	0.0164	0.0311	-0.0005	0.0031	-0.0165	0.0239	0.0134	-0.0040	0.0041	0.0116	0.0091	1927	0.1112
1928	-0.0017	0.0158	0.0045	-0.0023	-0.0136	0.0119	-0.0217	0.0057	-0.0119	0.0177	0.0023	0.0043	1928	0.0103
1929	-0.0070	-0.0137	-0.0105	0.0314	-0.0255	0.0106	-0.0098	-0.0073	0.0047	0.0382	0.0256	-0.0031	1929	0.0318
1930	-0.0018	0.0168	0.0142	-0.0075	0.0198	0.0110	0.0173	0.0073	0.0013	0.0096	0.0123	0.0073	1930	0.1127
1931	0.0023	0.0232	0.0168	0.0150	0.0253	0.0113	-0.0020	0.0035	-0.0236	-0.0263	0.0139	-0.0129	1931	0.0458
1932	0.0240	0.0554	0.0029	0.0675	-0.0353	0.0465	0.0481	0.0125	0.0107	0.0058	0.0082	0.0232	1932	0.2999
1933	0.0301	-0.0103	0.0176	-0.0006	0.0276	-0.0056	-0.0306	-0.0058	0.0023	-0.0091	-0.0149	-0.0062	1933	-0.0071
1934	0.0206	0.0005	0.0197	0.0151	0.0106	0.0042	0.0040	-0.0143	-0.0295	0.0256	0.0062	0.0137	1934	0.0777
1935	0.0032	0.0018	0.0066	-0.0019	-0.0008	0.0116	0.0094	-0.0133	-0.0040	0.0061	-0.0039	0.0046	1935	0.0193
1936	0.0055	0.0129	0.0155	0.0035	0.0040	-0.0076	0.0012	0.0039	-0.0055	0.0030	0.0205	0.0038	1936	0.0621
1937	-0.0085	0.0063	-0.0482	-0.0008	0.0006	-0.0041	0.0092	-0.0127	-0.0047	0.0088	0.0164	0.0106	1937	-0.0285
1938	0.0196	0.0146	-0.0037	0.0162	0.0091	0.0004	0.0020	0.0024	0.0022	0.0134	0.0002	0.0056	1938	0.0850
1939	0.0107	0.0128	0.0149	0.0142	0.0171	-0.0027	0.0113	-0.0201	-0.0738	0.0457	0.0162	0.0192	1939	0.0623
1940	0.0007	-0.0045	0.0201	-0.0035	-0.0323	0.0234	0.0076	0.0052	0.0086	0.0031	0.0205	0.0019	1940	0.0507
1941	-0.0201	0.0020	0.0048	0.0035	-0.0043	-0.0120	-0.0024	-0.0073	-0.0191	0.0030	-0.0117	-0.0199	1941	-0.0807
1942	-0.0060	-0.0074	-0.0035	-0.0092	-0.0029	-0.0018	-0.0023	-0.0024	-0.0017	-0.0077	-0.0095	-0.0031	1942	-0.0560
1943	0.0033	-0.0025	-0.0149	-0.0068	-0.0026	0.0037	0.0076	0.0059	-0.0028	-0.0034	0.0019	-0.0001	1943	-0.0109
1944	0.0040	0.0051	0.0021	-0.0044	-0.0010	-0.0011	-0.0021	-0.0011	0.0014	0.0012	0.0024	0.0005	1944	0.0069
1945	0.0127	0.0095	0.0021	0.0141	-0.0019	0.0076	-0.0104	0.0026	0.0091	0.0104	0.0088	0.0157	1945	0.0831
1946	0.0025	0.0069	-0.0064	-0.0190	-0.0067	-0.0038	-0.0630	-0.0331	-0.0125	-0.0122	-0.0295	0.0067	1946	-0.1595
1947	-0.0006	0.0037	-0.0198	-0.0037	0.0064	-0.0066	-0.0028	-0.0024	-0.0281	-0.0037	-0.0232	-0.0322	1947	-0.1083
1948	-0.0094	0.0131	0.0063	-0.0098	0.0071	-0.0154	-0.0146	-0.0040	0.0014	0.0048	0.0144	0.0125	1948	0.0059
1949	0.0096	0.0160	0.0046	-0.0003	0.0033	0.0153	0.0103	0.0083	-0.0054	0.0075	0.0007	0.0108	1949	0.0837
1950	-0.0019	0.0050	-0.0034	0.0016	-0.0009	-0.0081	-0.0043	-0.0069	-0.0141	-0.0102	-0.0006	-0.0119	1950	-0.0547
1951	-0.0102	-0.0192	-0.0196	-0.0075	-0.0108	-0.0049	0.0125	0.0099	-0.0144	-0.0041	-0.0187	-0.0099	1951	-0.0933
1952	0.0028	0.0077	0.0111	0.0133	-0.0046	-0.0022	-0.0095	-0.0082	-0.0118	0.0135	-0.0015	-0.0073	1952	0.0027
1953	0.0037	-0.0037	-0.0113	-0.0118	-0.0173	0.0185	0.0014	-0.0032	0.0287	0.0050	-0.0012	0.0218	1953	0.0299
1954	0.0064	0.0252	0.0071	0.0129	-0.0124	0.0150	0.0134	-0.0024	0.0015	0.0031	-0.0037	0.0089	1954	0.0771
1955	-0.0241	-0.0078	0.0087	0.0001	0.0073	-0.0076	-0.0140	0.0029	0.0036	0.0144	-0.0057	0.0061	1955	-0.0167
1956	0.0095	-0.0002	-0.0161	-0.0125	0.0176	-0.0035	-0.0282	-0.0174	0.0037	-0.0115	-0.0057	-0.0203	1956	-0.0824
1957	0.0334	-0.0011	-0.0048	-0.0258	-0.0047	-0.0240	-0.0088	-0.0010	0.0064	-0.0050	0.0498	0.0307	1957	0.0429
1958	-0.0143	0.0089	0.0032	0.0163	0.0001	-0.0171	-0.0290	-0.0424	-0.0117	0.0139	0.0109	-0.0169	1958	-0.0772
1959	-0.0092	0.0129	0.0017	-0.0128	-0.0017	-0.0036	0.0037	-0.0030	-0.0091	0.0116	-0.0119	-0.0159	1959	-0.0371
1960	0.0123	0.0192	0.0282	-0.0227	0.0152	0.0150	0.0368	-0.0067	0.0064	-0.0073	-0.0077	0.0279	1960	0.1211
1961	-0.0107	0.0200	-0.0038	0.0115	-0.0046	-0.0086	-0.0010	-0.0027	0.0107	0.0071	-0.0020	-0.0125	1961	0.0030
1962	-0.0014	0.0081	0.0231	0.0060	0.0046	-0.0076	-0.0131	0.0187	0.0006	0.0095	0.0021	0.0046	1962	0.0560
1963	-0.0012	-0.0003	-0.0002	-0.0012	0.0023	-0.0024	-0.0013	0.0021	0.0004	-0.0037	0.0040	-0.0028	1963	-0.0043
1964	-0.0024	-0.0000	0.0026	0.0036	0.0050	0.0047	-0.0014	0.0031	0.0028	0.0032	-0.0005	0.0019	1964	0.0229
1965	0.0040	0.0014	0.0043	0.0004	-0.0004	-0.0006	0.0011	0.0008	-0.0055	0.0017	-0.0083	-0.0109	1965	-0.0120
1966	-0.0104	-0.0313	0.0265	-0.0104	-0.0070	-0.0047	-0.0068	-0.0258	0.0312	0.0187	-0.0148	0.0403	1966	0.0027
1967	0.0154	-0.0231	0.0178	-0.0311	-0.0069	-0.0342	0.0018	-0.0114	-0.0024	-0.0430	-0.0226	0.0163	1967	-0.1190
1968	0.0288	-0.0063	-0.0261	0.0198	0.0014	0.0172	0.0241	-0.0032	-0.0131	-0.0189	-0.0307	-0.0391	1968	-0.0478
1969	-0.0234	0.0004	-0.0074	0.0362	-0.0518	0.0150	0.0034	-0.0114	-0.0576	0.0329	-0.0297	-0.0131	1969	-0.1058
1970	-0.0057	0.0534	-0.0120	-0.0474	-0.0512	0.0435	0.0285	-0.0036	0.0177	-0.0160	0.0757	-0.0135	1970	0.0628
1971	0.0497	-0.0180	0.0493	-0.0317	-0.0056	-0.0217	0.0005	0.0445	0.0195	0.0150	-0.0063	0.0003	1971	0.0955
1972	-0.0072	0.0039	-0.0096	0.0003	0.0238	-0.0089	0.0176	0.0013	-0.0122	0.0203	0.0202	-0.0261	1972	0.0221
1973	-0.0352	-0.0056	-0.0011	-0.0024	-0.0166	-0.0090	-0.0456	0.0211	0.0288	-0.0211	0.0087	-0.0148	1973	-0.0913
1974	-0.0170	-0.0153	-0.0405	-0.0309	0.0011	-0.0052	-0.0104	-0.0361	0.0127	0.0404	0.0211	0.0100	1974	-0.0708
1975	0.0180	0.0061	-0.0305	-0.0233	0.0168	0.0210	-0.0193	-0.0099	-0.0147	0.0414	-0.0170	0.0348	1975	0.0205
1976	0.0066	0.0038	0.0142	-0.0023	-0.0218	0.0154	0.0019	0.0165	0.0104	0.0043	0.0310	0.0298	1976	0.1143

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-12

JAN 1926 - DEC 1976 LONG-TERM CORPORATE BONDS : INFLATION ADJUSTED TOTAL RETURNS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	0.0072	0.0082	0.0140	0.0003	0.0100	0.0079	0.0151	0.0101	-0.0000	0.0059	0.0019	0.0056	1926	0.0896
1927	0.0132	0.0145	0.0141	0.0055	-0.0088	-0.0053	0.0193	0.0141	0.0091	-0.0003	0.0087	0.0087	1927	0.0963
1928	0.0046	0.0165	0.0041	-0.0006	-0.0136	0.0054	-0.0010	0.0063	-0.0048	0.0102	-0.0017	0.0123	1928	0.0380
1929	0.0062	0.0050	-0.0048	0.0058	-0.0014	-0.0085	-0.0078	-0.0019	0.0053	0.0073	0.0001	0.0250	1929	0.0304
1930	0.0098	0.0111	0.0197	0.0025	0.0116	0.0169	0.0195	0.0196	0.0047	0.0114	0.0069	0.0053	1930	0.1480
1931	0.0348	0.0215	0.0158	0.0131	0.0242	0.0161	0.0074	0.0034	0.0030	-0.0296	-0.0077	-0.0195	1931	0.0837
1932	0.0154	-0.0098	0.0403	-0.0105	0.0251	0.0064	0.0043	0.0559	0.0351	0.0149	0.0123	0.0240	1932	0.2330
1933	0.0700	-0.0368	0.0126	-0.0068	0.0561	0.0084	-0.0128	-0.0009	-0.0014	0.0040	-0.0248	0.0308	1933	0.0973
1934	0.0206	0.0070	0.0187	0.0129	0.0065	0.0133	0.0047	0.0022	-0.0211	0.0176	0.0154	0.0126	1934	0.1154
1935	0.0062	0.0067	0.0067	0.0014	0.0090	0.0136	0.0160	-0.0042	-0.0049	0.0042	0.0020	0.0059	1935	0.0644
1936	0.0082	0.0102	0.0131	0.0026	0.0040	-0.0016	-0.0037	-0.0005	0.0043	0.0049	0.0109	0.0010	1936	0.0545
1937	-0.0048	-0.0070	-0.0185	0.0021	-0.0007	0.0030	-0.0007	-0.0040	-0.0067	0.0113	0.0136	0.0090	1937	-0.0039
1938	0.0177	0.0104	-0.0087	0.0091	0.0057	0.0095	0.0042	0.0005	0.0109	0.0127	0.0061	0.0098	1938	0.0912
1939	0.0070	0.0112	0.0046	0.0088	0.0049	0.0035	-0.0007	-0.0392	-0.0042	0.0284	0.0079	0.0126	1939	0.0442
1940	0.0073	-0.0051	0.0073	-0.0092	-0.0045	0.0097	0.0045	0.0031	0.0068	0.0049	0.0063	-0.0071	1940	0.0240
1941	0.0006	0.0006	-0.0069	-0.0016	-0.0021	-0.0123	0.0017	-0.0057	-0.0132	-0.0076	-0.0181	-0.0016	1941	-0.0644
1942	-0.0124	-0.0093	-0.0064	-0.0057	-0.0084	0.0013	-0.0021	-0.0026	-0.0000	-0.0095	-0.0054	-0.0031	1942	-0.0618
1943	0.0049	-0.0014	-0.0138	-0.0068	-0.0029	0.0067	0.0095	0.0057	-0.0034	-0.0047	-0.0004	0.0030	1943	-0.0036
1944	0.0039	0.0053	0.0048	-0.0024	-0.0033	0.0001	-0.0023	-0.0004	0.0019	0.0019	0.0048	0.0111	1944	0.0257
1945	0.0075	0.0065	0.0018	-0.0001	-0.0086	-0.0061	-0.0029	0.0004	0.0069	0.0032	-0.0005	0.0096	1945	0.0177
1946	0.0128	0.0071	-0.0040	-0.0098	-0.0036	-0.0089	-0.0602	-0.0308	-0.0142	-0.0176	-0.0265	0.0035	1946	-0.1439
1947	0.0005	0.0021	-0.0151	0.0020	0.0050	-0.0072	-0.0071	-0.0176	-0.0369	-0.0099	-0.0156	-0.0106	1947	-0.1056
1948	-0.0090	0.0124	0.0143	-0.0104	-0.0062	-0.0153	-0.0177	0.0014	0.0024	0.0065	0.0153	0.0200	1948	0.0129
1949	0.0052	0.0149	-0.0021	0.0009	0.0052	0.0070	0.0169	0.0009	-0.0021	0.0123	0.0007	-0.0089	1949	0.0517
1950	0.0079	0.0035	-0.0021	-0.0022	-0.0050	-0.0033	-0.0029	-0.0045	-0.0108	-0.0063	0.0013	-0.0112	1950	-0.0351
1951	-0.0141	-0.0162	-0.0276	-0.0022	-0.0054	-0.0080	0.0192	0.0114	-0.0121	-0.0196	-0.0112	0.0020	1951	-0.0816
1952	0.0199	-0.0022	0.0076	-0.0042	0.0018	-0.0009	-0.0060	0.0051	-0.0006	0.0027	0.0108	-0.0079	1952	0.0261
1953	-0.0055	0.0010	-0.0058	-0.0261	-0.0055	0.0071	0.0152	-0.0110	0.0241	0.0202	-0.0036	0.0184	1953	0.0277
1954	0.0099	0.0210	0.0051	-0.0009	-0.0079	0.0051	0.0040	0.0030	0.0065	0.0065	0.0013	0.0042	1954	0.0590
1955	-0.0097	-0.0063	0.0092	-0.0001	-0.0018	0.0029	-0.0078	-0.0013	0.0039	0.0078	-0.0042	0.0088	1955	0.0010
1956	0.0116	0.0026	-0.0156	-0.0127	0.0002	-0.0080	-0.0167	-0.0196	-0.0000	-0.0166	-0.0126	-0.0106	1956	-0.0944
1957	0.0185	0.0057	0.0026	-0.0102	-0.0099	-0.0382	-0.0157	-0.0021	0.0083	0.0023	0.0276	0.0685	1957	0.0550
1958	0.0040	-0.0020	-0.0116	0.0140	0.0031	-0.0050	-0.0165	-0.0308	-0.0096	0.0107	0.0093	-0.0046	1958	-0.0391
1959	-0.0040	0.0138	-0.0083	-0.0184	-0.0126	-0.0002	0.0066	-0.0057	-0.0122	0.0131	0.0135	-0.0096	1959	-0.0243
1960	0.0113	0.0117	0.0191	-0.0079	-0.0021	0.0118	0.0257	0.0117	-0.0074	-0.0037	-0.0081	0.0104	1960	0.0747
1961	0.0148	0.0210	-0.0029	-0.0116	0.0049	-0.0091	-0.0005	-0.0007	0.0122	0.0127	0.0028	-0.0026	1961	0.0412
1962	0.0080	0.0030	0.0129	0.0120	0.0	-0.0026	-0.0037	0.0143	0.0034	0.0079	0.0062	0.0034	1962	0.0665
1963	0.0048	0.0012	0.0015	-0.0051	0.0048	-0.0001	-0.0016	0.0035	-0.0023	0.0038	0.0004	-0.0056	1963	0.0054
1964	0.0076	0.0065	-0.0073	0.0029	0.0057	0.0026	0.0030	0.0048	-0.0001	0.0039	-0.0025	0.0077	1964	0.0354
1965	0.0081	0.0009	0.0001	-0.0011	-0.0029	-0.0050	0.0008	0.0015	-0.0036	0.0035	-0.0078	-0.0181	1965	-0.0235
1966	0.0022	-0.0176	-0.0090	-0.0029	-0.0036	-0.0001	-0.0129	-0.0310	0.0058	0.0220	-0.0020	0.0191	1966	-0.0308
1967	0.0450	-0.0211	0.0097	-0.0091	-0.0284	-0.0253	-0.0009	-0.0037	0.0074	-0.0311	-0.0302	0.0097	1967	-0.0779
1968	0.0322	0.0008	-0.0246	0.0019	0.0003	0.0064	0.0293	0.0177	-0.0082	-0.0217	-0.0264	-0.0261	1968	-0.0206
1969	0.0111	-0.0197	-0.0284	0.0270	-0.0255	-0.0029	-0.0041	-0.0065	-0.0289	0.0091	-0.0525	-0.0196	1969	-0.1345
1970	0.0106	0.0348	-0.0098	-0.0311	-0.0206	-0.0051	0.0522	0.0083	0.0088	-0.0147	0.0550	0.0321	1970	0.1225
1971	0.0524	-0.0383	0.0224	-0.0269	-0.0211	0.0049	-0.0050	0.0529	-0.0110	0.0266	0.0013	0.0182	1971	0.0742
1972	-0.0041	0.0058	0.0008	0.0011	0.0131	-0.0092	-0.0010	0.0056	-0.0009	0.0069	0.0225	-0.0036	1972	0.0373
1973	-0.0085	-0.0047	-0.0048	-0.0008	-0.0100	-0.0124	-0.0499	0.0175	0.0326	-0.0147	0.0005	-0.0154	1973	-0.0706
1974	-0.0140	-0.0120	-0.0420	-0.0397	-0.0006	-0.0381	-0.0286	-0.0396	0.0054	0.0799	0.0032	-0.0146	1974	-0.1373
1975	0.0551	0.0067	-0.0285	-0.0103	0.0062	0.0222	-0.0136	-0.0206	-0.0175	0.0492	-0.0149	0.0400	1975	0.0717
1976	0.0164	0.0037	0.0143	-0.0057	-0.0162	0.0097	0.0090	0.0184	0.0126	0.0029	0.0290	0.0318	1976	0.1324

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-13

JAN 1926 - DEC 1976 U.S. TREASURY BILLS : INFLATION ADJUSTED TOTAL RETURNS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	0.0034	0.0064	0.0086	-0.0060	0.0057	0.0109	0.0117	0.0083	-0.0035	-0.0006	-0.0007	0.0028	1926	0.0478
1927	0.0100	0.0102	0.0087	0.0025	-0.0047	-0.0070	0.0220	0.0086	-0.0037	-0.0033	0.0040	0.0042	1927	0.0523
1928	0.0045	0.0130	0.0029	0.0003	-0.0026	0.0109	0.0032	0.0013	-0.0051	0.0060	0.0058	0.0014	1928	0.0422
1929	0.0054	0.0055	0.0073	0.0075	-0.0015	0.0013	-0.0064	0.0002	0.0054	0.0046	0.0057	0.0095	1929	0.0452
1930	0.0053	0.0069	0.0094	-0.0038	0.0085	0.0086	0.0159	0.0069	-0.0039	0.0069	0.0094	0.0157	1930	0.0889
1931	0.0159	0.0151	0.0077	0.0072	0.0117	0.0117	0.0028	0.0026	0.0047	0.0077	0.0129	0.0103	1931	0.1159
1932	0.0229	0.0163	0.0064	0.0083	0.0150	0.0075	0.0003	0.0126	0.0053	0.0077	0.0052	0.0102	1932	0.1239
1933	0.0154	0.0153	0.0083	0.0036	-0.0022	-0.0104	-0.0287	-0.0100	0.0002	0.0001	0.0002	0.0053	1933	-0.0037
1934	-0.0046	-0.0073	0.0002	0.0026	-0.0024	-0.0024	0.0001	-0.0024	-0.0149	0.0075	0.0026	0.0026	1934	-0.0187
1935	-0.0148	-0.0072	0.0026	-0.0096	0.0050	0.0025	0.0050	0.0001	-0.0048	0.0001	-0.0046	-0.0023	1935	-0.0278
1936	0.0001	0.0050	0.0050	0.0002	0.0002	-0.0095	-0.0047	-0.0070	-0.0023	0.0026	0.0001	0.0000	1936	-0.0104
1937	-0.0070	-0.0022	-0.0070	-0.0044	-0.0040	-0.0020	-0.0043	-0.0021	-0.0088	0.0047	0.0071	0.0023	1937	-0.0274
1938	0.0139	0.0094	-0.0001	-0.0046	0.0047	0.0000	-0.0024	0.0024	0.0002	0.0048	0.0018	-0.0024	1938	0.0280
1939	0.0047	0.0049	0.0023	0.0024	0.0001	0.0001	0.0000	-0.0001	-0.0192	0.0048	0.0000	0.0048	1939	0.0045
1940	0.0024	-0.0072	0.0024	0.0000	-0.0025	-0.0023	0.0025	0.0023	-0.0024	0.0000	0.0000	-0.0048	1940	-0.0095
1941	-0.0001	-0.0001	-0.0046	-0.0095	-0.0070	-0.0185	-0.0043	-0.0090	-0.0179	-0.0110	-0.0087	-0.0021	1941	-0.0890
1942	-0.0128	-0.0084	-0.0126	-0.0062	-0.0101	-0.0018	-0.0038	-0.0058	-0.0017	-0.0098	-0.0057	-0.0077	1942	-0.0833
1943	0.0003	-0.0017	-0.0155	-0.0114	-0.0074	0.0022	0.0079	0.0041	-0.0036	-0.0036	0.0022	-0.0016	1943	-0.0278
1944	0.0022	0.0022	0.0002	-0.0055	-0.0036	-0.0016	-0.0054	-0.0035	0.0002	0.0003	0.0003	-0.0035	1944	-0.0175
1945	0.0003	0.0021	0.0002	-0.0016	-0.0072	-0.0091	-0.0015	0.0003	0.0040	0.0003	-0.0035	-0.0034	1945	-0.0190
1946	0.0003	0.0039	-0.0071	-0.0052	-0.0052	-0.0106	-0.0587	-0.0217	-0.0113	-0.0193	-0.0238	-0.0075	1946	-0.1552
1947	0.0003	0.0018	-0.0215	0.0003	0.0033	-0.0073	-0.0088	-0.0102	-0.0231	0.0006	-0.0052	-0.0122	1947	-0.0793
1948	-0.0107	0.0092	0.0037	-0.0134	-0.0063	-0.0061	-0.0116	-0.0032	0.0004	0.0045	0.0072	0.0073	1948	-0.0192
1949	0.0023	0.0120	-0.0018	-0.0005	0.0024	-0.0004	0.0079	-0.0019	-0.0033	0.0065	-0.0006	0.0065	1949	0.0293
1950	0.0052	0.0037	-0.0033	-0.0006	-0.0032	-0.0047	-0.0088	-0.0074	-0.0059	-0.0043	-0.0030	-0.0124	1950	-0.0439
1951	-0.0148	-0.0108	-0.0028	-0.0000	-0.0026	0.0024	0.0001	0.0013	-0.0052	-0.0036	-0.0040	-0.0026	1951	-0.0418
1952	0.0015	0.0075	0.0011	-0.0026	0.0000	-0.0010	-0.0060	0.0002	0.0029	0.0001	0.0010	0.0029	1952	0.0076
1953	0.0041	0.0064	-0.0007	0.0004	-0.0008	-0.0019	-0.0010	-0.0008	0.0004	-0.0012	0.0045	0.0025	1953	0.0118
1954	-0.0014	0.0019	0.0020	0.0034	-0.0032	-0.0007	0.0005	0.0017	0.0034	0.0032	-0.0006	0.0033	1954	0.0136
1955	0.0008	0.0009	0.0010	0.0010	0.0014	0.0010	-0.0027	0.0041	-0.0021	0.0018	0.0005	0.0043	1955	0.0119
1956	0.0034	0.0019	0.0003	0.0006	-0.0027	-0.0042	-0.0052	0.0029	0.0006	-0.0036	0.0020	-0.0000	1956	-0.0040
1957	0.0015	-0.0012	-0.0001	-0.0011	0.0002	-0.0036	-0.0018	0.0013	0.0014	0.0029	-0.0008	0.0024	1957	0.0011
1958	-0.0031	0.0000	-0.0060	-0.0015	0.0011	-0.0009	-0.0005	0.0016	0.0019	0.0018	-0.0001	0.0034	1958	-0.0022
1959	0.0009	0.0030	0.0022	0.0008	0.0010	-0.0022	0.0002	0.0030	-0.0003	-0.0004	0.0026	0.0034	1959	0.0143
1960	0.0045	0.0017	0.0035	-0.0037	0.0027	0.0001	0.0013	0.0017	0.0005	-0.0023	0.0002	0.0016	1960	0.0116
1961	0.0019	0.0014	0.0020	0.0017	0.0018	0.0009	-0.0027	0.0025	-0.0006	0.0019	0.0015	0.0019	1961	0.0144
1962	0.0024	-0.0002	-0.0002	0.0000	0.0024	0.0020	0.0005	0.0023	-0.0034	0.0036	0.0020	0.0034	1962	0.0149
1963	0.0014	0.0012	0.0012	0.0025	0.0024	-0.0021	-0.0017	0.0025	0.0027	0.0018	0.0016	0.0008	1963	0.0144
1964	0.0019	0.0037	0.0020	0.0019	0.0026	0.0009	0.0008	0.0039	0.0007	0.0019	0.0008	0.0020	1964	0.0232
1965	0.0028	0.0030	0.0025	-0.0001	0.0010	-0.0018	0.0020	0.0054	0.0010	0.0021	0.0014	0.0002	1965	0.0197
1966	0.0038	-0.0028	0.0007	-0.0007	0.0031	0.0007	0.0005	-0.0010	0.0020	0.0005	0.0040	0.0030	1966	0.0136
1967	0.0043	0.0026	0.0019	0.0012	0.0003	-0.0004	-0.0019	0.0001	0.0012	0.0010	0.0006	0.0004	1967	0.0113
1968	0.0001	0.0009	-0.0011	0.0014	0.0016	-0.0016	-0.0000	0.0014	0.0014	-0.0013	0.0005	0.0014	1968	0.0046
1969	0.0024	0.0009	-0.0038	-0.0012	0.0021	-0.0013	0.0008	0.0005	0.0017	0.0024	-0.0002	0.0002	1969	0.0045
1970	0.0025	0.0009	0.0004	-0.0011	0.0009	0.0006	0.0018	0.0036	0.0002	-0.0005	0.0012	-0.0008	1970	0.0098
1971	0.0030	0.0016	-0.0004	-0.0006	-0.0021	-0.0021	0.0016	0.0022	0.0029	0.0020	0.0021	-0.0004	1971	0.0099
1972	0.0021	-0.0024	0.0011	0.0005	-0.0002	0.0005	-0.0009	0.0013	-0.0006	0.0008	0.0013	0.0006	1972	0.0041
1973	0.0012	-0.0029	-0.0048	-0.0017	-0.0010	-0.0017	0.0041	-0.0111	0.0039	-0.0016	-0.0017	-0.0002	1973	-0.0175
1974	-0.0024	-0.0071	-0.0057	0.0020	-0.0036	-0.0036	-0.0004	-0.0069	-0.0039	-0.0035	-0.0031	-0.0002	1974	-0.0378
1975	0.0013	-0.0027	0.0003	-0.0007	-0.0001	-0.0041	-0.0057	0.0017	0.0004	-0.0006	-0.0020	0.0006	1975	-0.0114
1976	0.0023	0.0010	0.0016	0.0000	-0.0022	-0.0010	-0.0012	-0.0005	0.0003	0.0000	0.0011	0.0012	1976	0.0026

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-14

JAN 1926 - DEC 1976 COMMON STOCKS : TOTAL RETURN INDEX

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	1.000	0.962	0.906	0.929	0.946	0.989	1.036	1.062	1.089	1.058	1.095	1.116	1926	1.116
1927	1.095	1.154	1.164	1.187	1.259	1.251	1.334	1.403	1.466	1.393	1.493	1.535	1927	1.535
1928	1.529	1.509	1.676	1.733	1.768	1.700	1.724	1.862	1.910	1.942	2.193	2.204	1928	2.204
1929	2.332	2.328	2.325	2.366	2.280	2.540	2.660	2.933	2.794	2.243	1.963	2.018	1929	2.018
1930	2.147	2.203	2.382	2.363	2.340	1.960	2.035	2.064	1.800	1.646	1.631	1.516	1930	1.516
1931	1.592	1.782	1.662	1.506	1.314	1.500	1.392	1.418	0.996	1.085	0.999	0.859	1931	0.859
1932	0.836	0.883	0.781	0.625	0.488	0.487	0.672	0.933	0.900	0.779	0.746	0.789	1932	0.789
1933	0.795	0.654	0.678	0.966	1.129	1.280	1.169	1.310	1.164	1.064	1.184	1.214	1933	1.214
1934	1.344	1.301	1.301	1.268	1.175	1.202	1.066	1.131	1.127	1.095	1.198	1.197	1934	1.197
1935	1.148	1.109	1.077	1.182	1.231	1.317	1.429	1.469	1.507	1.624	1.700	1.767	1935	1.767
1936	1.886	1.928	1.980	1.831	1.931	1.995	2.135	2.167	2.174	2.342	2.374	2.367	1936	2.367
1937	2.459	2.506	2.487	2.286	2.280	2.165	2.391	2.276	1.957	1.765	1.612	1.538	1937	1.538
1938	1.551	1.666	1.252	1.433	1.386	1.733	1.852	1.820	1.850	1.993	1.939	2.016	1938	2.016
1939	1.881	1.954	1.692	1.688	1.811	1.701	1.889	1.766	2.062	2.036	1.955	2.008	1939	2.008
1940	1.941	1.966	1.991	1.986	1.531	1.655	1.712	1.772	1.793	1.869	1.810	1.812	1940	1.812
1941	1.728	1.718	1.730	1.624	1.653	1.749	1.850	1.852	1.839	1.718	1.670	1.602	1941	1.602
1942	1.627	1.602	1.497	1.437	1.552	1.586	1.640	1.656	1.715	1.831	1.827	1.927	1942	1.927
1943	2.070	2.190	2.310	2.318	2.446	2.500	2.368	2.409	2.472	2.446	2.286	2.427	1943	2.427
1944	2.468	2.479	2.527	2.502	2.628	2.771	2.717	2.760	2.758	2.764	2.801	2.906	1944	2.906
1945	2.952	3.154	3.015	3.287	3.351	3.349	3.288	3.499	3.652	3.770	3.919	3.965	1945	3.965
1946	4.248	3.976	4.167	4.330	4.455	4.290	4.188	3.906	3.516	3.495	3.486	3.645	1946	3.645
1947	3.738	3.709	3.654	3.521	3.526	3.721	3.863	3.785	3.743	3.832	3.765	3.853	1947	3.853
1948	3.707	3.563	3.846	3.958	4.305	4.329	4.109	4.174	4.059	4.347	3.929	4.065	1948	4.065
1949	4.081	3.960	4.090	4.017	3.913	3.919	4.174	4.265	4.377	4.526	4.605	4.829	1949	4.829
1950	4.924	5.022	5.057	5.303	5.573	5.267	5.330	5.566	5.895	5.949	6.050	6.360	1950	6.360
1951	6.765	6.871	6.764	7.109	6.896	6.739	7.218	7.563	7.573	7.495	7.567	7.888	1951	7.888
1952	8.030	7.804	8.197	7.867	8.137	8.536	8.703	8.642	8.490	8.507	8.993	9.336	1952	9.336
1953	9.291	9.192	8.997	8.783	8.851	8.732	8.971	8.521	8.551	9.012	9.196	9.244	1953	9.244
1954	9.739	9.848	10.168	10.693	11.139	11.173	11.831	11.506	12.485	12.277	13.393	14.108	1954	14.108
1955	14.387	14.528	14.485	15.059	15.142	16.416	17.437	17.393	17.618	17.118	18.533	18.561	1955	18.561
1956	17.917	18.657	19.982	19.973	18.789	19.558	20.594	19.919	19.043	19.169	19.072	19.778	1956	19.778
1957	18.986	18.485	18.882	19.614	20.472	20.481	20.749	19.701	18.516	17.957	18.372	17.646	1957	17.646
1958	18.431	18.170	18.767	19.400	19.810	20.363	21.277	21.651	22.735	23.348	24.012	25.298	1958	25.298
1959	25.431	25.554	25.605	26.635	27.273	27.213	28.200	27.911	26.674	27.017	27.519	28.322	1959	28.322
1960	26.341	26.729	26.400	25.976	26.821	27.388	26.748	27.596	25.968	25.949	27.154	28.455	1960	28.455
1961	30.291	31.257	32.100	32.262	33.033	32.125	33.223	34.029	33.405	34.401	35.940	36.106	1961	36.106
1962	34.784	35.512	35.349	33.204	30.512	28.061	29.891	30.512	29.092	29.279	32.459	32.955	1962	32.955
1963	34.621	33.794	35.045	36.798	37.510	36.805	36.726	38.692	38.318	39.617	39.435	40.469	1963	40.469
1964	41.612	42.222	42.917	43.238	43.940	44.722	45.592	45.055	46.409	46.856	46.878	47.139	1964	47.139
1965	48.763	48.913	48.264	49.984	49.833	47.477	48.177	49.488	51.140	52.618	52.453	53.008	1965	53.008
1966	53.335	52.635	51.556	52.688	50.096	49.363	48.769	45.234	44.993	47.215	47.662	47.674	1966	47.574
1967	51.478	51.846	53.967	56.325	53.641	54.658	57.215	56.817	58.758	57.136	57.507	59.104	1967	59.104
1968	56.592	55.113	55.718	60.363	61.334	61.980	60.916	61.913	64.387	64.945	68.393	65.642	1968	65.642
1969	65.193	62.414	64.653	66.131	66.303	62.708	59.024	61.704	60.251	63.014	61.141	60.059	1969	60.059
1970	55.594	58.850	59.028	53.779	50.837	48.386	52.026	54.672	56.570	56.019	59.020	62.465	1970	62.465
1971	65.082	65.998	68.522	71.104	68.491	68.636	65.896	68.612	68.231	65.477	65.650	71.406	1971	71.406
1972	72.791	74.969	75.510	75.940	77.604	76.010	76.287	79.271	78.985	79.828	83.856	84.956	1972	84.956
1973	83.603	80.822	80.807	77.619	76.538	76.144	79.146	76.630	79.813	79.835	71.194	72.500	1973	72.500
1974	71.883	72.017	70.453	67.822	65.974	72.686	60.171	55.186	48.731	56.806	54.262	53.300	1974	53.300
1975	59.971	64.014	65.528	68.759	72.256	75.593	70.614	69.596	67.313	71.599	73.842	73.130	1975	73.130
1976	81.900	81.425	84.078	83.246	82.637	86.168	85.579	85.700	87.812	86.008	85.929	90.566	1976	90.566

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-15

EXHIBIT B-15

JAN 1926 - DEC 1976 COMMON STOCKS : CAPITAL APPRECIATION INDEX

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	0.998	0.955	0.898	0.918	0.926	0.966	1.009	1.027	1.050	1.017	1.040	1.057	1926	1.057
1927	1.035	1.085	1.092	1.111	1.168	1.158	1.233	1.288	1.343	1.272	1.350	1.384	1927	1.384
1928	1.377	1.353	1.499	1.548	1.567	1.504	1.523	1.636	1.675	1.699	1.903	1.908	1928	1.908
1929	2.017	2.005	2.001	2.033	1.946	2.165	2.263	2.485	2.364	1.893	1.639	1.681	1929	1.681
1930	1.786	1.824	1.970	1.951	1.919	1.603	1.662	1.675	1.457	1.328	1.299	1.202	1930	1.202
1931	1.261	1.405	1.308	1.183	1.020	1.162	1.076	1.086	0.761	0.825	0.745	0.636	1931	0.636
1932	0.618	0.650	0.573	0.457	0.350	0.347	0.478	0.658	0.633	0.545	0.513	0.540	1932	0.540
1933	0.544	0.444	0.458	0.652	0.755	0.855	0.780	0.869	0.770	0.702	0.774	0.792	1933	0.792
1934	0.875	0.843	0.842	0.820	0.753	0.769	0.680	0.717	0.713	0.690	0.748	0.745	1934	0.745
1935	0.713	0.685	0.664	0.727	0.751	0.802	0.868	0.887	0.908	0.976	1.015	1.053	1935	1.053
1936	1.121	1.140	1.169	1.079	1.129	1.163	1.242	1.253	1.255	1.349	1.354	1.346	1936	1.346
1937	1.397	1.418	1.404	1.288	1.274	1.207	1.331	1.257	1.078	0.969	0.871	0.827	1937	0.827
1938	0.838	0.889	0.666	0.760	0.726	0.906	0.972	0.945	0.959	1.032	0.998	1.035	1938	1.035
1939	0.964	0.995	0.861	0.856	0.909	0.851	0.944	0.876	1.020	1.005	0.956	0.979	1939	0.979
1940	0.944	0.951	0.960	0.955	0.726	0.782	0.806	0.828	0.835	0.868	0.832	0.829	1940	0.829
1941	0.789	0.777	0.781	0.730	0.733	0.772	0.814	0.807	0.799	0.745	0.713	0.681	1941	0.681
1942	0.690	0.673	0.628	0.600	0.639	0.650	0.671	0.676	0.694	0.738	0.728	0.766	1942	0.766
1943	0.821	0.862	0.908	0.908	0.949	0.968	0.915	0.925	0.947	0.934	0.864	0.915	1943	0.915
1944	0.929	0.926	0.942	0.930	0.968	1.017	0.996	1.005	1.002	1.002	1.005	1.041	1944	1.041
1945	1.056	1.121	1.069	1.163	1.176	1.172	1.149	1.216	1.266	1.305	1.347	1.361	1945	1.361
1946	1.455	1.354	1.417	1.470	1.503	1.444	1.408	1.305	1.172	1.163	1.150	1.199	1946	1.199
1947	1.227	1.209	1.185	1.143	1.132	1.192	1.235	1.201	1.184	1.209	1.175	1.199	1947	1.199
1948	1.151	1.097	1.162	1.213	1.308	1.312	1.242	1.252	1.214	1.296	1.156	1.191	1948	1.191
1949	1.193	1.146	1.180	1.155	1.112	1.110	1.179	1.193	1.221	1.257	1.259	1.313	1949	1.313
1950	1.336	1.350	1.355	1.416	1.472	1.386	1.398	1.444	1.524	1.531	1.529	1.600	1950	1.600
1951	1.697	1.708	1.677	1.758	1.687	1.643	1.755	1.824	1.823	1.798	1.793	1.863	1951	1.863
1952	1.892	1.823	1.910	1.828	1.870	1.956	1.991	1.962	1.923	1.922	2.011	2.082	1952	2.082
1953	2.067	2.030	1.982	1.929	1.923	1.892	1.940	1.828	1.830	1.923	1.940	1.944	1953	1.944
1954	2.044	2.049	2.111	2.215	2.288	2.289	2.420	2.338	2.532	2.483	2.683	2.820	1954	2.820
1955	2.871	2.881	2.867	2.975	2.971	3.216	3.411	3.384	3.422	3.318	3.567	3.564	1955	3.564
1956	3.434	3.553	3.799	3.792	3.542	3.681	3.871	3.723	3.554	3.572	3.533	3.658	1956	3.658
1957	3.505	3.390	3.457	3.585	3.717	3.712	3.755	3.544	3.324	3.218	3.270	3.134	1957	3.134
1958	3.268	3.201	3.299	3.404	3.455	3.545	3.698	3.742	3.923	4.023	4.113	4.327	1958	4.327
1959	4.343	4.342	4.345	4.513	4.599	4.582	4.742	4.671	4.458	4.508	4.567	4.694	1959	4.694
1960	4.358	4.398	4.337	4.261	4.375	4.461	4.350	4.464	4.194	4.184	4.353	4.554	1960	4.554
1961	4.842	4.972	5.099	5.118	5.216	5.066	5.232	5.335	5.230	5.378	5.589	5.607	1961	5.607
1962	5.395	5.483	5.451	5.113	4.673	4.291	4.563	4.633	4.410	4.429	4.879	4.945	1962	4.945
1963	5.186	5.038	5.217	5.470	5.549	5.437	5.418	5.682	5.619	5.800	5.739	5.879	1963	5.879
1964	6.038	6.097	6.190	6.227	6.299	6.402	6.519	6.413	6.597	6.650	6.616	6.642	1964	6.642
1965	6.862	6.852	6.752	6.984	6.929	6.592	6.681	6.832	7.050	7.243	7.179	7.244	1965	7.244
1966	7.279	7.149	6.993	7.136	6.750	6.641	6.552	6.042	6.000	6.285	6.305	6.295	1966	6.295
1967	6.788	6.801	7.069	7.368	6.981	7.103	7.426	7.339	7.579	7.359	7.367	7.560	1967	7.560
1968	7.229	7.003	7.069	7.648	7.734	7.804	7.660	7.748	8.046	8.104	8.493	8.139	1968	8.139
1969	8.073	7.690	7.955	8.126	8.108	7.658	7.197	7.485	7.298	7.621	7.352	7.210	1969	7.210
1970	6.663	7.014	7.024	6.389	5.999	5.699	6.117	6.389	6.600	6.524	6.834	7.222	1970	7.222
1971	7.514	7.582	7.861	8.147	7.808	7.813	7.491	7.761	7.707	7.385	7.366	8.001	1971	8.001
1972	8.146	8.352	8.401	8.438	8.584	8.397	8.416	8.706	8.664	8.745	9.143	9.252	1972	9.252
1973	9.093	8.752	8.740	8.383	8.225	8.171	8.481	8.170	8.498	8.487	7.520	7.645	1973	7.645
1974	7.568	7.541	7.365	7.078	6.840	7.524	6.216	5.654	4.980	5.792	5.484	5.373	1974	5.373
1975	6.033	6.394	6.533	6.842	7.143	7.460	6.955	6.809	6.573	6.978	7.150	7.068	1975	7.068
1976	7.904	7.814	8.054	7.966	7.851	8.172	8.107	8.065	8.248	8.064	8.002	8.422	1976	8.422

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-16

JAN 1926 - DEC 1976 LONG-TERM GOVERNMENT BONDS : TOTAL RETURN INDEX

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	1.014	1.020	1.024	1.032	1.034	1.038	1.038	1.038	1.042	1.053	1.069	1.078	1926	1.078
1927	1.086	1.095	1.123	1.122	1.135	1.127	1.132	1.141	1.143	1.154	1.166	1.174	1927	1.174
1928	1.170	1.177	1.182	1.182	1.173	1.177	1.152	1.161	1.156	1.174	1.175	1.175	1928	1.175
1929	1.165	1.146	1.130	1.161	1.138	1.155	1.155	1.151	1.154	1.198	1.226	1.215	1929	1.215
1930	1.208	1.224	1.234	1.232	1.249	1.256	1.260	1.262	1.271	1.275	1.281	1.272	1930	1.272
1931	1.256	1.267	1.280	1.291	1.310	1.311	1.305	1.307	1.270	1.228	1.231	1.204	1931	1.204
1932	1.208	1.258	1.256	1.332	1.266	1.315	1.379	1.379	1.387	1.384	1.389	1.407	1932	1.407
1933	1.428	1.391	1.405	1.400	1.442	1.450	1.447	1.454	1.457	1.444	1.422	1.406	1933	1.406
1934	1.442	1.454	1.483	1.501	1.521	1.531	1.537	1.519	1.497	1.524	1.530	1.547	1934	1.547
1935	1.575	1.590	1.596	1.609	1.600	1.614	1.622	1.600	1.601	1.611	1.613	1.624	1935	1.624
1936	1.633	1.646	1.664	1.670	1.676	1.680	1.690	1.709	1.704	1.704	1.739	1.746	1936	1.746
1937	1.744	1.759	1.687	1.693	1.702	1.699	1.722	1.705	1.712	1.719	1.736	1.750	1937	1.750
1938	1.760	1.769	1.763	1.800	1.808	1.809	1.816	1.816	1.820	1.836	1.832	1.847	1938	1.847
1939	1.858	1.873	1.896	1.918	1.951	1.946	1.968	1.928	1.823	1.898	1.929	1.957	1939	1.957
1940	1.953	1.959	1.993	1.986	1.927	1.976	1.987	1.992	2.014	2.021	2.062	2.076	1940	2.076
1941	2.034	2.038	2.058	2.084	2.090	2.104	2.108	2.112	2.110	2.139	2.133	2.095	1941	2.095
1942	2.110	2.112	2.131	2.125	2.141	2.142	2.145	2.154	2.154	2.159	2.152	2.162	1942	2.162
1943	2.170	2.168	2.170	2.181	2.192	2.196	2.196	2.200	2.203	2.204	2.204	2.207	1943	2.207
1944	2.212	2.219	2.224	2.227	2.233	2.235	2.243	2.249	2.252	2.255	2.260	2.270	1944	2.270
1945	2.298	2.316	2.321	2.358	2.371	2.411	2.390	2.397	2.410	2.435	2.465	2.513	1945	2.513
1946	2.520	2.528	2.530	2.496	2.493	2.510	2.500	2.472	2.470	2.488	2.475	2.511	1946	2.511
1947	2.509	2.514	2.519	2.510	2.518	2.521	2.537	2.557	2.546	2.537	2.493	2.445	1947	2.445
1948	2.450	2.461	2.469	2.480	2.515	2.494	2.489	2.489	2.493	2.495	2.514	2.528	1948	2.528
1949	2.548	2.561	2.580	2.583	2.588	2.631	2.640	2.669	2.666	2.671	2.677	2.691	1949	2.691
1950	2.674	2.680	2.682	2.690	2.699	2.692	2.707	2.711	2.691	2.679	2.688	2.692	1950	2.692
1951	2.708	2.688	2.646	2.629	2.611	2.595	2.631	2.657	2.635	2.638	2.602	2.586	1951	2.586
1952	2.594	2.597	2.626	2.671	2.662	2.663	2.657	2.639	2.604	2.643	2.639	2.616	1952	2.616
1953	2.619	2.567	2.574	2.547	2.509	2.565	2.575	2.573	2.650	2.670	2.657	2.711	1953	2.711
1954	2.736	2.801	2.817	2.847	2.822	2.868	2.906	2.896	2.893	2.895	2.888	2.906	1954	2.906
1955	2.836	2.814	2.838	2.839	2.859	2.838	2.808	2.810	2.830	2.871	2.858	2.868	1955	2.868
1956	2.892	2.892	2.849	2.816	2.880	2.888	2.827	2.775	2.789	2.773	2.757	2.708	1956	2.708
1957	2.802	2.809	2.802	2.740	2.734	2.684	2.673	2.674	2.694	2.681	2.823	2.910	1957	2.910
1958	2.885	2.914	2.944	2.999	2.999	2.951	2.869	2.744	2.712	2.750	2.783	2.733	1958	2.733
1959	2.711	2.742	2.747	2.715	2.713	2.716	2.733	2.721	2.706	2.747	2.714	2.671	1959	2.671
1960	2.701	2.756	2.833	2.785	2.828	2.876	2.982	2.962	2.984	2.976	2.956	3.039	1960	3.039
1961	3.006	3.066	3.055	3.090	3.076	3.053	3.063	3.052	3.091	3.113	3.107	3.068	1961	3.068
1962	3.064	3.095	3.174	3.200	3.215	3.190	3.156	3.215	3.234	3.261	3.268	3.280	1962	3.280
1963	3.279	3.282	3.284	3.281	3.288	3.294	3.305	3.312	3.313	3.305	3.321	3.319	1963	3.319
1964	3.315	3.311	3.323	3.339	3.356	3.379	3.381	3.388	3.405	3.420	3.425	3.436	1964	3.436
1965	3.449	3.454	3.473	3.485	3.492	3.508	3.516	3.511	3.499	3.509	3.487	3.460	1965	3.460
1966	3.424	3.338	3.437	3.416	3.396	3.390	3.378	3.308	3.418	3.496	3.444	3.586	1966	3.586
1967	3.641	3.561	3.632	3.526	3.512	3.402	3.426	3.397	3.395	3.259	3.195	3.257	1967	3.257
1968	3.364	3.352	3.281	3.356	3.370	3.448	3.547	3.546	3.510	3.464	3.370	3.248	1968	3.248
1969	3.181	3.195	3.198	3.334	3.171	3.239	3.265	3.242	3.070	3.182	3.105	3.083	1969	3.083
1970	3.077	3.257	3.235	3.102	2.956	3.100	3.199	3.193	3.266	3.230	3.486	3.457	1970	3.457
1971	3.631	3.572	3.760	3.654	3.651	3.593	3.604	3.774	3.851	3.915	3.896	3.914	1971	3.914
1972	3.889	3.923	3.891	3.902	4.007	3.981	4.067	4.079	4.045	4.140	4.233	4.136	1972	4.136
1973	4.003	4.009	4.042	4.060	4.018	4.009	3.835	3.986	4.112	4.059	4.124	4.090	1973	4.090
1974	4.056	4.047	3.928	3.829	3.876	3.893	3.882	3.792	3.886	4.076	4.196	4.268	1974	4.268
1975	4.364	4.422	4.303	4.225	4.315	4.441	4.402	4.372	4.329	4.535	4.485	4.661	1975	4.661
1976	4.703	4.732	4.810	4.819	4.743	4.841	4.879	4.982	5.054	5.096	5.269	5.441	1976	5.441

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, "STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)"

EXHIBIT B-17

EXHIBIT B-17

JAN 1926 - DEC 1976 LONG-TERM GOVERNMENT BONDS : CAPITAL APPRECIATION INDEX

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	1.011	1.014	1.015	1.020	1.018	1.019	1.016	1.013	1.014	1.021	1.034	1.039	1926	1.039
1927	1.044	1.050	1.074	1.070	1.079	1.069	1.071	1.076	1.075	1.083	1.090	1.095	1927	1.095
1928	1.088	1.092	1.094	1.091	1.080	1.081	1.055	1.060	1.053	1.066	1.063	1.061	1928	1.061
1929	1.048	1.029	1.011	1.036	1.012	1.024	1.021	1.014	1.014	1.049	1.072	1.059	1929	1.059
1930	1.050	1.060	1.066	1.062	1.074	1.076	1.077	1.075	1.080	1.081	1.083	1.072	1930	1.072
1931	1.056	1.062	1.071	1.077	1.090	1.087	1.080	1.078	1.045	1.007	1.007	0.981	1931	0.981
1932	0.982	1.019	1.014	1.072	1.016	1.053	1.100	1.098	1.101	1.096	1.097	1.108	1932	1.108
1933	1.122	1.090	1.098	1.091	1.121	1.124	1.119	1.121	1.121	1.108	1.089	1.073	1933	1.073
1934	1.098	1.104	1.123	1.134	1.146	1.151	1.153	1.136	1.117	1.135	1.136	1.146	1934	1.146
1935	1.164	1.172	1.174	1.181	1.172	1.180	1.182	1.164	1.162	1.167	1.165	1.170	1935	1.170
1936	1.174	1.181	1.191	1.192	1.195	1.194	1.199	1.209	1.203	1.201	1.223	1.225	1936	1.225
1937	1.221	1.229	1.176	1.177	1.181	1.176	1.189	1.174	1.177	1.179	1.187	1.194	1937	1.194
1938	1.199	1.202	1.195	1.218	1.220	1.218	1.221	1.218	1.218	1.226	1.221	1.228	1938	1.228
1939	1.233	1.240	1.253	1.266	1.285	1.279	1.291	1.263	1.192	1.238	1.255	1.271	1939	1.271
1940	1.266	1.267	1.287	1.281	1.240	1.270	1.274	1.275	1.286	1.288	1.312	1.319	1940	1.319
1941	1.290	1.291	1.301	1.315	1.317	1.323	1.324	1.324	1.321	1.337	1.331	1.305	1941	1.305
1942	1.312	1.311	1.320	1.314	1.321	1.318	1.318	1.320	1.318	1.319	1.311	1.315	1942	1.315
1943	1.317	1.313	1.312	1.316	1.320	1.319	1.316	1.316	1.315	1.313	1.310	1.310	1943	1.310
1944	1.310	1.312	1.312	1.311	1.312	1.310	1.312	1.313	1.312	1.311	1.311	1.314	1944	1.314
1945	1.328	1.336	1.336	1.355	1.360	1.380	1.366	1.367	1.372	1.383	1.398	1.423	1945	1.423
1946	1.424	1.427	1.426	1.404	1.400	1.407	1.399	1.381	1.377	1.385	1.375	1.392	1946	1.392
1947	1.389	1.390	1.390	1.382	1.385	1.383	1.390	1.398	1.390	1.382	1.356	1.327	1947	1.327
1948	1.327	1.331	1.332	1.336	1.352	1.338	1.333	1.330	1.329	1.328	1.335	1.340	1948	1.340
1949	1.348	1.352	1.360	1.359	1.359	1.379	1.381	1.394	1.390	1.390	1.390	1.395	1949	1.395
1950	1.384	1.385	1.383	1.385	1.387	1.381	1.386	1.386	1.373	1.364	1.367	1.366	1950	1.366
1951	1.371	1.359	1.335	1.324	1.312	1.301	1.316	1.327	1.314	1.312	1.291	1.281	1951	1.281
1952	1.281	1.280	1.292	1.311	1.304	1.301	1.296	1.284	1.265	1.280	1.276	1.262	1952	1.262
1953	1.260	1.247	1.233	1.217	1.196	1.219	1.221	1.217	1.250	1.257	1.247	1.270	1953	1.270
1954	1.278	1.306	1.311	1.321	1.307	1.325	1.340	1.332	1.328	1.326	1.320	1.325	1954	1.325
1955	1.290	1.277	1.286	1.283	1.289	1.276	1.260	1.257	1.263	1.279	1.270	1.271	1955	1.271
1956	1.279	1.276	1.254	1.236	1.261	1.261	1.232	1.206	1.209	1.198	1.188	1.164	1956	1.164
1957	1.201	1.201	1.195	1.165	1.159	1.135	1.126	1.123	1.128	1.119	1.176	1.208	1957	1.208
1958	1.195	1.204	1.213	1.232	1.229	1.206	1.169	1.115	1.099	1.110	1.121	1.097	1958	1.097
1959	1.084	1.094	1.092	1.075	1.071	1.069	1.071	1.063	1.053	1.066	1.049	1.029	1959	1.029
1960	1.037	1.054	1.080	1.058	1.070	1.085	1.121	1.110	1.115	1.108	1.097	1.124	1960	1.124
1961	1.108	1.127	1.119	1.129	1.120	1.108	1.108	1.100	1.111	1.115	1.109	1.092	1961	1.092
1962	1.086	1.094	1.118	1.124	1.125	1.113	1.097	1.114	1.118	1.123	1.122	1.122	1962	1.122
1963	1.119	1.116	1.114	1.109	1.107	1.106	1.106	1.104	1.101	1.095	1.097	1.092	1963	1.092
1964	1.087	1.082	1.082	1.083	1.085	1.089	1.086	1.084	1.086	1.087	1.085	1.084	1964	1.084
1965	1.085	1.083	1.065	1.085	1.083	1.084	1.083	1.078	1.070	1.070	1.059	1.047	1965	1.047
1966	1.032	1.003	1.028	1.018	1.008	1.002	0.995	0.970	0.999	1.017	0.998	1.036	1966	1.036
1967	1.048	1.021	1.037	1.003	0.995	0.960	0.963	0.950	0.946	0.904	0.882	0.895	1967	0.895
1968	0.920	0.913	0.890	0.906	0.906	0.923	0.945	0.941	0.927	0.911	0.882	0.846	1968	0.846
1969	0.824	0.824	0.821	0.851	0.806	0.819	0.821	0.811	0.764	0.787	0.764	0.754	1969	0.754
1970	0.749	0.789	0.779	0.742	0.704	0.733	0.752	0.747	0.760	0.747	0.802	0.791	1970	0.791
1971	0.827	0.810	0.848	0.819	0.815	0.798	0.796	0.829	0.842	0.852	0.844	0.843	1971	0.843
1972	0.833	0.837	0.826	0.824	0.842	0.832	0.846	0.844	0.834	0.849	0.864	0.840	1972	0.840
1973	0.809	0.806	0.808	0.807	0.794	0.788	0.749	0.773	0.794	0.778	0.786	0.775	1973	0.775
1974	0.764	0.758	0.731	0.708	0.712	0.711	0.704	0.683	0.695	0.724	0.741	0.748	1974	0.748
1975	0.760	0.766	0.740	0.722	0.732	0.748	0.737	0.727	0.715	0.743	0.731	0.754	1975	0.754
1976	0.756	0.756	0.763	0.759	0.743	0.753	0.754	0.765	0.771	0.773	0.794	0.815	1976	0.815

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, "STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)"

EXHIBIT B-18

JAN 1926 - DEC 1976 LONG-TERM CORPORATE BONDS : TOTAL RETURN INDEX

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	1.007	1.012	1.020	1.030	1.035	1.035	1.041	1.046	1.052	1.062	1.068	1.074	1926	1.074
1927	1.080	1.087	1.096	1.102	1.101	1.106	1.106	1.115	1.132	1.138	1.146	1.154	1927	1.154
1928	1.157	1.165	1.169	1.171	1.162	1.159	1.158	1.168	1.171	1.181	1.177	1.186	1928	1.186
1929	1.192	1.195	1.185	1.187	1.192	1.187	1.189	1.192	1.196	1.204	1.202	1.225	1929	1.225
1930	1.233	1.241	1.259	1.269	1.276	1.290	1.298	1.315	1.329	1.337	1.335	1.323	1930	1.323
1931	1.350	1.359	1.372	1.381	1.400	1.407	1.414	1.416	1.414	1.362	1.337	1.299	1931	1.299
1932	1.292	1.261	1.306	1.283	1.297	1.295	1.301	1.358	1.399	1.409	1.419	1.439	1932	1.439
1933	1.518	1.438	1.445	1.431	1.516	1.544	1.569	1.584	1.582	1.588	1.549	1.588	1933	1.588
1934	1.629	1.653	1.684	1.701	1.717	1.744	1.752	1.760	1.749	1.767	1.790	1.808	1934	1.808
1935	1.846	1.872	1.880	1.901	1.909	1.931	1.952	1.944	1.944	1.952	1.966	1.982	1935	1.982
1936	1.998	2.009	2.026	2.031	2.039	2.056	2.058	2.072	2.086	2.091	2.114	2.116	1936	2.116
1937	2.121	2.111	2.087	2.101	2.110	2.121	2.129	2.125	2.131	2.145	2.159	2.174	1937	2.174
1938	2.182	2.184	2.165	2.195	2.197	2.218	2.233	2.229	2.253	2.271	2.279	2.307	1938	2.307
1939	2.312	2.327	2.332	2.347	2.359	2.367	2.365	2.272	2.307	2.361	2.380	2.399	1939	2.399
1940	2.410	2.415	2.427	2.405	2.400	2.429	2.434	2.436	2.458	2.470	2.486	2.480	1940	2.480
1941	2.482	2.483	2.478	2.497	2.509	2.525	2.541	2.550	2.562	2.570	2.546	2.548	1941	2.548
1942	2.549	2.547	2.563	2.565	2.570	2.579	2.584	2.593	2.598	2.600	2.601	2.614	1942	2.614
1943	2.627	2.628	2.634	2.647	2.659	2.672	2.677	2.682	2.684	2.681	2.675	2.688	1943	2.688
1944	2.693	2.703	2.716	2.725	2.726	2.732	2.741	2.750	2.755	2.761	2.774	2.815	1944	2.815
1945	2.837	2.850	2.855	2.860	2.857	2.866	2.863	2.864	2.873	2.882	2.892	2.930	1945	2.930
1946	2.968	2.978	2.988	2.975	2.981	2.986	2.983	2.956	2.949	2.955	2.947	2.980	1946	2.980
1947	2.982	2.983	3.003	3.009	3.015	3.017	3.023	3.001	2.962	2.933	2.904	2.911	1947	2.911
1948	2.918	2.929	2.963	2.974	2.977	2.952	2.936	2.953	2.960	2.967	2.992	3.031	1948	3.031
1949	3.043	3.054	3.056	3.063	3.075	3.101	3.132	3.143	3.150	3.171	3.178	3.132	1949	3.132
1950	3.143	3.145	3.152	3.150	3.147	3.154	3.176	3.188	3.176	3.173	3.190	3.198	1950	3.198
1951	3.204	3.190	3.114	3.111	3.107	3.078	3.141	3.177	3.159	3.113	3.094	3.112	1951	3.112
1952	3.174	3.147	3.171	3.169	3.179	3.184	3.189	3.209	3.204	3.216	3.251	3.221	1952	3.221
1953	3.196	3.183	3.172	3.094	3.084	3.118	3.173	3.146	3.226	3.299	3.275	3.331	1953	3.331
1954	3.373	3.439	3.453	3.441	3.427	3.448	3.462	3.468	3.482	3.496	3.505	3.511	1954	3.511
1955	3.477	3.455	3.486	3.486	3.480	3.490	3.476	3.462	3.489	3.516	3.505	3.527	1955	3.527
1956	3.564	3.573	3.521	3.481	3.499	3.493	3.460	3.388	3.392	3.357	3.314	3.287	1956	3.287
1957	3.352	3.383	3.400	3.377	3.352	3.244	3.209	3.206	3.236	3.244	3.344	3.573	1957	3.573
1958	3.609	3.606	3.589	3.648	3.659	3.645	3.590	3.475	3.441	3.478	3.515	3.494	1958	3.494
1959	3.484	3.528	3.499	3.439	3.400	3.415	3.445	3.422	3.392	3.447	3.494	3.460	1959	3.460
1960	3.498	3.542	3.610	3.602	3.594	3.645	3.739	3.783	3.759	3.762	3.735	3.774	1960	3.774
1961	3.830	3.911	3.899	3.854	3.873	3.842	3.857	3.850	3.906	3.955	3.966	3.956	1961	3.956
1962	3.988	4.008	4.069	4.127	4.116	4.116	4.110	4.169	4.206	4.234	4.261	4.270	1962	4.270
1963	4.295	4.305	4.317	4.295	4.315	4.334	4.346	4.361	4.351	4.372	4.379	4.364	1963	4.364
1964	4.402	4.426	4.398	4.416	4.441	4.463	4.486	4.502	4.512	4.534	4.533	4.572	1964	4.572
1965	4.609	4.614	4.619	4.629	4.625	4.627	4.635	4.633	4.626	4.647	4.620	4.552	1965	4.552
1966	4.562	4.510	4.483	4.489	4.478	4.491	4.447	4.332	4.366	4.480	4.471	4.560	1966	4.560
1967	4.766	4.670	4.724	4.691	4.572	4.470	4.488	4.485	4.527	4.400	4.280	4.335	1967	4.335
1968	4.491	4.508	4.419	4.440	4.454	4.509	4.662	4.758	4.733	4.658	4.552	4.446	1968	4.446
1969	4.508	4.436	4.347	4.493	4.391	4.406	4.408	4.400	4.292	4.347	4.142	4.086	1969	4.086
1970	4.144	4.310	4.291	4.184	4.115	4.116	4.345	4.388	4.449	4.406	4.664	4.837	1970	4.837
1971	5.095	4.908	5.035	4.916	4.837	4.889	4.876	5.146	5.094	5.238	5.253	5.370	1971	5.370
1972	5.352	5.409	5.422	5.441	5.530	5.493	5.509	5.549	5.566	5.622	5.762	5.760	1972	5.760
1973	5.729	5.742	5.768	5.803	5.780	5.748	5.474	5.669	5.871	5.832	5.878	5.825	1973	5.825
1974	5.795	5.800	5.622	5.430	5.487	5.331	5.218	5.078	5.167	5.624	5.690	5.647	1974	5.647
1975	5.984	6.066	5.916	5.885	5.947	6.128	6.110	6.003	5.927	6.255	6.200	6.474	1975	6.474
1976	6.596	6.636	6.747	6.737	6.667	6.767	6.868	7.027	7.144	7.194	7.424	7.681	1976	7.681

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-19

JAN 1926 - DEC 1976 U.S. TREASURY BILLS : TOTAL RETURN INDEX

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	1.003	1.006												

EXHIBIT B-19

JAN 1926 - DEC 1976 U.S. TREASURY BILLS : TOTAL RETURN INDEX

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	1.003	1.006	1.009	1.013	1.013	1.016	1.018	1.021	1.023	1.027	1.030	1.033	1926	1.033
1927	1.035	1.038	1.041	1.044	1.047	1.049	1.053	1.055	1.058	1.060	1.063	1.065	1927	1.065
1928	1.068	1.071	1.074	1.077	1.080	1.084	1.087	1.091	1.093	1.098	1.102	1.099	1928	1.099
1929	1.103	1.107	1.111	1.115	1.120	1.126	1.129	1.134	1.138	1.143	1.147	1.152	1929	1.152
1930	1.153	1.157	1.161	1.163	1.166	1.169	1.172	1.173	1.175	1.176	1.178	1.179	1930	1.179
1931	1.181	1.182	1.183	1.184	1.185	1.186	1.187	1.187	1.189	1.189	1.191	1.192	1931	1.192
1932	1.195	1.198	1.200	1.201	1.202	1.202	1.202	1.203	1.203	1.203	1.203	1.204	1932	1.204
1933	1.204	1.203	1.204	1.205	1.206	1.206	1.206	1.206	1.207	1.207	1.207	1.207	1933	1.207
1934	1.208	1.208	1.208	1.208	1.208	1.208	1.209	1.209	1.209	1.209	1.209	1.209	1934	1.209
1935	1.209	1.209	1.210	1.210	1.210	1.210	1.210	1.210	1.211	1.211	1.211	1.211	1935	1.211
1936	1.211	1.211	1.212	1.212	1.212	1.212	1.213	1.213	1.213	1.213	1.213	1.213	1936	1.213
1937	1.213	1.214	1.214	1.214	1.215	1.215	1.216	1.216	1.217	1.217	1.217	1.217	1937	1.217
1938	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.218	1.217	1.217	1938	1.217
1939	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1939	1.217
1940	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1940	1.217
1941	1.217	1.217	1.217	1.217	1.217	1.217	1.217	1.218	1.218	1.218	1.218	1.218	1941	1.218
1942	1.218	1.218	1.218	1.218	1.219	1.219	1.219	1.220	1.220	1.220	1.221	1.221	1942	1.221
1943	1.221	1.222	1.222	1.223	1.223	1.223	1.224	1.224	1.224	1.225	1.225	1.225	1943	1.225
1944	1.226	1.226	1.226	1.227	1.227	1.227	1.228	1.228	1.228	1.229	1.229	1.229	1944	1.229
1945	1.230	1.230	1.230	1.231	1.231	1.231	1.232	1.232	1.232	1.233	1.233	1.233	1945	1.233
1946	1.234	1.234	1.235	1.235	1.235	1.236	1.236	1.236	1.237	1.237	1.237	1.238	1946	1.238
1947	1.238	1.239	1.239	1.239	1.240	1.240	1.240	1.241	1.241	1.242	1.243	1.244	1947	1.244
1948	1.245	1.246	1.247	1.248	1.249	1.250	1.251	1.252	1.253	1.253	1.254	1.254	1948	1.254
1949	1.255	1.256	1.258	1.259	1.260	1.261	1.262	1.264	1.265	1.266	1.267	1.268	1949	1.268
1950	1.269	1.270	1.271	1.273	1.274	1.275	1.276	1.278	1.279	1.280	1.282	1.283	1950	1.283
1951	1.285	1.286	1.287	1.289	1.291	1.292	1.294	1.296	1.297	1.299	1.301	1.302	1951	1.302
1952	1.304	1.306	1.307	1.309	1.310	1.312	1.314	1.316	1.318	1.320	1.322	1.324	1952	1.324
1953	1.326	1.328	1.330	1.332	1.335	1.337	1.339	1.341	1.344	1.345	1.346	1.348	1953	1.348
1954	1.349	1.350	1.351	1.353	1.353	1.354	1.355	1.356	1.357	1.358	1.359	1.360	1954	1.360
1955	1.361	1.362	1.363	1.365	1.367	1.368	1.369	1.371	1.374	1.376	1.379	1.381	1955	1.381
1956	1.384	1.387	1.389	1.391	1.395	1.397	1.400	1.403	1.405	1.409	1.412	1.415	1956	1.415
1957	1.419	1.422	1.425	1.429	1.433	1.436	1.440	1.444	1.448	1.452	1.456	1.459	1957	1.459
1958	1.463	1.465	1.467	1.468	1.469	1.470	1.471	1.471	1.474	1.477	1.479	1.482	1958	1.482
1959	1.485	1.488	1.491	1.494	1.497	1.501	1.505	1.507	1.512	1.517	1.521	1.526	1959	1.526
1960	1.531	1.535	1.540	1.543	1.548	1.551	1.553	1.556	1.558	1.562	1.564	1.566	1960	1.566
1961	1.569	1.571	1.575	1.577	1.580	1.583	1.586	1.589	1.591	1.594	1.597	1.600	1961	1.600
1962	1.603	1.607	1.610	1.614	1.617	1.621	1.625	1.629	1.632	1.636	1.640	1.643	1962	1.643
1963	1.647	1.651	1.655	1.659	1.663	1.667	1.671	1.676	1.680	1.685	1.690	1.695	1963	1.695
1964	1.700	1.704	1.709	1.714	1.719	1.724	1.729	1.734	1.739	1.744	1.749	1.754	1964	1.754
1965	1.759	1.765	1.771	1.776	1.782	1.788	1.794	1.800	1.805	1.811	1.817	1.823	1965	1.823
1966	1.830	1.837	1.844	1.850	1.858	1.865	1.871	1.879	1.886	1.895	1.902	1.910	1966	1.910
1967	1.918	1.925	1.933	1.939	1.945	1.951	1.957	1.963	1.969	1.977	1.984	1.991	1967	1.991
1968	1.999	2.006	2.014	2.023	2.032	2.040	2.050	2.059	2.067	2.076	2.085	2.094	1968	2.094
1969	2.105	2.115	2.125	2.136	2.146	2.157	2.169	2.180	2.193	2.206	2.218	2.232	1969	2.232
1970	2.246	2.259	2.272	2.284	2.296	2.309	2.321	2.334	2.346	2.357	2.368	2.378	1970	2.378
1971	2.387	2.395	2.402	2.408	2.416	2.425	2.434	2.446	2.455	2.464	2.473	2.482	1971	2.482
1972	2.489	2.495	2.502	2.509	2.517	2.524	2.532	2.539	2.548	2.558	2.568	2.577	1972	2.577
1973	2.589	2.599	2.611	2.625	2.638	2.652	2.669	2.687	2.706	2.723	2.738	2.756	1973	2.756
1974	2.773	2.789	2.805	2.826	2.847	2.864	2.885	2.902	2.925	2.940	2.956	2.976	1974	2.976
1975	2.994	3.007	3.019	3.032	3.046	3.058	3.073	3.088	3.104	3.121	3.134	3.149	1975	3.149
1976	3.164	3.175	3.187	3.201	3.213	3.227	3.242	3.255	3.270	3.283	3.296	3.309	1976	3.309

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-20

JAN 1926 - DEC 1976 CONSUMER PRICE INDEX

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	1.000	0.996	0.991	1.000	0.994	0.987	0.978	0.972	0.978	0.981	0.985	0.985	1926	0.985
1927	0.978	0.970	0.965	0.965	0.972	0.981	0.963	0.957	0.963	0.968	0.966	0.965	1927	0.965
1928	0.963	0.953	0.953	0.955	0.961	0.953	0.953	0.955	0.963	0.961	0.959	0.955	1928	0.955
1929	0.953	0.952	0.948	0.944	0.950	0.953	0.963	0.966	0.965	0.965	0.963	0.957	1929	0.957
1930	0.953	0.950	0.944	0.950	0.944	0.939	0.926	0.920	0.926	0.920	0.912	0.899	1930	0.899
1931	0.886	0.873	0.868	0.862	0.853	0.844	0.842	0.840	0.836	0.831	0.821	0.814	1931	0.814
1932	0.797	0.786	0.782	0.777	0.765	0.760	0.760	0.750	0.747	0.741	0.737	0.730	1932	0.730
1933	0.719	0.708	0.702	0.700	0.702	0.709	0.730	0.737	0.737	0.737	0.737	0.734	1933	0.734
1934	0.737	0.743	0.743	0.741	0.743	0.745	0.745	0.747	0.758	0.752	0.750	0.749	1934	0.749
1935	0.760	0.765	0.764	0.771	0.767	0.765	0.762	0.762	0.765	0.765	0.769	0.771	1935	0.771
1936	0.771	0.767	0.764	0.764	0.764	0.771	0.775	0.780	0.782	0.780	0.780	0.780	1936	0.780
1937	0.786	0.788	0.793	0.797	0.801	0.803	0.806	0.808	0.816	0.812	0.806	0.804	1937	0.804
1938	0.793	0.786	0.786	0.790	0.786	0.786	0.788	0.786	0.786	0.782	0.780	0.782	1938	0.782
1939	0.778	0.775	0.773	0.771	0.771	0.771	0.771	0.771	0.786	0.782	0.782	0.778	1939	0.778
1940	0.777	0.782	0.780	0.780	0.782	0.784	0.782	0.780	0.782	0.782	0.782	0.786	1940	0.786
1941	0.786	0.786	0.790	0.797	0.803	0.818	0.821	0.829	0.844	0.853	0.860	0.862	1941	0.862
1942	0.873	0.881	0.892	0.898	0.907	0.909	0.912	0.918	0.920	0.929	0.935	0.942	1942	0.942
1943	0.942	0.944	0.959	0.970	0.978	0.976	0.968	0.965	0.968	0.972	0.970	0.972	1943	0.972
1944	0.970	0.968	0.968	0.974	0.978	0.980	0.985	0.989	0.989	0.989	0.989	0.993	1944	0.993
1945	0.993	0.991	0.991	0.993	1.000	1.009	1.011	1.011	1.007	1.007	1.011	1.015	1945	1.015
1946	1.015	1.011	1.019	1.024	1.030	1.041	1.102	1.127	1.140	1.162	1.190	1.199	1946	1.199
1947	1.199	1.197	1.223	1.223	1.220	1.229	1.240	1.253	1.283	1.283	1.291	1.307	1947	1.307
1948	1.322	1.311	1.307	1.326	1.335	1.345	1.361	1.367	1.367	1.361	1.352	1.343	1948	1.343
1949	1.341	1.326	1.330	1.331	1.330	1.331	1.322	1.326	1.331	1.324	1.326	1.318	1949	1.318
1950	1.313	1.309	1.315	1.317	1.322	1.330	1.343	1.354	1.363	1.371	1.376	1.395	1950	1.395
1951	1.417	1.434	1.439	1.441	1.447	1.445	1.447	1.447	1.456	1.464	1.471	1.477	1951	1.477
1952	1.477	1.467	1.467	1.473	1.475	1.479	1.490	1.492	1.490	1.492	1.492	1.490	1952	1.490
1953	1.486	1.479	1.482	1.484	1.488	1.493	1.497	1.501	1.503	1.507	1.501	1.499	1953	1.499
1954	1.503	1.501	1.499	1.495	1.501	1.503	1.503	1.501	1.497	1.493	1.495	1.492	1954	1.492
1955	1.492	1.492	1.492	1.492	1.492	1.492	1.497	1.493	1.499	1.499	1.501	1.497	1955	1.497
1956	1.495	1.495	1.497	1.499	1.507	1.516	1.527	1.525	1.527	1.536	1.536	1.540	1956	1.540
1957	1.542	1.547	1.551	1.557	1.561	1.570	1.577	1.579	1.581	1.581	1.587	1.587	1957	1.587
1958	1.596	1.598	1.609	1.613	1.613	1.615	1.616	1.615	1.615	1.615	1.616	1.615	1958	1.615
1959	1.616	1.615	1.615	1.616	1.618	1.626	1.629	1.628	1.633	1.639	1.639	1.639	1959	1.639
1960	1.637	1.639	1.639	1.648	1.648	1.652	1.652	1.652	1.654	1.661	1.663	1.663	1960	1.663
1961	1.663	1.663	1.663	1.663	1.663	1.665	1.672	1.670	1.674	1.674	1.674	1.674	1961	1.674
1962	1.674	1.678	1.682	1.685	1.685	1.685	1.689	1.689	1.698	1.696	1.696	1.695	1962	1.695
1963	1.696	1.698	1.700	1.700	1.700	1.708	1.715	1.715	1.715	1.717	1.719	1.723	1963	1.723
1964	1.724	1.723	1.724	1.726	1.726	1.730	1.734	1.732	1.736	1.737	1.741	1.743	1964	1.743
1965	1.743	1.743	1.745	1.750	1.754	1.764	1.765	1.762	1.765	1.767	1.771	1.777	1965	1.777
1966	1.777	1.788	1.793	1.801	1.803	1.808	1.814	1.823	1.827	1.834	1.834	1.836	1966	1.836
1967	1.836	1.838	1.842	1.845	1.851	1.857	1.866	1.872	1.875	1.881	1.886	1.892	1967	1.892
1968	1.899	1.905	1.914	1.920	1.926	1.937	1.946	1.952	1.957	1.968	1.976	1.981	1968	1.981
1969	1.987	1.994	2.011	2.024	2.030	2.043	2.052	2.061	2.071	2.078	2.089	2.102	1969	2.102
1970	2.110	2.121	2.132	2.145	2.155	2.166	2.173	2.177	2.188	2.199	2.207	2.218	1970	2.218
1971	2.220	2.223	2.231	2.238	2.250	2.263	2.268	2.274	2.276	2.279	2.283	2.292	1971	2.292
1972	2.294	2.305	2.309	2.315	2.322	2.328	2.337	2.341	2.350	2.358	2.363	2.371	1972	2.371
1973	2.378	2.395	2.417	2.434	2.449	2.466	2.471	2.516	2.523	2.544	2.562	2.579	1973	2.579
1974	2.601	2.635	2.669	2.680	2.709	2.736	2.756	2.791	2.825	2.849	2.873	2.894	1974	2.894
1975	2.907	2.927	2.939	2.953	2.966	2.991	3.022	3.032	3.047	3.065	3.084	3.097	1975	3.097
1976	3.104	3.112	3.119	3.132	3.151	3.168	3.186	3.201	3.214	3.227	3.236	3.246	1976	3.246

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-21

JAN 1926 - DEC 1976 COMMON STOCK : INFLATION ADJUSTED RETURN INDEX

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	1.000	0.965	0.915	0.930	0.952	1.002	1.060	1.092	1.113	1.078	1.111	1.133	1926	1.133
1927	1.119	1.168	1.205	1.229	1.294	1.273	1.383	1.462	1.519	1.434	1.541	1.586	1927	1.586
1928	1.583	1.579	1.752	1.810	1.835	1.778	1.803	1.945	1.980	2.017	2.281	2.301	1928	2.301
1929	2.440	2.440	2.447	2.500	2.394	2.658	2.757	3.030	2.891	2.321	2.036	2.105	1929	2.105
1930	2.248	2.315	2.516	2.482	2.472	2.085	2.195	2.239	1.938	1.784	1.783	1.682	1930	1.682
1931	1.791	2.031	1.907	1.741	1.537	1.772	1.649	1.682	1.190	1.304	1.215	1.056	1931	1.056
1932	1.049	1.123	0.999	0.806	0.641	0.644	0.890	1.245	1.208	1.054	1.016	1.083	1932	1.083
1933	1.109	0.930	0.970	1.386	1.615	1.814	1.605	1.782	1.583	1.448	1.611	1.660	1933	1.660
1934	1.829	1.756	1.756	1.717	1.586	1.618	1.435	1.519	1.491	1.460	1.601	1.603	1934	1.603
1935	1.514	1.451	1.413	1.538	1.608	1.724	1.879	1.932	1.972	2.125	2.215	2.297	1935	2.297
1936	2.451	2.518	2.598	2.403	2.533	2.593	2.762	2.784	2.786	3.009	3.049	3.040	1936	3.040
1937	3.137	3.189	3.142	2.873	2.853	2.702	2.972	2.822	2.400	2.175	2.002	1.915	1937	1.915
1938	1.970	2.122	1.594	1.817	1.766	2.208	2.367	2.319	2.357	2.551	2.488	2.581	1938	2.581
1939	2.420	2.526	2.194	2.193	2.354	2.210	2.454	2.295	2.634	2.614	2.511	2.590	1939	2.590
1940	2.510	2.525	2.562	2.556	1.965	2.119	2.196	2.278	2.301	2.398	2.322	2.313	1940	2.313
1941	2.206	2.193	2.198	2.043	2.066	2.147	2.261	2.243	2.187	2.019	1.944	1.861	1941	1.861
1942	1.867	1.821	1.680	1.602	1.713	1.747	1.799	1.817	1.866	1.974	1.958	2.050	1942	2.050
1943	2.201	2.325	2.415	2.395	2.509	2.570	2.454	2.506	2.562	2.524	2.364	2.505	1943	2.505
1944	2.553	2.569	2.619	2.578	2.698	2.839	2.768	2.801	2.799	2.806	2.843	2.939	1944	2.939
1945	2.985	3.195	3.054	3.324	3.364	3.330	3.264	3.473	3.638	3.755	3.890	3.921	1945	3.921
1946	4.201	3.947	4.108	4.247	4.346	4.138	3.795	3.456	3.071	2.993	2.913	3.023	1946	3.023
1947	3.100	3.081	2.968	2.860	2.873	3.010	3.097	3.002	2.897	2.966	2.897	2.927	1947	2.927
1948	2.783	2.698	2.920	2.964	3.203	3.198	2.996	3.031	2.947	3.169	2.886	3.005	1948	3.005
1949	3.021	2.966	3.055	2.996	2.923	2.923	3.133	3.193	3.263	3.393	3.447	3.634	1949	3.634
1950	3.721	3.806	3.816	3.996	4.182	3.929	3.938	4.079	4.292	4.309	4.364	4.529	1950	4.529
1951	4.744	4.763	4.670	4.902	4.736	4.635	4.958	5.195	5.168	5.088	5.111	5.309	1951	5.309
1952	5.405	5.287	5.552	5.308	5.483	5.738	5.808	5.759	5.665	5.670	5.993	6.230	1952	6.230
1953	6.215	6.180	6.033	5.883	5.913	5.812	5.956	5.643	5.655	5.946	6.089	6.129	1953	6.129
1954	6.442	6.522	6.742	7.107	7.377	7.390	7.826	7.620	8.288	8.170	8.902	9.400	1954	9.400
1955	9.586	9.680	9.651	10.033	10.089	10.938	11.577	11.576	11.683	11.351	12.276	12.325	1955	12.325
1956	11.912	12.404	13.270	13.248	12.396	12.827	13.412	12.989	12.401	12.408	12.345	12.772	1956	12.772
1957	12.245	11.878	12.105	12.530	13.048	12.976	13.084	12.408	11.647	11.295	11.517	11.061	1957	11.061
1958	11.489	11.313	11.605	11.969	12.223	12.550	13.098	13.344	14.012	14.390	14.782	15.591	1958	15.591
1959	15.655	15.749	15.780	16.397	16.771	16.657	17.222	17.066	16.251	16.404	16.709	17.197	1959	17.197
1960	16.013	16.231	16.031	15.682	16.193	16.499	16.113	16.624	15.625	15.543	16.247	17.025	1960	17.025
1961	18.124	18.702	19.206	19.303	19.764	19.199	19.769	20.271	19.854	20.446	21.360	21.459	1961	21.459
1962	20.674	21.060	20.917	19.601	18.012	16.565	17.609	17.975	17.039	17.167	19.032	19.343	1962	19.343
1963	20.300	19.793	20.504	21.530	21.946	21.438	21.298	22.438	22.221	22.950	22.820	23.369	1963	23.369
1964	24.004	24.382	24.757	24.915	25.319	25.715	26.160	25.880	26.603	26.830	26.785	26.906	1964	26.906
1965	27.833	27.919	27.518	28.411	28.264	26.778	27.144	27.940	28.814	29.616	29.461	29.680	1965	29.680
1966	29.863	29.283	28.591	29.101	27.639	27.149	26.738	24.663	24.481	25.590	25.833	25.813	1966	25.813
1967	27.872	28.044	29.134	30.348	28.810	29.269	30.492	30.188	31.160	30.206	30.313	31.065	1967	31.065
1968	29.622	28.761	28.936	31.264	31.676	31.826	31.127	31.547	32.717	32.814	34.432	32.949	1968	32.949
1969	32.631	31.118	31.973	32.496	32.491	30.521	28.589	29.757	28.922	30.144	29.086	28.390	1969	28.390
1970	26.178	27.573	27.511	24.897	23.426	22.176	23.767	24.936	25.673	25.292	26.562	27.978	1970	27.978
1971	29.126	29.487	30.516	31.564	30.247	30.135	28.858	29.976	29.785	28.534	28.563	30.951	1971	30.951
1972	31.526	32.316	32.497	32.603	33.213	32.451	32.439	33.656	33.401	33.652	35.270	35.621	1972	35.621
1973	34.942	33.533	33.214	31.674	31.039	30.666	31.806	30.220	31.385	31.139	27.541	27.866	1973	27.866
1974	27.387	27.086	26.191	25.066	24.105	26.325	21.595	19.529	17.010	19.683	18.635	18.171	1974	18.171
1975	20.364	21.593	22.022	22.996	24.064	24.979	23.069	22.665	21.810	23.066	23.648	23.320	1975	23.320
1976	26.061	25.847	26.627	26.253	25.905	26.874	26.532	26.445	26.990	26.325	26.225	27.565	1976	27.565

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-22

JAN 1926 - DEC 1976 LONG-TERM GOVERNMENT BONDS : INFLATION ADJUSTED RETURN INDEX

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	1.014	1.024	1.034	1.032	1.039	1.051	1.061	1.067	1.065	1.072	1.085	1.094	1926	1.094
1927	1.110	1.128	1.163	1.163	1.166	1.147	1.175	1.190	1.186	1.190	1.204	1.215	1927	1.215
1928	1.213	1.232	1.238	1.235	1.218	1.233	1.206	1.213	1.199	1.220	1.222	1.228	1928	1.228
1929	1.219	1.202	1.190	1.227	1.196	1.209	1.197	1.188	1.194	1.239	1.271	1.267	1929	1.267
1930	1.265	1.286	1.304	1.294	1.320	1.334	1.358	1.368	1.369	1.382	1.400	1.410	1930	1.410
1931	1.413	1.446	1.470	1.492	1.530	1.547	1.544	1.549	1.513	1.473	1.494	1.474	1931	1.474
1932	1.510	1.593	1.598	1.706	1.645	1.722	1.805	1.827	1.847	1.858	1.873	1.916	1932	1.916
1933	1.974	1.954	1.986	1.987	2.042	2.030	1.968	1.957	1.961	1.944	1.915	1.903	1933	1.903
1934	1.942	1.943	1.981	2.011	2.032	2.041	2.049	2.020	1.960	2.010	2.023	2.051	1934	2.051
1935	2.057	2.061	2.074	2.071	2.069	2.093	2.113	2.085	2.076	2.089	2.081	2.090	1935	2.090
1936	2.102	2.129	2.162	2.169	2.178	2.162	2.164	2.173	2.161	2.167	2.211	2.220	1936	2.220
1937	2.201	2.215	2.108	2.106	2.108	2.099	2.118	2.091	2.081	2.100	2.134	2.157	1937	2.157
1938	2.199	2.231	2.223	2.259	2.280	2.281	2.285	2.291	2.296	2.327	2.327	2.340	1938	2.340
1939	2.365	2.395	2.431	2.465	2.507	2.501	2.529	2.478	2.295	2.400	2.439	2.486	1939	2.486
1940	2.488	2.476	2.526	2.517	2.436	2.493	2.512	2.525	2.547	2.555	2.607	2.612	1940	2.612
1941	2.560	2.565	2.577	2.586	2.575	2.544	2.538	2.520	2.471	2.479	2.450	2.401	1941	2.401
1942	2.387	2.369	2.361	2.339	2.332	2.328	2.323	2.317	2.313	2.296	2.274	2.267	1942	2.267
1943	2.274	2.268	2.235	2.219	2.214	2.222	2.239	2.252	2.246	2.238	2.242	2.242	1943	2.242
1944	2.251	2.263	2.267	2.257	2.255	2.252	2.248	2.245	2.248	2.251	2.256	2.257	1944	2.257
1945	2.286	2.308	2.312	2.345	2.341	2.359	2.334	2.340	2.361	2.386	2.407	2.445	1945	2.445
1946	2.451	2.468	2.452	2.406	2.389	2.380	2.230	2.156	2.129	2.103	2.041	2.055	1946	2.055
1947	2.054	2.061	2.020	2.013	2.026	2.012	2.007	2.002	1.946	1.938	1.893	1.832	1947	1.832
1948	1.815	1.839	1.851	1.832	1.845	1.817	1.791	1.783	1.786	1.795	1.820	1.843	1948	1.843
1949	1.861	1.891	1.899	1.899	1.905	1.934	1.954	1.971	1.960	1.975	1.976	1.997	1949	1.997
1950	1.994	2.003	1.997	2.000	1.998	1.982	1.973	1.960	1.932	1.912	1.911	1.888	1950	1.888
1951	1.869	1.833	1.797	1.783	1.764	1.756	1.778	1.795	1.769	1.762	1.729	1.712	1951	1.712
1952	1.717	1.730	1.749	1.772	1.764	1.760	1.743	1.729	1.709	1.732	1.729	1.717	1952	1.717
1953	1.723	1.717	1.697	1.677	1.648	1.679	1.681	1.676	1.724	1.732	1.730	1.768	1953	1.768
1954	1.779	1.824	1.837	1.861	1.837	1.865	1.890	1.886	1.889	1.894	1.887	1.904	1954	1.904
1955	1.858	1.844	1.860	1.860	1.873	1.859	1.833	1.839	1.845	1.872	1.861	1.872	1955	1.872
1956	1.890	1.890	1.859	1.836	1.868	1.862	1.809	1.778	1.784	1.764	1.754	1.718	1956	1.718
1957	1.775	1.773	1.765	1.719	1.711	1.670	1.655	1.654	1.664	1.656	1.738	1.792	1957	1.792
1958	1.766	1.782	1.788	1.817	1.817	1.786	1.734	1.660	1.641	1.664	1.682	1.653	1958	1.653
1959	1.638	1.659	1.662	1.641	1.638	1.632	1.638	1.633	1.618	1.637	1.618	1.592	1959	1.592
1960	1.612	1.643	1.689	1.651	1.676	1.701	1.764	1.752	1.763	1.750	1.736	1.785	1960	1.785
1961	1.766	1.801	1.794	1.815	1.807	1.791	1.789	1.785	1.804	1.816	1.813	1.790	1961	1.790
1962	1.788	1.802	1.844	1.855	1.863	1.849	1.825	1.859	1.860	1.878	1.882	1.890	1962	1.890
1963	1.888	1.887	1.887	1.885	1.889	1.884	1.882	1.886	1.887	1.880	1.887	1.882	1963	1.882
1964	1.876	1.878	1.882	1.889	1.899	1.908	1.905	1.911	1.916	1.922	1.922	1.925	1964	1.925
1965	1.933	1.936	1.944	1.945	1.944	1.943	1.945	1.947	1.936	1.939	1.923	1.902	1965	1.902
1966	1.883	1.824	1.872	1.852	1.840	1.831	1.818	1.772	1.827	1.861	1.833	1.907	1966	1.907
1967	1.937	1.892	1.926	1.866	1.853	1.789	1.793	1.772	1.768	1.692	1.654	1.680	1967	1.680
1968	1.729	1.718	1.673	1.706	1.709	1.738	1.780	1.774	1.751	1.718	1.665	1.600	1968	1.600
1969	1.563	1.563	1.552	1.608	1.525	1.548	1.553	1.535	1.447	1.494	1.450	1.431	1969	1.431
1970	1.423	1.499	1.481	1.410	1.338	1.396	1.436	1.431	1.456	1.433	1.541	1.521	1970	1.521
1971	1.596	1.568	1.645	1.593	1.584	1.550	1.550	1.620	1.651	1.676	1.665	1.666	1971	1.666
1972	1.654	1.661	1.644	1.645	1.684	1.669	1.698	1.700	1.680	1.714	1.748	1.703	1972	1.703
1973	1.643	1.633	1.632	1.628	1.601	1.586	1.514	1.546	1.591	1.557	1.571	1.547	1973	1.547
1974	1.521	1.498	1.437	1.393	1.394	1.387	1.373	1.323	1.340	1.394	1.424	1.438	1974	1.438
1975	1.464	1.473	1.428	1.394	1.418	1.448	1.420	1.406	1.385	1.442	1.418	1.467	1975	1.467
1976	1.477	1.483	1.504	1.500	1.467	1.490	1.493	1.517	1.533	1.540	1.588	1.635	1976	1.635

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

EXHIBIT B-23

JAN 1926 - DEC 1976 LONG-TERM CORPORATE BONDS : INFLATION ADJUSTED RETURN INDEX

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	1.007	1.015	1.030	1.030	1.040	1.049	1.064	1.075	1.075	1.081	1.083	1.090	1926	1.090
1927	1.104	1.120	1.136	1.142	1.132	1.126	1.148	1.164	1.174	1.174	1.184	1.195	1927	1.195
1928	1.200	1.220	1.225	1.224	1.207	1.214	1.213	1.220	1.215	1.227	1.225	1.240	1928	1.240
1929	1.248	1.254	1.248	1.255	1.253	1.243	1.233	1.231	1.237	1.246	1.246	1.278	1929	1.278
1930	1.290	1.305	1.330	1.333	1.349	1.372	1.398	1.426	1.433	1.449	1.459	1.467	1930	1.467
1931	1.518	1.550	1.575	1.596	1.634	1.661	1.673	1.679	1.684	1.634	1.621	1.590	1931	1.590
1932	1.614	1.598	1.663	1.645	1.687	1.697	1.705	1.800	1.863	1.891	1.914	1.960	1932	1.960
1933	2.097	2.020	2.046	2.032	2.146	2.164	2.136	2.134	2.131	2.140	2.087	2.151	1933	2.151
1934	2.195	2.211	2.252	2.281	2.296	2.326	2.337	2.342	2.293	2.333	2.369	2.399	1934	2.399
1935	2.414	2.430	2.446	2.450	2.472	2.506	2.546	2.535	2.523	2.533	2.538	2.553	1935	2.553
1936	2.574	2.601	2.635	2.641	2.652	2.648	2.638	2.637	2.648	2.661	2.690	2.693	1936	2.693
1937	2.680	2.661	2.612	2.617	2.616	2.623	2.621	2.611	2.593	2.623	2.658	2.682	1937	2.682
1938	2.730	2.758	2.734	2.759	2.775	2.801	2.813	2.814	2.845	2.881	2.899	2.927	1938	2.927
1939	2.947	2.980	2.994	3.020	3.035	3.046	3.044	2.924	2.912	2.995	3.018	3.056	1939	3.056
1940	3.079	3.063	3.085	3.057	3.043	3.073	3.087	3.096	3.117	3.132	3.152	3.130	1940	3.130
1941	3.132	3.134	3.112	3.107	3.100	3.062	3.068	3.050	3.010	2.987	2.933	2.928	1941	2.928
1942	2.892	2.865	2.847	2.831	2.807	2.811	2.805	2.798	2.797	2.771	2.756	2.747	1942	2.747
1943	2.761	2.757	2.719	2.701	2.693	2.711	2.737	2.753	2.743	2.730	2.729	2.737	1943	2.737
1944	2.748	2.763	2.776	2.769	2.760	2.760	2.754	2.753	2.758	2.763	2.777	2.808	1944	2.808
1945	2.829	2.847	2.852	2.852	2.828	2.810	2.802	2.803	2.823	2.832	2.830	2.857	1945	2.857
1946	2.894	2.914	2.903	2.874	2.864	2.839	2.668	2.586	2.549	2.504	2.438	2.446	1946	2.446
1947	2.447	2.452	2.415	2.420	2.432	2.415	2.398	2.355	2.269	2.246	2.211	2.188	1947	2.188
1948	2.168	2.195	2.226	2.203	2.189	2.156	2.118	2.121	2.126	2.140	2.172	2.216	1948	2.216
1949	2.227	2.261	2.256	2.258	2.270	2.285	2.324	2.326	2.321	2.350	2.351	2.330	1949	2.330
1950	2.349	2.357	2.352	2.347	2.335	2.328	2.321	2.310	2.285	2.271	2.274	2.249	1950	2.249
1951	2.217	2.181	2.121	2.116	2.105	2.088	2.128	2.152	2.126	2.084	2.061	2.065	1951	2.065
1952	2.106	2.102	2.118	2.109	2.112	2.111	2.098	2.109	2.107	2.113	2.136	2.119	1952	2.119
1953	2.107	2.110	2.097	2.043	2.031	2.046	2.077	2.054	2.104	2.146	2.138	2.178	1953	2.178
1954	2.199	2.246	2.257	2.255	2.237	2.249	2.258	2.264	2.279	2.294	2.297	2.306	1954	2.306
1955	2.284	2.270	2.291	2.290	2.286	2.293	2.275	2.272	2.281	2.298	2.289	2.309	1955	2.309
1956	2.336	2.342	2.305	2.275	2.276	2.258	2.220	2.176	2.176	2.140	2.113	2.091	1956	2.091
1957	2.130	2.142	2.147	2.125	2.104	2.024	1.992	1.988	2.004	2.009	2.064	2.206	1957	2.206
1958	2.215	2.210	2.185	2.215	2.222	2.211	2.175	2.108	2.088	2.110	2.130	2.120	1958	2.120
1959	2.111	2.140	2.123	2.084	2.057	2.057	2.071	2.059	2.034	2.060	2.088	2.068	1959	2.068
1960	2.093	2.117	2.157	2.140	2.136	2.161	2.217	2.243	2.226	2.218	2.200	2.223	1960	2.223
1961	2.256	2.303	2.296	2.270	2.281	2.260	2.259	2.257	2.285	2.314	2.320	2.314	1961	2.314
1962	2.333	2.340	2.370	2.398	2.398	2.392	2.383	2.417	2.425	2.445	2.460	2.468	1962	2.468
1963	2.480	2.483	2.487	2.474	2.486	2.486	2.482	2.490	2.485	2.494	2.495	2.481	1963	2.481
1964	2.500	2.516	2.498	2.505	2.520	2.526	2.534	2.546	2.546	2.556	2.549	2.569	1964	2.569
1965	2.590	2.592	2.593	2.590	2.582	2.569	2.571	2.575	2.566	2.575	2.555	2.509	1965	2.509
1966	2.514	2.470	2.448	2.441	2.432	2.432	2.400	2.326	2.339	2.391	2.386	2.432	1966	2.432
1967	2.541	2.487	2.511	2.489	2.418	2.357	2.354	2.346	2.363	2.290	2.221	2.242	1967	2.242
1968	2.314	2.316	2.259	2.263	2.264	2.279	2.345	2.387	2.367	2.316	2.255	2.196	1968	2.196
1969	2.220	2.176	2.115	2.172	2.116	2.110	2.102	2.088	2.028	2.046	1.939	1.901	1969	1.901
1970	1.921	1.988	1.968	1.907	1.868	1.858	1.955	1.971	1.988	1.959	2.067	2.133	1970	2.133
1971	2.245	2.159	2.208	2.148	2.103	2.113	2.103	2.214	2.190	2.248	2.251	2.292	1971	2.292
1972	2.282	2.295	2.297	2.300	2.330	2.308	2.306	2.319	2.317	2.333	2.386	2.377	1972	2.377
1973	2.357	2.346	2.334	2.332	2.309	2.280	2.167	2.204	2.276	2.243	2.244	2.209	1973	2.209
1974	2.179	2.152	2.062	1.980	1.979	1.903	1.849	1.776	1.785	1.928	1.934	1.906	1974	1.906
1975	2.011	2.024	1.967	1.946	1.958	2.002	1.975	1.934	1.900	1.994	1.964	2.043	1975	2.043
1976	2.076	2.084	2.114	2.102	2.067	2.087	2.106	2.145	2.172	2.179	2.242	2.313	1976	2.313

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, "STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-'976) AND THE FUTURE(1977-2000)"

EXHIBIT B-24

JAN 1926 - DEC 1976 U.S.TREASURY BILLS : INFLATION ADJUSTED RETURN INDEX

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	YEAR	JAN-DEC
1926	1.003	1.010	1.018	1.012	1.018	1.029	1.041	1.050	1.046	1.046	1.045	1.048	1926	1.048
1927	1.058	1.069	1.078	1.081	1.076	1.069	1.092	1.101	1.097	1.094	1.098	1.103	1927	1.103
1928	1.108	1.122	1.125	1.126	1.123	1.135	1.138	1.140	1.134	1.141	1.147	1.149	1928	1.149
1929	1.155	1.162	1.170	1.179	1.177	1.179	1.171	1.171	1.178	1.183	1.190	1.201	1929	1.201
1930	1.207	1.216	1.227	1.222	1.233	1.243	1.263	1.272	1.267	1.276	1.288	1.308	1930	1.308
1931	1.329	1.349	1.359	1.369	1.385	1.401	1.405	1.409	1.415	1.426	1.444	1.459	1931	1.459
1932	1.493	1.517	1.527	1.539	1.563	1.574	1.575	1.595	1.603	1.615	1.624	1.640	1932	1.640
1933	1.666	1.691	1.705	1.711	1.707	1.690	1.641	1.625	1.625	1.625	1.626	1.634	1933	1.634
1934	1.627	1.615	1.615	1.619	1.615	1.611	1.611	1.607	1.583	1.595	1.599	1.604	1934	1.604
1935	1.580	1.568	1.573	1.557	1.565	1.569	1.577	1.577	1.570	1.570	1.563	1.559	1935	1.559
1936	1.559	1.567	1.575	1.575	1.575	1.560	1.553	1.542	1.539	1.543	1.543	1.543	1936	1.543
1937	1.532	1.529	1.518	1.511	1.505	1.502	1.496	1.493	1.479	1.486	1.497	1.500	1937	1.500
1938	1.521	1.536	1.536	1.528	1.536	1.536	1.532	1.536	1.536	1.543	1.546	1.542	1938	1.542
1939	1.550	1.557	1.561	1.565	1.565	1.565	1.565	1.565	1.535	1.542	1.542	1.549	1939	1.549
1940	1.553	1.542	1.546	1.546	1.542	1.538	1.542	1.546	1.542	1.542	1.542	1.535	1940	1.535
1941	1.535	1.534	1.527	1.513	1.502	1.474	1.468	1.455	1.429	1.413	1.401	1.398	1941	1.398
1942	1.380	1.369	1.351	1.343	1.329	1.327	1.322	1.314	1.312	1.299	1.292	1.282	1942	1.282
1943	1.282	1.280	1.260	1.246	1.236	1.239	1.249	1.254	1.250	1.245	1.248	1.246	1943	1.246
1944	1.249	1.251	1.252	1.245	1.240	1.238	1.232	1.227	1.228	1.228	1.228	1.224	1944	1.224
1945	1.224	1.227	1.227	1.225	1.217	1.206	1.204	1.204	1.209	1.209	1.205	1.201	1945	1.201
1946	1.201	1.206	1.197	1.191	1.185	1.173	1.104	1.080	1.068	1.047	1.022	1.014	1946	1.014
1947	1.015	1.017	0.995	0.995	0.998	0.991	0.982	0.972	0.950	0.950	0.946	0.934	1947	0.934
1948	0.924	0.932	0.936	0.923	0.918	0.912	0.901	0.898	0.899	0.903	0.909	0.916	1948	0.916
1949	0.918	0.929	0.927	0.927	0.929	0.929	0.936	0.934	0.931	0.937	0.937	0.943	1949	0.943
1950	0.948	0.951	0.948	0.948	0.945	0.940	0.932	0.925	0.920	0.916	0.913	0.901	1950	0.901
1951	0.888	0.879	0.876	0.876	0.874	0.876	0.876	0.877	0.873	0.869	0.866	0.864	1951	0.864
1952	0.865	0.872	0.872	0.870	0.870	0.869	0.864	0.864	0.867	0.867	0.868	0.870	1952	0.870
1953	0.874	0.879	0.879	0.879	0.879	0.877	0.876	0.875	0.876	0.874	0.878	0.881	1953	0.881
1954	0.879	0.881	0.883	0.886	0.883	0.882	0.883	0.884	0.887	0.890	0.890	0.893	1954	0.893
1955	0.893	0.894	0.895	0.896	0.897	0.898	0.896	0.899	0.897	0.899	0.899	0.903	1955	0.903
1956	0.906	0.908	0.908	0.909	0.906	0.903	0.898	0.900	0.901	0.898	0.900	0.900	1956	0.900
1957	0.901	0.900	0.900	0.899	0.899	0.896	0.894	0.895	0.897	0.899	0.898	0.901	1957	0.901
1958	0.898	0.898	0.892	0.891	0.892	0.891	0.891	0.892	0.894	0.896	0.896	0.899	1958	0.899
1959	0.899	0.902	0.904	0.905	0.906	0.904	0.904	0.907	0.906	0.906	0.908	0.911	1959	0.911
1960	0.915	0.917	0.920	0.917	0.919	0.919	0.921	0.922	0.923	0.920	0.921	0.922	1960	0.922
1961	0.924	0.925	0.927	0.929	0.930	0.931	0.929	0.931	0.930	0.932	0.934	0.935	1961	0.935
1962	0.938	0.937	0.937	0.937	0.939	0.941	0.942	0.944	0.941	0.944	0.946	0.949	1962	0.949
1963	0.951	0.952	0.953	0.955	0.958	0.956	0.954	0.956	0.959	0.961	0.962	0.963	1963	0.963
1964	0.965	0.968	0.970	0.972	0.975	0.975	0.976	0.980	0.981	0.983	0.983	0.985	1964	0.985
1965	0.988	0.991	0.994	0.993	0.994	0.993	0.995	1.000	1.001	1.003	1.005	1.005	1965	1.005
1966	1.008	1.006	1.006	1.006	1.009	1.009	1.010	1.009	1.011	1.011	1.015	1.018	1966	1.018
1967	1.023	1.025	1.027	1.028	1.029	1.028	1.027	1.027	1.028	1.029	1.029	1.030	1967	1.030
1968	1.030	1.031	1.030	1.031	1.033	1.031	1.031	1.033	1.034	1.033	1.033	1.035	1968	1.035
1969	1.037	1.038	1.034	1.033	1.035	1.034	1.035	1.035	1.037	1.039	1.039	1.039	1969	1.039
1970	1.042	1.043	1.043	1.042	1.043	1.044	1.046	1.049	1.050	1.049	1.050	1.049	1970	1.049
1971	1.053	1.054	1.054	1.053	1.051	1.049	1.051	1.053	1.056	1.058	1.060	1.060	1971	1.060
1972	1.062	1.060	1.061	1.061	1.061	1.062	1.061	1.062	1.061	1.062	1.064	1.064	1972	1.064
1973	1.066	1.062	1.057	1.056	1.054	1.053	1.057	1.045	1.049	1.048	1.046	1.046	1973	1.046
1974	1.043	1.036	1.030	1.032	1.028	1.024	1.024	1.017	1.013	1.009	1.006	1.006	1974	1.006
1975	1.007	1.005	1.005	1.004	1.004	1.000	0.994	0.996	0.997	0.996	0.994	0.995	1975	0.995
1976	0.997	0.998	0.999	0.999	0.997	0.996	0.995	0.995	0.995	0.995	0.996	0.997	1976	0.997

SOURCE : ROGER G. IBBOTSON AND REX A. SINQUEFIELD, 'STOCKS, BONDS, BILLS AND INFLATION: THE PAST(1926-1976) AND THE FUTURE(1977-2000)'

THE FINANCIAL ANALYSTS RESEARCH FOUNDATION
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1977 UPDATES

Roger G. Ibbotson and Rex A. Sinquefield

Series	Jan. July	Feb. August	Mar. Sept.	April October	May Nov.	June Dec.	1977 Annual
Common Stocks: Total Returns	-0.0489 -0.0151	-0.0151 -0.0133	-0.0119 0.0000	0.0014 -0.0415	-0.0150 0.0370	0.0475 0.0048	-0.0718
Common Stocks: Income	0.0016 0.0011	0.0065 0.0078	0.0021 0.0025	0.0012 0.0019	0.0086 0.0100	0.0021 0.0020	0.0484
Common Stocks: Capital Appr.	-0.0505 -0.0162	-0.0217 -0.0210	-0.0140 -0.0025	0.0002 -0.0434	-0.0236 0.0270	0.0454 0.0028	-0.1150
LT Govt. Bonds: Total Returns	-0.0388 -0.0038	-0.0044 0.0163	0.0089 -0.0027	0.0073 -0.0094	0.0121 0.0095	0.0165 -0.0166	-0.0067
LT Govt. Bonds: Income	0.0063 0.0063	0.0063 0.0062	0.0063 0.0063	0.0063 0.0064	0.0063 0.0064	0.0062 0.0065	0.0785
LT Govt. Bonds: Capital Appr.	-0.0451 -0.0101	-0.0108 0.0101	0.0026 -0.0090	0.0010 -0.0158	0.0058 0.0031	0.0103 -0.0232	-0.0795
LT Corp. Bonds: Total Returns	-0.0303 -0.0005	-0.0020 0.0136	0.0094 -0.0022	0.0100 -0.0038	0.0106 0.0061	0.0175 -0.0105	0.0171
U.S.T.Bills: Total Returns	0.0036 0.0042	0.0035 0.0044	0.0038 0.0043	0.0038 0.0049	0.0037 0.0050	0.0040 0.0049	0.0512
CPI Inflation Rates	0.0057 0.0044	0.0103 0.0038	0.0062 0.0038	0.0079 0.0027	0.0056 0.0049	0.0066 0.0038	0.0677

1926-1977

Roger G. Ibbotson and Rex A. Sinquefield

Series	Annual Compound Return	Year-End 1977 Cumulative Wealth Index (Year-End 1925 = $1.00)
Common Stocks: Total Returns	8.9%	84.076*
Common Stocks: Capital Appr.	3.9%	7.453
LT Govt. Bonds: Total Returns	3.3%	5.405
LT Govt. Bonds: Capital Appr.	-0.6%	0.750
LT Corps: Total Returns	4.0%	7.813
U.S. T. Bills: Total Returns	2.4%	3.479
CPI: Inflation Rates	2.4%	3.466

*The Ibbotson and Sinquefield Common Stock Capital Appreciation Index for June 1974 was revised to 6.740. This revision alters the June and July 1974 returns on all common stock series, although its effect on 1974 annual returns is very slight. The revised common stock total returns for June and July 1974 are -0.0129 and -0.0759, while the revised year-end 1976 Common Stock Total Return Index is 90.584.